A NATIONAL COMPUTER POLICY FOR SRI LANKA

**Report of the Special Presidential Committee
of the Natural Resources, Energy and
Science Authority, Colombo, Sri Lanka**

to

**His Excellency J.R. Jayewardene
President of Sri Lanka**

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April, 1983

Members of the Special Presidential Committee

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H.E. President J.R. Jayewardene

Mr. R.B. Ekanayake   Bank of Ceylon

Dr. N.W.N. Jayasiri   NIBM

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Mr. N.U.Yapa (Secretary)   NARESA

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EXECUTIVE SUMMARY

Chapter I describes the composition and the terms of reference of the committee to formulate National Computer Policy guidelines, set up at the request of H.E. The President, by the Natural Resources, Energy & Science Authority. The task of the committee was to analyse the material already available, and to synthesise an initial set of policy measures consonant with government economic and social objectives.

The challenges and opportunities created for Sri Lanka by rapid world wide developments in computers are identified. In general these developments are favourable to Sri Lanka, given its geographic position, natural abilities of the population, and the current economic and political climate; although there may be some negative effects, such as the erosion of the comparative advantage of low-cost labour due to advances in robotics.

In Chapter II, the 5 main objectives of a National Computer Policy are set out and discussed in further detail. The committee felt that before formulating policy guidelines, it was important to explicitly identify the objectives of a national computer policy.

Chapter III describes the general philosophy underlying the National Computer Policy guidelines, which is to foster initiative and creativity in both public and private sectors, and to co-ordinate, encourage and guide these efforts rather than to control and regulate them. Policy guidelines are set out, regarding acquisition, utilisation and access, computer education, public sector applications, computer literacy and appreciation, self reliance and export of computer services, computer related infrastructure, legal environment, and other areas related to computers.

In Chapter IV the principal recommendations regarding the organisational framework and action programme for policy implementation are discussed. The five main recommendations of the committee are :

(a)   The creation of a National Computer Policy Advisory Council (COMPAC) functioning directly under H.E. The President;

(b)   The creation of a Central Computer Secretariat to service COMPAC;

(c)   The creation of Permanent Committees under COMPAC, on : Computer Education, Computer Applications in the Public Sector, and Telecommunication and Data Transmission;

(d)   The identification of and support for Centres of Excellence;

(e)   The establishment of channels of communication with the Computer Society of Sri Lanka and other groups interested or involved in the computer industry.

The organisation of the Council, the Secretariat, the committee, and other groups, as well as their role and interactions, are defined. There is also an outline of the role of the Central Computer Secretariat, and the services it is expected to perform.

REPORT OF THE NARESA SPECIAL COMMITTEE ON

A NATIONAL COMPUTER POLICY FOR SRI LANKA

CHAPTER I - INTRODUCTION

1.1 Background

At the request of H.E. the President, the Natural Resources, Energy
and Science Authority (NARESA) set up a special working Committee
in November 1982, to formulate National Computer Policy guidelines
and recommend a practical framework and action programme for
implementing such policies. The Committee was directed to produce
its report by April 1983 and consisted of the following members :-

Dr. Mohan Munasinghe, (Chairman)	NARESA
Mr. R.B. Ekanayake	Bank of Ceylon
Dr. N.W.N. Jayasiri	National Institute of Business Management
Mr. Ajit Kanagasundram	Central Bank
Prof. S. Karunaratne	University of Moratuwa
Prof. V.K. Samaranayake	University of Colombo
Mr. N.U. Yapa, (Secretary)	NARESA

The Committee met eight times between 1982.11.29 and 1983.04.28
at NARESA.

The Committee reviewed existing information on the subject of a
National Computer Policy, in particular the recent Sri Lanka Computer
study by a UNDP - ILO team, the legal framework of and background
information on the National Computer Board of Singapore, and
information on computer policy in other countries such as India and
the U.K. Relevant persons were also interviewed during its
deliberations. However, given the limited time available to produce
its report, and the significant amount of relevant material already
available, the committee was not expected to research afresh the
problems and constraints faced in the development of computing in
Sri Lanka or produce a detailed plan with quantitative targets to be
achieved. Therefore, the committee concentrated on synthesising and
developing an initial set of policy measures and solutions from
existing information sources, formulating policy guidelines consistent
with the broad economic, social and political development programmes
of the government, and recommending a practical institutional framework
and action programme for implementing policy.

In carrying out its mandate, the committee has at all times been fully cognisant of the importance given to computing, robotics and communications in the next phase of national development, as reflected in the following extract from a speech by H.E. the President at the opening of Parliament on 9th February, 1983.

"We must look to the future. The foundations for spiritual and material progress according to contemporary world conditions have been laid. Where does the future lead us to?"

The Government has considered that too. We hope to lead our youth into the technological age, complete with robots and computers. Already plans are being prepared for the establishment of centres of education and for the assembly and manufacture of the necessary equipment."

The information revolution, which has been compared in terms of its likely impact on contemporary society to the industrial revolution of the last century, has been underway for the past quarter century in the industrialised countries. This process has gathered momentum in the past few years, largely due to the dramatic fall in the cost of computer equipment as a result of advances in solid state technology and the mass production of micro-electronic devices. A few statistics illustrates this trend. Computer hardware that would have filled a room 35 years ago would now fit into a silicon chip the size of a pea, while power requirements have also declined correspondingly. Reliability of operation and ease of maintenance have improved substantially while nominal costs have declined by a factor of more than 100 over this same period. The cost decreases are even more dramatic if the normal effects of inflation over the last 35 years were netted out. Comparable reductions in cost and improvements in both hardware and software capability are anticipated in the coming decades. It is not surprising, therefore, that in Japan alone nearly half a million computer systems are being installed each year, while world wide sales of personal computers now approach US $ 5 billion per annum. Governments of developed countries such as Japan and France, and newly industrialising countries like Singapore have recognised the potential of computers and set up special organisations and programmes to promote their development and use.

1.2 Relevance for Sri Lanka

In the context of rapid world wide developments, in the computer field, this committee has identified some of the challenges faced by and opportunities created for Sri Lanka in the next phase of its development :

(a)   The information processing revolution and developments in robotics will cause fundamental changes in the way goods are both produced and traded in the world economy.   These changes will have a significant impact on Sri Lanka, especially in light of the relatively small size of our economy, and the "liberalised" or "open" economy concept to which the government is committed.

(b)   The use of computers in the analysis of scientific data and technological applications is now a routine and integral part of scientific method.   It is essential that the scientific community in Sri Lanka be given ready access to computer technology, if they are to achieve the full extent of their potential contribution to the development of the country.   There are specific areas of application such as the maximum utilization of readily obtainable satellite data on Sri Lanka, where an immediate impact can be made in fields like agriculture, forestry and coastal conservation.

(c)   By keeping abreast of the latest innovations in computer technology, telecommunications, and robotics. Sri Lanka could hurdle a whole stage of the economic development process. We can concentrate on industries that are knowledge-intensive and efficient in the use of scarce resources such as capital, skilled manpower, land, and energy.   It will also be possible to avoid investments in industries where future developments world wide, especially in robotics, are likely to erode the advantages of our low-cost labour.

(d) Computer technology is a means, if properly used, by which the public sector can be made more efficient and responsive. The size of the public sector in Sri Lanka relative to the economy as a whole, and the vast investment programme of the government, has made the performance of the public sector a critical factor in the success of the national economic effort. At present the sub-optimal performance of at least some parts of the public sector has been identified as a major constraint to the successful implementation of government policy and continued rapid growth of the economy. Computers can be used both to improve the quality of decision making at the highest levels, and to enhance the working level operational efficiency in public sector organisations, as recognised recently by the Parliamentary Committee on Public Enterprises (COPE).

(e) The type of institutions that are developed to meet the needs of administration, finance, production, and exchange of goods and services can be decentralised. The use of computers will significantly improve the flexibility of citizens to make use of their skills and talents. This will provide an additional impetus for entrepreneurial activities more in keeping with national character and temperament.

(f) By investing in the necessary physical infrastructure (especially overseas communications and education), Sri Lanka can exploit fully its comparative advantage, to become a South Asian regional centre for finance and trade, in much the same way as Singapore has assumed this role in the South-East Asian region. Our assets include an open economic policy which is both attractive to foreign investors and conducive to the growth of local entrepreneurial activity in the field of computers, political acceptability among all countries in the region, and a convenient geographic location.

(g)   The development of computing can help the export drive both
directly and indirectly. Directly, by the export of software
and (to a lesser extent) computer hardware and other goods
and services embodying computer related inputs. Indirectly,
by cutting down the costs and time taken for documentation
and information exchange between exporters in Sri Lanka and
their trading partners.

(h)   Presently one of the major sources of foreign exchange earnings
is the remittances of Sri Lankan expatriate workers. By a
proper education and training programme, it would be possible
to augment this by exporting higher level skills in the form
of programmers and systems analysts, who would find employment
abroad.

In drawing up an institutional framework and action programme to
implement national computer policy guidelines, the committee has
sought to adopt an approach emphasising promotional and co-ordinating
functions, while avoiding controls and over-regulation. However, a
body with certain minimum powers to advise the government in
formulating and implementing policy, especially with regard to the
development of human resources, is necessary. This body would
provide a guiding framework within which Sri Lankan public and
private sector institutions in the computer field can develop and
interact fruitfully, without unnecessary duplication, wastage of
scarce resources and policy conflicts.

The use of computers in Sri Lanka is in its infancy - both in terms
of the number of systems installed and the level of sophistication
of use. However, this committee is convinced that given the
encouragement and support of the government, and a committment of
resources which will be modest in terms of the national investment
programme, the resulting development in computers, telecommunications,
and robotics will bring about fundamental changes in the attitude of
Sri Lankans and contribute significantly not only towards material
progress but also the sociopolitical development and cohesiveness
of the country.

CHAPTER II

OBJECTIVES OF A NATIONAL COMPUTER POLICY FOR SRI LANKA

2.1 <u>National Computer Policy Objectives</u>

In the process of fulfilling its mandate, this committee felt that the objectives of a national computer policy should be identified before relevant policy guidelines and an implementation programme could be defined. Accordingly, the broad objectives of a national computer policy for Sri Lanka are set out below :

(a) Harness computer technology in all its aspects, for the benefit of the people of Sri Lanka, and to further the socio-economic development of the nation.

(b) Promote and guide the development of computer-related resources and their application, to anticipate and meet the future needs of the national economy.

(c) Enhance and supplement manpower resources and increase the efficiency and productivity of management and workers at all possible levels.

(d) Improve the quality of life of the people of Sri Lanka, including the job satisfaction and working conditions of employees.

(e) Increase the flexibility and dynamism of Sri Lankan society to enable it to successfully meet the challenges of the future, arising from the ever increasing pace of world-wide scientific and technological advances.

2.2 <u>Discussion of National Computer Policy Objectives</u>

The first objective is intended to clearly establish that computer technology in all its aspects should be treated like any other instrument of Government policy, to improve the well being of the people of Sri Lanka and contribute to the national socio-economic development effort.

The second objective is somewhat more specific. It seeks to encourage planning and systematic analysis of the national need for computers and computer-related resources. Once these requirements are established, it would be possible to meet them, so that economic growth and prosperity would not be hindered due to the lack of this vital element of modern infrastructure.

Objective three relates to sensitive issues of computerisation and automation in the context of a labour-surplus developing country such as Sri Lanka. This committee feels that it is important to recognise the role of the computer as an instrument which substitutes for and enhances man-power at the skilled level where it is most scarce, rather one that displaces surplus unskilled labour. A properly designed computer policy will create many new jobs, while enhancing the efficiency and productivity of management and workers at all levels.

The fourth objective is aimed at improving the quality of life of the people of Sri Lanka and eliminating drudgery both at home and in the work place. The advent of relatively inexpensive and versatile micro-computers will revolutionalize life styles and working habits over the next few decades, because of the greater flexibility provided by the new computer technology, e.g., the lives of Sri Lankans can be significantly improved by providing access to large amounts of information, and by improving communications.

The fifth objective is a general one. It is motivated by the recognition of the fact that for its long-run viability, any nation or society must be sufficiently resilient and dynamic to successfully meet the challenges of the future. This is particularly relevant to a small country like Sri Lanka, which has from historical times, prided itself on its ability to utilize and innovatively incorporate into its own cultural framework, the most valuable elements of ideas and technologies brought in from different parts of the world.

CHAPTER III

NATIONAL COMPUTER POLICY GUIDELINES

3.1 General Philosophy

The Committee is of the view that computer policy guidelines to achieve the above objectives should be both broad and flexible, given the wide and rapidly evolving nature of the computer field. Government policy should seek to guide, encourage and support the many public and private entities involved in the area of computers, rather than control and over-regulate, and thereby effectively stifle their activities. Furthermore, the policy guidelines indicated below are only a starting point. They should be monitored, interpreted and modified when necessary, on a continuous basis, to reflect future changes in both the national socioeconomic and political environment as well as technological trends.

3.2 Policy Guidelines

An initial set of national policy guidelines is given below, under specific headings :

(a) **Acquisition**

Potential users should be encouraged to treat the acquisition of a computer and/or related items as any other investment, including clearcut identification of computer needs and technical, economic and financial evaluation of the project. Government imposed regulations, rules, or financial disincentives that would restrict or delay purchasing of Computers and related items should be minimized wherever possible.

(b) **Utilization and Access**

Sharing of computer hardware, software and data resources should be promoted. Computer installation should be fully utilized by permitting access to users during as many hours of the day as possible. However, it would be undesirable and impracticable for the government to attempt to compel owners of computer facilities to share their resources. Interchange of information regarding computer hardware and software resources available among different users should be promoted.

(c) **Computer Education, Public Sector Applications, Computer Literacy and Appreciation of the Potential of Computers**

The Government should take immediate steps to improve computer-related skills and promote their application as widely as possible, especially in the following areas : scientific analysis, higher education, industry, business and financial management, and schools. The establishment of standards for computer education should also have high priority. Particular attention should be paid to identifying and encouraging the application of computers in the public sector. Efforts should be made, as soon as possible, to ensure adequate financial incentives and job satisfaction, in order to attract and retain the services of computer personnel in Sri Lanka. Computer literacy and appreciation of the potential of computers among the general public should be increased.

(d) **Self-reliance, Export of Computer Services**

Efforts should be made to make the country as self-reliant as possible in computer skills, establish a sound indigenous capability to evaluate and acquire foreign computer technology when necessary, and also export computer services (both software and hardware, especially assembled products).

(e) **Computer-Related Infrastructure and Legal Environment**

The Government should give high priority to improving infrastructural facilities that are essential for developing computer use in Sri Lanka, including : local and overseas telecommunications services, and electricity supply. An adequate legal environment should also be created which recognizes the role of computers as well as its impact on society.

(f) **Other areas related to Computers**

Developments in areas related to Computers such as satellite communications, other telecommunications, and robotics should be closely monitored and adapted for application in Sri Lanka whenever appropriate, by both the Government and other interested groups.

CHAPTER IV

ORGANIZATIONAL FRAMEWORK AND ACTION PROGRAMME FOR POLICY
IMPLEMENTATION

4.1 Principal Recommendations

As indicated earlier, it is the creative activity and initiatives
of individuals and specific organizations which will enable Sri
Lanka to best realize the benefits of computer technology. However,
some degree of policy guidance and coordination by Government is
necessary to avoid unnecessary duplication, wastage of scarce
resources and policy conflicts. The emphasis by the government in
the computer area should be on promotion, encouragement and
coordination, rather than control and regulation.

The committee's principal recommendations concerning an organizational
framework and action programme for implementing national computer
policy guidelines in Sri Lanka are first summarized (with respect
to Figures 1 & 2), and then described at greater length below.

1. Create a National Computer Policy Advisory Council (COMPAC)
   functioning directly under H.E. the President.

2. Create a Central Computer Secretariat (CECSEC) to service the
   needs of COMPAC.

3. Create permanent committees of COMPAC on
   (a) Computer Education; (b) Computer Applications in the Public
   Sector; and (c) Telecommunications and Data Transmission; to
   advise on and promote activities in these areas.

4. Support the growth and development of several Centres of Excellence,
   identified in the first instance as, the Universities of Colombo,
   Moratuwa and Peradeniya, and the National Institute of Business
   Management.

5. Establish channels of communication with and draw on the
   contributions of the Computer Society of Sri Lanka, and other
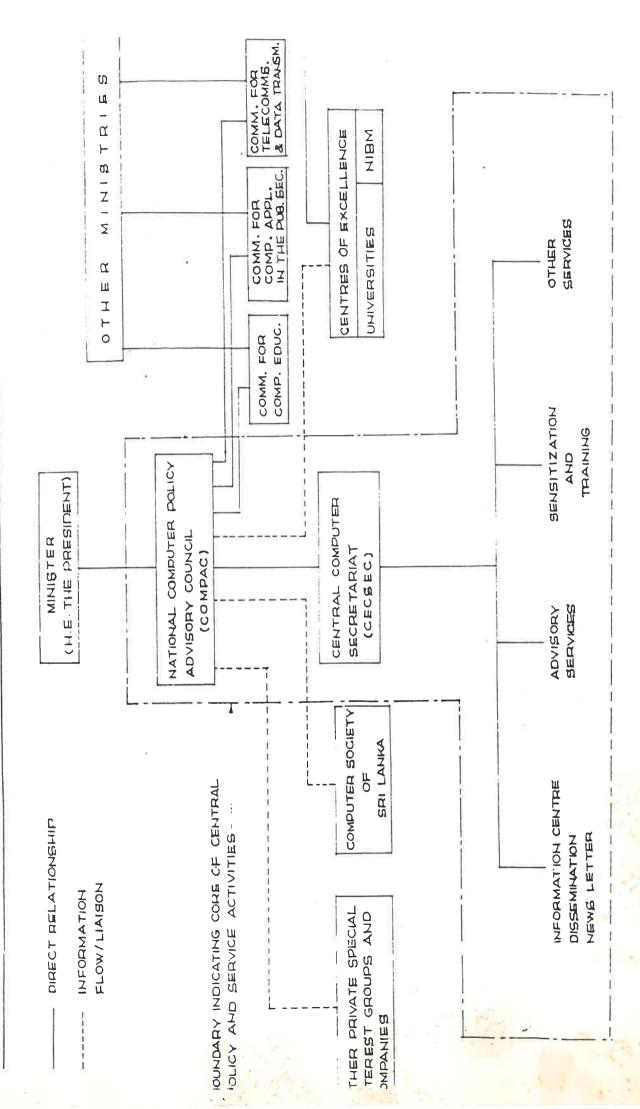   private special interest groups and companies.

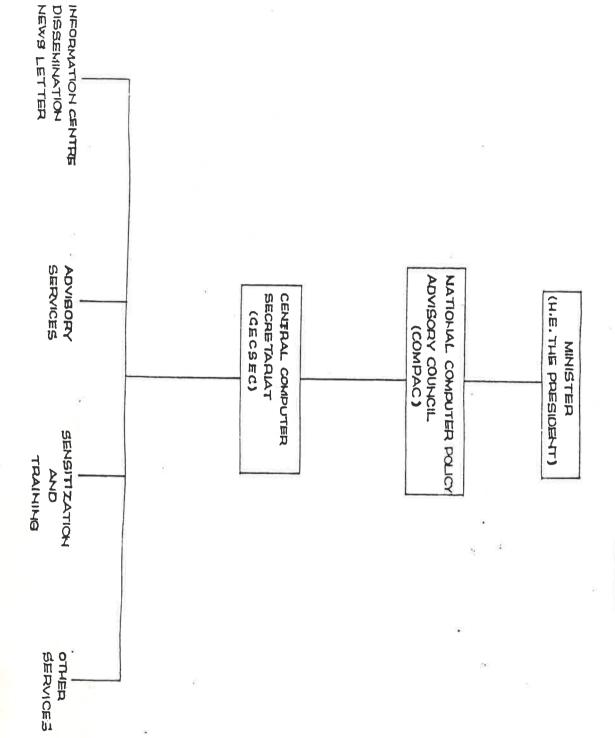4.2 National Computer Policy Advisory Council (COMPAC)

In the light of the importance of computers and related technologies for the future development of Sri Lanka, it is recommended that a body referred to hereafter as the National Computer Policy Advisory Council(or COMPAC)be set up. The principal purpose of COMPAC will be to provide a guiding framework and environment within which the many public and private sector organizations and individuals in the computer field can develop and make their contribution to the nation, without unnecessary duplication of efforts and wastage of scarce resources. This body should consist of not more than 10 members, including a Chairman. It is recommended that the members of COMPAC be senior persons drawn from among a variety of disciplines such as computers and related fields, economics, finance, education, engineering and science. They should have a broad viewpoint as well as a long-term, policy-oriented perspective.

The functions of COMPAC should be :-

(a) to encourage, facilitate and assist in the development and application of computers and related technologies in Sri Lanka, and also in the improvement of the infrastructural facilities necessary to promote computer development;

(b) to advise the government on national policies concerning computers and their applications, assist in the interpretation of these policies, and facilitate their implementation;

(c) to promote, coordinate and accelerate the application of computers in the public sector;

(d) to develop computer education in all its aspects and assist in advancing the skill and knowledge of persons engaged in the computer industry;

(e) to raise professional standards in computing by establishing standards in specific areas, including computer education and training, privacy of individuals and abuse of personal information, and integrity of data in computer installations.

FIGURE 1. PROPOSED ORGANIZATION OF THE COMPUTER SECTOR IN SRI LANKA

————— DIRECT RELATIONSHIP

- - - - - INFORMATION FLOW / LIAISON

BOUNDARY INDICATING CORE OF CENTRAL POLICY AND SERVICE ACTIVITIES - - -

OTHER MINISTRIES

COMM. FOR TELECOMMS. & DATA TRANSM.

COMM. FOR COMP. APPL. IN THE PUB. SEC.

COMM. FOR COMP. EDUC.

CENTRES OF EXCELLENCE

UNIVERSITIES

NIBM

MINISTER (H.E. THE PRESIDENT)

NATIONAL COMPUTER POLICY ADVISORY COUNCIL (COMPAC)

CENTRAL COMPUTER SECRETARIAT (CEC&EC)

COMPUTER SOCIETY OF SRI LANKA

OTHER PRIVATE SPECIAL INTEREST GROUPS AND COMPANIES

OTHER SERVICES

SENSITIZATION AND TRAINING

ADVISORY SERVICES

INFORMATION CENTRE DISSEMINATION NEWS LETTER

FIGURE 2. CORE OF CENTRAL POLICY AND SERVICE ACTIVITIES

```
                    MINISTER
                (H.E. THE PRESIDENT)
                        |
                        |
            NATIONAL COMPUTER POLICY
             ADVISORY COUNCIL
                 (COMPAC)
                        |
                        |
             CENTRAL COMPUTER
              SECRETARIAT
                (CECSEC)
                        |
        +---------+---------+---------+
        |         |         |         |
  INFORMATION  ADVISORY  SENSITIZATION  OTHER
   CENTRE      SERVICES      AND      SERVICES
 DISSEMINATION           TRAINING
  NEWS LETTER
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(f)   to promote research in the areas of computers and related technologies, and assist in monitoring and adapting developments in these areas for use in Sri Lanka.

(g)   to contribute to the improvement of the quality of life of the people of Sri Lanka, especially through improvements in the job satisfaction and working conditions of employees.

(h)   to make the nation as self-reliant as possible in computer skills, establish a sound indigenous capability to evaluate and acquire the necessary foreign computer technology, and promote the export of computer services.

(i)   to increase the flexibility and dynamism of Sri Lankan society to enable it to successfully meet the challenges of the future, arising from the ever-increasing pace of worldwide scientific and technological advances;

4.3 Central Computer Secretariat (CECSEC)

To carry out its advisory and service functions, COMPAC should have a central computer secretariat (CECSEC) consisting of full-time staff members. While COMPAC would be entirely policy-oriented, the principal function of CECSEC would be to act as a service arm of COMPAC. CECSEC should be headed by a full-time Manager. In view of the importance of separating the policy activities of COMPAC from the service functions of CECSEC, it is recommended that the Manager of CECSEC not be a Council Member of COMPAC. However, in order to facilitate communications and interaction between COMPAC and CECSEC, the Manager could also act as the Secretary to COMPAC.

The substantive work of CECSEC should be carried out by the Manager, assisted by 3 to 4 professionals and about 3 supporting secretarial and clerical staff, all recruited on a full-time basis. Initially, the service functions given below have been identified as high priority areas for CECSEC (see Figure 2). Other activities could be added on, according to future needs, at the discretion of COMPAC.

(a) Computer Information Centre, Information Exchange, Newsletter

There should be a permanent computer information centre containing books, periodicals, and other current reports and documents on computers and related fields. Reading and photocopying facilities would be made available to interested persons. However, in order to provide the necessary service without an excessive organizational effort, it is recommended that no lending activities be undertaken (i.e., only reference facilities be provided), at least in the start-up period. The information centre would also function as focal point for the exchange and dissemination of information among COMPAC, Sri Lanka bodies such as the Centres of Excellence (described below) and the Sri Lanka Computer Society, as well as foreign sources. It is also recommended that CECSEC regularly circulate a newsletter to interested individuals and institutions in Sri Lanka, on recent developments in computers and related areas that have taken place locally and abroad.

(b) Advisory Services

CECSEC should provide advice on computer-related matters to COMPAC as well as other public and private sector institutions or individuals referred to CECSEC by COMPAC. Such services would be provided only on request, and should not be viewed as a mandatory requirement by potential users of this facility.

The chief objective would be to provide basic information and advice on acquisition and use of computers. Many of the simpler queries could be handled, directly by CECSEC staff. However, given that CECSEC would not have a large in-house staff, it is envisaged that more complex problems be referred by CECSEC to other competent individuals or institutions (such as the Centres of Excellence).

(c) <u>Sensitization and Training</u>

Areas of sensitization and training relating to computers, such as increasing computer literacy and appreciation among the general public or senior government and private sector decision makers, which may not have a high priority for other organizations, should be covered by CECSEC. Again, the emphasis would be on ensuring that this work is organized and carried out, preferably by outside organizations (on a contractual basis if necessary), rather than attempting to build up a large in-house capability within CECSEC.

(d) <u>Other Services</u>

It is anticipated that to assist in its deliberations, COMPAC itself will generate many requests for information which would have to be serviced by CECSEC. Some of this information would be readily available and of a general nature (e.g., finding out the import duties and tariffs applicable to computer products). At the same time, other specific areas such as developments in robotics and telecommunications, or safeguarding privacy and abuse of personal data, are likely to require more effort, including literature reviews and data analyses by research assistants and other trained staff.

4.4 <u>Permanent Committees of COMPAC</u>

COMPAC should initially set up permanent committees covering three priority areas in which the government has a legitimate right to play a more active role : (a) computer education; (b) computer applications in the public sector; and (c) telecommunications and data transmission. Further committees could be set up by COMPAC, as the need arises, to study issues in areas such as privacy safeguards and abuse of personal information, and exports of computer services.

(a) <u>Committee on Computer Education</u>

A committee consisting of not more than 8 persons is recommended. At least one member of the Committee should be also a member of COMPAC, while the others would be drawn from relevant Ministries including Higher Education and Education, as well as other departments and organizations.

The principal function of this committee would be to coordinate activities, and avoid policy conflicts and duplication of effort. In the first instance, the committee should give high priority to improving computer related skills and promoting their application in the following areas : scientific analysis, higher education, industry, business and financial management, and schools. Standards of computer education should also be established and applied (preferably in collaboration with the Computer Society of Sri Lanka - see below).

Manpower planning to meet future needs in the computer area, and providing adequate financial incentives and attractive working conditions in order to retain the services of computer personnel, are also topics that need to be studied early.

(b) Committee on Computer Applications in the Public Sector
This committee of COMPAC should also consist of not more than 8 persons, with at least one representative from COMPAC, and other members drawn from relevant Ministries and public sector agencies.

The committee should place greatest emphasis on its promotional role in encouraging the use of computers in the public sector. In particular, it should encourage the better use of existing computer facilities, identify and anticipate the future computing needs of government organizations, and advise and assist such organizations on matters concerning computer applications.

(c) Committee on Telecommunications and Data Transmission
The existing poor quality of telecommunications constitutes a serious handicap to the development of computers and their applications in Sri Lanka. Upgrading this vital element of infrastructure to facilitate future computer developments, including the use of portable terminals, local and wide-area networks, and links with overseas computer facilities, should be the priority task of this committee. As in the case of the other committees, a maximum of 8 persons is recommended with at least one COMPAC representative.

(d) Other Future Committees

Other committees could be established by COMPAC, to meet future requirements. Given the vast data handling capabilities of computers and the increasing potential for misuse of computerised data, the establishment of safeguards to protect the privacy of individuals and the integrity of data is an important issue to be studied. Similarly, promotion of the export of computer services should be pursued, in view of the relatively high levels of education in Sri Lanka, unemployment among graduates, entrepreneurial talents of Sri Lankans, and our ability to absorb high technology skills.

4.5 Centres of Excellence

The Government should identify and give priority to the development of several Centres of Excellence having potential in the computer area, initially including the Universities of Colombo, Moratuwa and Peradeniya, and the National Institute of Business Management (NIBM). While the 3 universities would concentrate their efforts on use of computers in scientific work and higher education, the NIBM would be better placed to develop the business application and data processing areas. New Centres of Excellence in the public and private sectors may be identified in the future, including those that are developing at the other universities.

COMPAC would help to support the growth and development of these Centres, by channelling extra resources or providing other incentives and encouragement to them,(e.g., in the case of the Universities, by supplementing the normal University funding mechanism). In particular, it is recommended that private computer firms and vendors as well as foreign governments and international organisations be approached to provide the latest hardware and software, maintain equipment and support the operation of the Centres,and train local staff. The Sri Lanka government would provide counterpart funds for local staff, buildings, and other facilities. Scholarship schemes for promising computer students could be set up under this framework. Avenues should also be found to retain and encourage the return from abroad of skilled computer scientists.

A certain degree of healthy competition among the Centres of Excellence would be important to bring out the best in them. At the same time COMPAC should seek to enhance the flow of information among them, to avoid excessive or wasteful duplication of efforts.

1.6 Computer Society of Sri Lanka, Private Special Interest Groups and Companies

The Computer Society of Sri Lanka (CSSL), and private special interest groups and companies can make a valuable contribution to the development of computers and their application in Sri Lanka.

The Computer Society is the principal vehicle by which COMPAC could maintain contact with individuals interested in computers. CSSL should also be encouraged to help establish and maintain standards of professional education and conduct in the computer field.

Dialogue between COMPAC and private special interest groups and companies should be maintained to determine their needs, and establish a national environment in which their contribution would be best harnessed both in the application of computers in Sri Lanka, as well as for the exports of computer services abroad.

FINAL OBSERVATIONS

This Committee has sought to fulfil its mandate by identifying the objectives of a national computer policy for Sri Lanka, setting out an initial set of policy guidelines to meet these objectives, and recommending an organizational framework and action programme for implementing policy.

A central theme we have sought to convey in our report is the need for preserving the delicate balance between the two extremes of control and over-regulation which could stifle the growth of computer technology in Sri Lanka on the one hand, and excessive freedom and anarchy leading to wasteful duplication and conflicts, on the other.

Although Sri Lanka is in the early stages of computer development, this committee is confident that with appropriate policies that would encourage, promote and guide the computer community in Sri Lanka, the development and use of computer technology will make a very significant contribution to the well-being and quality of life of our citizens, over the coming decades and beyond.

ACKNOWLEDGEMENTS

The Committee wishes to express its gratitude to the Director-General and staff of NARESA for having provided all the infrastructural facilities and services required to complete its deliberations. Thanks are also extended to the Bank of Ceylon, Central Bank, National Institute of Business Management and the Universities of Colombo and Moratuwa, for the release of their staff officers to serve on the Committee.