Chapter 4 Case Study: Formulating national information related policies in Malaysia

4.1. Introduction

The previous three chapters can be described as giving the necessary theoretical background to National Information Policy, with chapter three looking at three proposals for the formulation of a National Information Policy in South Africa. After considering these proposals, an own methodological approach towards the formulation and implementation of a National Information Policy was proposed. The proposed approach is worthless unless it is applied, however, before applying the proposed methodology (in Chapter five and six), this chapter will take a look at the efforts made by the Malaysian government to formulate various information-related policies. This case study has been included so as to use it as a type of benchmark or point of reference from which guidelines for South Africa may be set. Case studies are useful instruments from which mistakes can be learnt and thus avoided.

South Africa and Malaysia differ greatly from each other in most respects, but both countries are regarded as Less Developed Countries. In order to understand what is needed for a South African information policy another developing country's efforts at formulating a National Information Policy is considered. The reason for this is that the focus of information policies in Less Developed Countries often diverges from those held by developed high-income countries. High-income countries concentrate on the industrial and social levels of information policy, whereas developing countries are concerned with building infrastructures. Malaysia was chosen because it has made one of the most substantial efforts to systematically transform social patterns of communication and culture with new technologies, leading to national development. Malaysia is a pioneer in the Asian region in getting a National Library and Information Policy approved by the government. Malaysia subsequently implemented its *Vision 2020*, the government's ambitious plan to achieve "developed nation status" by the year 2020 (Jackson and

Mosco, 19?). As a result Malaysia is considered a successfully advancing developing country, and it was also chosen for its leadership role in the East in this respect. The discussion below is structured according to the country's national priorities, developments and obstacles to these developments. Conclusions and observations resulting from the discussion are then expressed.

4.2 Case Study: Malaysia's efforts at formulating national information related policies

4.2.1 National priorities

Developing information infrastructure policies, Malaysia adopted a free market, de-regulatory approach that relies on private sector capital triggered through deregulation (Moore, 1996b). Initially the priority of the Malaysian government was to provide and progressively improve library facilities and services in order to contribute effectively to national development by creating a reading and informed society. Malaysia is one of a few countries where an integrated National Policy for Library and Information Services has been formulated (Chaudhry, 1993:231). According to Rehman (1996:191) the National Library and Information Policy, contains broad principles, which provide general direction for the future course of events for library and information services. "It provides for a strategy for providing appropriate library and information services to serve parliament, government departments, research institutes, universities, colleges and schools, and the public at large, in such a manner that those desirous of using such facilities will have convenient access to them" (Chaudhry, 1993:231). The National Policy for Library and Information Services was formulated taking into consideration the infrastructure of library and information services, as well as the legislation enacted for the establishment of the National Library of Malaysia, the State Public Libraries and for the legal deposit of materials. The policy emphasises resource sharing. According to Chaudhry (1993:231) a close working relationship between the National Library and university libraries resulted in

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proper formulation and effective implementation of the National Library and Information Policy.

The Seventh Malaysia Plan promotes a shift in the national development strategy, giving high priority to scientific research and technological innovation, and a shift from being input-driven towards productivity-driven (Jaafar, 1997 and Ahmad Din, 1999). The government is thus promoting innovation-orientated industries and services. Computer literacy, computer assisted teaching and learning programmes are being introduced and distance learning programmes are being expanded. The government has therefore emphasised research and development as well as accelerating the application of information technology, especially in the development of the Multimedia Super Corridor (MSC). In order to ensure that the growth of telecommunication services and that the use of technology supports national development in line with the national aspirations, a National Telecommunication Policy was formulated in 1995 (Jaafar, 1998).

4.2.2 Developments

In 1977 a preparatory Committee to Plan the National Information System was established. This committee set up working committees to study various aspects such as user needs and human resources (Mohammed, 1991:137). A more serious effort to formulate a National Information Policy began in 1982 when a grant was received from UNESCO to organise a seminar. A concept paper was presented at the congress of Southeast Asian Libraries in 1982, which was instrumental in having a recommendation approved (Rehman, 1996:191). A national seminar was organised in collaboration with major stakeholders in 1984. A high-level committee or Task Force, set up as a result of the seminar, completed the first draft of the national policy in 1987 and the government finally approved the National Library and Information Policy in 1989 (Mohammed, 1991:137). The impetus came from an UNESCO grant and the association of an UNESCO consultant at the initiative of the School of Library and Information Science of the Mara Institute of Technology.

Realising that information technology is becoming the key factor to achieve a competitive edge and to achieve the vision of becoming a developed nation, the National Information Technology Council (NITC) was established in 1994, and in 1995 a National Telecommunication Policy was formulated. This was to ensure that the development and utilisation of information technology be used as a strategic technology for national development and that the growth of telecommunication services and its use of technology support national development in line with the national aspirations (Jaafar, 1998). Malaysia's government has since taken numerous further initiatives to forge ahead towards realising this goal. The main agency driving automation of government services in Malaysia is the Malaysian Modernisation and Planning Unit (MAMPU). The Malaysian Modernisation and Planning Unit is responsible for planning administrative modernisation programmes and co-ordinating the planning process in human resources development. A National Equity Corporation was created to integrate and implement solutions to ensure continuity while developing new information technology and information systems.

Malaysia's *Vision 2020* programme is aimed at converting Malaysia into an information-rich society with a knowledge-economy that nurtures a culture of science and technology, thus allowing Malaysia to become a fully developed nation by the year 2020. The plan outlines the following nine strategic challenges facing the country according to Jackson and Masco (19?),

1) Establish a united Malaysian nation made up of one Malaysian race.
2) Create a psychologically liberated, secure and developed Malaysian society.
3) Foster and develop a mature democratic society.
4) Establish a fully moral and ethical society.
5) Establish a mature, liberal and tolerant society.
6) Establish a scientific and progressive society.
7) Establish a fully caring society.
8) Ensure an economically just society, in which there is a fair and equitable distribution of the nation's wealth.

9) Establish a prosperous society with an economy that is fully competitive, dynamic, robust and resilient.

Since 1997 Malaysia has embarked on its plan to be the technological hub of Asia by creating a "Multimedia Super Corridor". The Multimedia Super Corridor covers an area of 15km by 50km stretching from the Kuala Lampur International Airport to the new capital city of Malaysia, Putrajaya. Essentially this is a cybercity centre where electronic government, borderless marketing, smart schools and the like are situated. Concentrated in the capital region to begin with, it is envisaged that in its final stages the project will transform the entire country into a super corridor, wired to other "islands of excellence" throughout the world. The nature of the Multimedia Super Corridor also reflects strong privatisation and economic liberalisation programmes. The Multimedia and Communications Act was introduced on 1st April 1999 to provide for and to regulate the converging communications and multimedia industries, and for incidental matters (Ahmad Din, 1999). In addition the following Acts are also being introduced:

- Digital Signatures Act, to facilitate electronic commerce.
- Copyright Amendment Act, which strengthens intellectual property protection.
- Data Protection Act, governing the gathering and exchange of personal information.

Policies on paper-less administration and electronic government have also been introduced. According to Gauteng "Intelligent province" (1996:17) Malaysia fostered the use of a single infrastructure through the creation of a Public Services Network with the integration of distributed databases to stimulate information flow between all agencies. The National Information Technology Council has been set up under the auspices of the Malaysian Institute of Microelectronics. It acts as a think-tank and advisor to the government, and formulated the National Information Technology Agenda (NITA). The National Information Technology Agenda aims to ensure that all Malaysians have access to information and learning through "infostructure", and that information and knowledge applications will be the basis to further enhance quality of work and quality of life. The Ministry of Education has also developed strategies to introduce information technology

as an integral part of the education system, and by the year 2020 it is expected that everyone who goes through the school systems will be computer literate and be prepared for the technologically inclined job market.

4.2.3 Obstacles

Although the National Policy for Library and Information Services is an integrated policy, the document does not address issues like copyright, freedom of access, classified information, international dimensions of transborder data flow or data protection. However, according to *National and International Information Policies* (1991:123), Malaysia announced plans to join the Berne convention and amend its 1987 copyright law.

More recently, as new information technology-based products and services are being introduced, meeting the changing needs of information users, the following challenges need to be overcome:

- The need to develop expertise in information technology and specialist subjects to effectively and efficiently utilise as well as manage knowledge and information.

- Available information may be under-utilised because users may not be aware of it and because of an inadequacy in their familiarity with the use of information technology and information itself. Thus effective measures to promote and market information products and services must be instituted.

- Digital services should not be concentrated in the urban centres only but should also be extended to rural communities thus allowing equal access to information services.

- Information resources on the Internet are frequently updated and it is difficult to trace their historical development. This poses a challenge to preserve the intellectual contents of the Internet.

- Similarly, computer software and hardware have short lifecycles, thus continuous training and retraining and exposure to new information technology products is essential.

- In order to strengthen the National Information and Knowledge Infrastructure, there is a need within each institution for professional skills in the management of knowledge and information to support the creation, organisation, dissemination and utilisation of institutional knowledge resources.

With reference to the Multimedia Super Corridor, Jackson and Masco (19?) highlight the following general areas of criticism. It is feared that the concentrated and centralised technology zone, the Multimedia Super Corridor, would widen the already considerable gap between the capital region and rural areas in the rest of the country. It is also feared that there would be a growing division between information "haves" and "have-nots". This led to the questioning of whether the public resources invested in the Multimedia Super Corridor could not have been more equitably distributed in information technology promotion programmes at multiple levels and in various regions. Another criticism focused on the prominence of the private sector in setting the terms of the project.

4.3 Observations

From the case study of Malaysia, observations have been made, which have been arranged according to the discussions above. Mistakes or wrong decisions can now be identified from these observations and thus avoided when developing policy guidelines for South Africa.

4.3.1 National priorities

Malaysia regarded as a Third World Less Developed Country, put emphasis on the aspect of national development, especially developing infrastructures in order to provide information for the development of the nation. Initially this meant improving library facilities and services in order to communicate and disseminate development related information to the people. Malaysia also placed emphasis on human resource development, co-ordination, resource sharing and management of development projects as well as government information.

Malaysia's priorities then shifted heavily towards information technology. Malaysia's aim is to become the technological hub of Asia and a developed nation, and it has identified information technology as the means to reach this goal. Malaysia is an example of a Less Developed Country that has taken the opportunity to utilise technology in order to "leapfrog" into development. However, as stated earlier, Malaysia has made substantial efforts to transform its social patterns of communication and culture. Culture is what differentiates nations from each other, and the use of technology should not transform that which is unique to any culture. The gap between "haves" and "have-nots" and between rural and urban should also be considered.

4.3.2 Developments

The development of a National Information Policy in Less Developed Countries has been one of the major pre-occupations of the Economic Commission for Africa, IDRC and UNESCO, thus it is not surprising that Malaysia had the guidance and expertise of these and other multilateral and bilateral agencies. Malaysia began development efforts during the late 1970's and early 1980's with the UNESCO initiative for the development of a National Information System (NIS). The main emphasis of the UNESCO guidelines was for the creation of a national information co-ordinating organisation whose job would be to initiate the formulation of a policy, to prepare plans for the implementation and co-ordinate and monitor operational activities involved in the execution of the plans. Seminars were the chief driving force for the policy formulation process, other activities included workshops and debates and discussions.

During the 1990's Malaysia's strategies changed from a more library and information oriented perspective to a technology-oriented perspective. This was led by the enactment of a Telecommunications policy. Malaysia however went further with its *Vision 2020*, and in 1997 started implementing its plan of becoming a developed nation by 2020 by creating the Multimedia Super Corridor. Malaysia's National Information Technology Agenda's vision of having access for all to information and learning is not much different from that of the original aspirations of UNESCO's National Information System programme.

4.3.3 Obstacles

Typical obstacles are a lack of skilled human resources and the accompanying inadequacy of familiarity of the role that information can play in socio-economic development. Thus it is not only information workers, but also the "person on the street" that needs to be educated. Malaysia was also found to lack the expertise necessary in information technology to reach its goals and vision. Another obstacle is the impact of culture on fundamental information principles, such as freedom of information. This is illustrated by the fact that although the Malaysian government has promised freedom of the Internet and such like, information and media controls remain strong in Malaysia (Jackson and Masco, 19?).

4.3.4 Lessons to be learnt

The specific lessons to be learnt from the case study are now discussed. These lessons will assist in developing successful policy guidelines for South Africa.

1. When developing an information related policy, most countries concentrate on a single aspect, such as technology or library development, and have a single policy in mind. For example, Malaysia's National Library and Information Policy is confined in scope to library and information services. The National Library of Malaysia was entrusted with the responsibility of implementing the National Library and Information Policy, implying that no additional structure in the form of a national commission or additional funding was considered essential. The picture as a whole, involving all interested parties, should be looked at when formulating information policies.

2. In general Less Developed Countries usually follow the developments of developed countries, and often at the initiative of the developed countries. Malaysia had external expertise and donor organisations assisting their efforts at developing information policies. These include UNESCO's General Information Programme and efforts by the IDRC. At first UNESCO's National Information System process was emphasised, with Malaysia being one of the few countries assisted that actually adopted a policy,

even though its emphasis was very narrow. An advantage of this is that the Less Developed Countries can learn by example and not make the same mistakes. Current technological developments also allow for "leapfrog" strategies. Situations in countries are however not the same and this should be kept in mind.

3. Rural areas require more "development" in that these areas lack infrastructure. The people are unfamiliar with new technologies. Instead of being an asset it is not utilised as envisioned.

4. Issues such as the geo-political environment, the socio-economic conditions, technological state and legislative machinery are big obstacles for Less Developed Countries. Each country has its own socio-cultural system as part of the political mechanism, however international environments and circumstances of technology and political systems also influence information policy at the national level. Thus the strengthening of an information infrastructure is seen both as a necessity and an opportunity to accelerate development in all spheres of economic and social activity.

5. Development concerns and issues of policies show some similarities in most countries. The chief area of debate is what type of information is relevant to a specific country. In Less Developed Countries the concern is with the type of information that could benefit the least developed areas of a country. Thus the purpose of information and communication is conditioned by the needs of each activity, time and place, thus making it imperative to relate the definition of information to a particular society and community.

6. Formulation mechanisms fall short of integrating some considerations, and others tend to focus on a specific area or activity, thus the conventional approach to the formulation of National Information Policy in many countries has been marked by its lack of comprehensiveness in terms of contents and coverage. In general, only a few countries have made progress in laying the foundation for national information and

communication infrastructure and developing the strategy to move forward. This confirms the role that the numerous international organisations play in guiding national governments and providing support for the development of information policies in Less Developed Countries. The few advances that the information sector has made have come thanks to external support. Thus there is little chance of sustained growth should donor support cease, leading to stagnation and gradual collapse.

4.4 Summary

Two points that speak for themselves will be highlighted. The first is that the following success factors regarding the implementation of Malaysia's National Library and Information Policy have been identified:

- Strong support from all levels of government.
- Efficient project management.
- Support by proven technology.
- Phased implementation.

The second point gives evidence of the success or not of Malaysia's policies. This is shown in the global Information Society Index that came out at the eve of the new millennium. This index tracks data from 55 countries that collectively account for 97% of the global Gross Domestic Product (GDP) and 99% of information technology expenditures, Malaysia is placed 34th (See, 1999). New patterns of information seeking and information needs of the society are thus the result of information technology development, which in turn brings about changes to the society. Malaysia as an example, shows that there are many facets of what we call "information" that need to be considered, and that information is no longer exclusively the domain of library and information services.

Many Less Developed Countries have become independent only recently, that is, within the last 30-40 years. Typically they struggle with civil wars and are faced with poverty and

disease. The result is that scant attention is given to information related activities. The inefficiency, inconsistency and lack of coherence in the application of policy instruments can and do constitute a lack of policy. Specifically the elaboration of information technology policy, an integral part of National Information Policy, is a major determining factor in setting-up the underlying supporting infrastructure and enhancing the optimal use of the technology.

In contrast the great efforts and financial support by organisations such as UNESCO have been instrumental in creating the necessary awareness and identifying priorities and opportunities, and assessing current strategic information systems projects at national level. However, organisations such as UNESCO can go to great lengths in assisting countries by holding seminars and providing expertise to draw up an actual policy, but it still depends on the national government of a country to finally enact such a Bill and implement it.

In the next chapter a closer look will be taken at the main efforts surrounding the development of an information policy for South Africa.

Chapter 5 Critical analysis of the evolution of the main South African information related policy efforts

5.1. Introduction

In order to draw from the experience of other countries in the development of a National Information Policy for South Africa, a brief case study of Malaysia was undertaken and presented in the previous chapter. However, the primary concern in this dissertation is with South Africa, therefore a more comprehensive case study and thus this whole chapter is dedicated to the discussion of the main efforts that have been made to date within South Africa regarding the development of information-related policies. The discussion is divided into a "past" and "present" context of South African developments. "Past" context refers to the primary developments that took place prior to the 1994 general elections. An overview is also given of the telecommunications policy developments influencing the infrastructure necessary for a National Information Policy to function effectively. In contrast the "present" context refers to the current situation we find ourselves in, in the post 1994 election era. This takes the form of a discussion of the socio-economic conditions that South Africa finds itself in, in an attempt to set the context for the development of a National Information Policy in South Africa. These past and recent efforts are then critically analysed in order to present suggestions resulting from this study and critical analyses in the next chapter.

5.2. South Africa in past context: The main areas of development of information related policies

The discussion of the past context is limited to highlighting the historical development of mainly two separate, yet related, policy efforts. The first direction of development covers the efforts made to formulate a Library and Information Services policy, which will start the discussion. The second direction continues with the more technologically oriented

efforts by the National Information Technology Forum and the IDRC at formulating an Information Communication Technology Policy for an Information Society. An overview of the Telecommunications Policy developments is also given.

5.2.1. Library and Information Services (LIS) oriented developments

5.2.1.1 Developing library and information services- 1927 till 1988

Many attempts have been made over the years to formulate a Library and Information Services policy in South Africa. Following is a brief historical layout of what librarians and information workers have achieved so far in South Africa regarding a Library and Information Services policy.

In 1927 the president and secretary of the Carnegie Corporation visited South Africa as part of the Carnegie Corporation programme of funding educational and social work in the "British dominion" (Walker, 1993:60). One of the projects that were undertaken as a result of this was the improvement and extension of library services in South Africa. After their tour, a national conference was convened in Bloemfontein in 1928 at which 78 institutions were represented. The aim of the Carnegie Corporation conference was to survey the current library situation and this probably represents the first attempt made at formulating a Library and Information Services policy in South Africa. Among the recommendations made, were those that led to the founding of the South African Library Association (SALA), the establishment of the journal "South African Libraries", the development of professional training and eventually the structuring of the free provincial library services in the 1940's.

In April 1936 the Minister of the Interior of the Union of South Africa appointed an inter-departmental committee on the libraries of the Union of South Africa, whose terms of reference were to enquire into and report upon the general organisation of libraries in the Union. This report expressed frustration that so many issues, including that of a centrally organised free public library service, had not been undertaken despite the Carnegie

Corporation proposals. In 1944 however, the Corbett Commission reported that all four provinces had launched their free provincial public library services.

The 1959 annual South African Library Association conference resolved to take strong measures to promote closer co-operation among libraries in South Africa. An Action Committee was appointed to submit a report and recommendations. These were submitted to the South African Library Association conference in 1960. It resolved to request the Minister of Education, Arts, and Science to convene a National Conference of Library Authorities. The findings and recommendations were condensed into a draft document, *"Programme for future developments: introduction and proposals submitted by the SALA"*, and this was distributed with the South African Library Association's newsletter of May 1962 for further consideration at a special conference of South African Library Association held in 1962. The resolutions of the national conference were in the form of a manifesto to all South African library authorities, for the planning of future library development in South Africa. The conference expressed an opinion that a central body should be established for bibliographic and information services.

The National Library Advisory Council was established in 1967 and in 1974 became the National Advisory Council for Libraries and Information (NACLI). The Council's chief reasoning for why a policy should be drawn up was to set clear policy guidelines so that funds would be allocated and spent accordingly. The National Advisory Council for Libraries and Information was dissolved in 1987 when government felt there was no longer a need for a national policy on libraries and information and that these should be market-driven (Walker, 1993:71).

In 1980 a restructured, mainly white professional institute, the South African Institute for Librarianship and Information Science (SAILIS) replaced the South African Library Association. A small committee was set up by the South African Institute for Librarianship and Information Science Council to develop a policy (Walker, 1993:72). According to Zaaiman and Roux (1989) a seminal paper entitled *"An active role for libraries in*

development" proposing a radical new service orientated library service was presented in 1986. The final report was published in 1988, and it focused almost entirely on the role of the public library in the development of South Africa. Its recommendations were thus aimed primarily at librarians.

5.2.1.2 National Education Policy Investigation (NEPI)

The National Education Co-ordination Committee (NECC) initiated the National Education Policy Investigation (NEPI), which took place between 1990 and 1992. A National Education Policy Investigation Library and Information Services Research Group was established to publish a separate report on library and information services. The Library and Information Research Group was formally constituted on a national level as a sub-group of Support Services. The opportunity was taken to grasp and survey the entire spectrum of library and information services based on the premise that a coherent library and information system is necessary for an effective educational system. Librarians were involved largely because of the initiative of the Natal-based group associated with the "alternative" Library and Information Workers Organisation (LIWO) which had been founded in 1990.

According to Nassimbeni (1994:149) the publication of the general findings intensified debate about the future of education. The report concluded that the library and information services sector in South Africa was fragmented and lacked co-ordination, in addition it also concluded that the State does not consider library and information services to be integral to education. The findings of the National Education Policy Investigation Report also indicated that some sectors were better served than others, but that efforts to bring about a more equitable system are limited by a lack of funds and a lack of policy. Library and information services continued to be aligned with the Department of Education and neither, the library and information services nor the Government had begun to explore the major economic value of information resources and their accessibility.

5.2.1.3 A "New South Africa"

After the work of the National Education Policy Investigation Library and Information Services had come to an end, the need still existed to continue library and information services research and to formulate a Library and Information Services Policy. The effect of the research undertaken by the National Education Policy Investigation was the launch in March 1993 of Translis (Transforming Our Library and Information Services). This was essentially a continuation of the National Education Policy Investigation work on a more wider and systematic basis incorporating more regions and regional representation. The mission of the Translis coalition was to develop a National Library and Information Service Policy programme, which would direct the process of participatory change and reconstruction of South Africa's libraries and information services, both at a regional and national level.

One of the proposals from the National Education Policy Investigation report was for a nationally structured library and information services system within the broader framework for education policy development. According to Walker (1994:120), this policy framework influenced the Centre for Education Policy Development to publish *"A Policy Framework for Education and Training"*. This was the draft policy framework released in 1994 for discussion by the African National Congress (ANC) to fall in with the Reconstruction and Development Programme (RDP). The African National Congress's vision regarding Library and Information Services, is that of "... a government which serves and values the freedom and democracy of its people, will treasure the empowering, liberating and educative role of ideas and information, and will commit itself to provide for the cultural, educational, economic and technological development of its people through a national LIS system" (African National Congress, 1994b:79). Thus the library and information services would be democratically developed and managed in co-operation and consultation with its users so that the collections and services are appropriate and relevant to the needs and diversity of the users.

However, Lor (1994:134) states that the Reconstruction and Development Programme had little real interest in or an understanding of libraries and the role they play in national reconstruction and development and in informing the public. This was reflected at the time in the new proposed Freedom of Information Bill and the Taskforce on Communication (ComTask), established in December 1995 by the then deputy state president at the time, Thabo Mbeki. Essentially, "the ComTask report on government communications, was responsible for defining government policy on communicating to the public and for recommending a new mass media policy" (Langa, 1996: 139). According to van Wyk (1995:11) the proposed Open Democracy Bill would permit the public to view proceedings of important government bodies, protect privacy and protect officials who expose lawbreaking and serious maladministration or corruption by the government. The Open Democracy or otherwise known as the Freedom of Information Act would make access to official information a right, as it is entrenched in the 1996 constitution.

Still, the necessity for a Library and Information Services Policy was recognised in the Draft White Paper on Arts, Culture and Heritage as Cillié and Roos (1996:13) discuss. An Inter-ministerial Working Group on the Library and Information Services Function (national level) was set up to advise the Minister of Arts, Culture, Science and Technology and the Minister of Education on mechanisms to ensure good governance of the library and information services system. According to Cillié and Roos (1996:14) the aim was to facilitate maximum availability and use of information to advance the Reconstruction and Development Programme. At this stage it was realised that a Library and Information Services Policy should not be approached in isolation from the general National Information Society Policy and the important role of library and information services in the broader Information Society Policy should be stressed. The working group consequently recommended that an Inter-departmental Co-ordinating and Planning Committee (ICPC) should address library and information issues, until a national advisory council for library and information services had been established.

As part of a larger process, the IDRC's Information Policy Working Committee sent a Preparatory Mission, known as the "*National Information Management Project: South Africa*", to define a framework for a National Information Policy for South Africa. The original plan was for a full-scale mission to follow-up on the technical dimensions, however according to Akhtar, Melody and Naidoo (1994), because of the rapid pace at which political developments were taking place in South Africa, it was decided not to send a full-scale mission. The May 1994 preparatory mission report made several proposals, including that an Information Policy and Co-ordination Unit (IPCU) should be created as a means to address the information flow within government and between government and the society. By November that year a National Information Project had been established under the Reconstruction and Development Programme office, while the other recommendations remained to be implemented (Akhtar, Melody and Naidoo 1994).

5.2.2 Information communication technology oriented developments

5.2.2.1 Background

During the fifties the local electronics industry was promoted by the establishment of overseas scientific liaison offices to meet the continued flow of information into South Africa. During the early seventies the Computer Society of South Africa requested a human resources survey of "information workers". The investigation, covering a wide spectrum of information policy issues, was conducted by the Scientific Advisory Council (SAC), a subsidiary of the Human Sciences Research Council. According to van Houten (1984:12) the investigation by the Scientific Advisory Council recommended that the government create a National Information Advisory Council dealing with information policy issues in a wide context and with membership from library, computing and telecommunications professions.

5.2.2.2 Developments

A number of programmes and partnership mechanisms have been instituted by development agencies at international and regional levels with the aim of creating an enabling environment in which people and institutions in Less developed Countries can

effectively exploit knowledge for development. Thus most of the initiatives discussed here came from outside of South Africa.

Most countries have come to recognise that information infrastructures are not limited by national boundaries and that international co-operation is necessary. One of the first international initiatives for co-operation was the 1995 G7 Ministerial Conference on the Information Society in Brussels. The principles adopted at this conference primarily reflect the industrialised countries' concerns. South Africa's then Deputy President, Thabo Mbeki challenged the G7 and the European Commission to organise a follow-up conference bringing together representatives of the developing world, the G7 and the European Community (EC). The resulting significant international event that highlighted the challenges to the Less Developed Countries in the global Information Society was the Information Society and Development (ISAD) conference held in Johannesburg in 1996.

The objective of the conference was to launch a dialogue between countries with differing social, economic and cultural patterns to pursue policies, which aim at facilitating the integration of Less Developed Countries in the global Information Society. Thus this conference was held in Africa in order to discuss how a democratic Information Society could be built in Less Developed Countries in accordance with their specific needs. South Africa tabled a draft set of developing world Information Society principles, with the emphasis on redress and adapting the Information Society idea to South Africa's and Africa's needs. Although this was still in the context of the Reconstruction and Development Programme, which is now no longer actively promoted, this could have served as a starting point for a national Information Society policy process.

A national initiative to bring together stakeholders was by this time in an advanced stage, and led to the launch of the National Information Technology Forum. It was formed with the key to mobilising the various sectors committed to developing and advocating clear policy positions and policy options to participate in the process of creating an information community and to ensure input into the formulation of a National Information Policy

framework. It was to ensure that the potential of the global Information Society be used to promote universal access to information for all citizens and to eliminate disparities between urban and rural town and township communities as regards the use of information and communication technologies. The National Information Technology Forum organised a conference on *"Information society and government initiatives in economic development"*, whose objective was to assess the current strengths, weaknesses and opportunities of information technology in government and its wider impact on the information community.

According to the Economic Commission for Africa (1999), the process of conceptualising an African information infrastructure was begun in April 1995 at the African Regional Symposium on Telematics for Development organised by the Economic Commission for Africa, UNESCO, IDRC and the International Telecommunication Union (ITU). In May 1995 at the Economic Commission for Africa's twenty-first meeting, Resolution 795(XXX) entitled *"Building Africa's Information Highway"* was adopted. This led to the appointment of a High-level Working Group on Information and Communications Technologies in Africa to draft an action plan to utilise information and communication technologies for socio-economic development in Africa. The resulting action plan the, *African Information Society Initiative* (AISI), was launched in 1996 at the Information Society and Development conference. The action plan is implemented at national level, starting with the development of National Information and Communication Infrastructure plans (NICI) in each country. The initiative also calls for bilateral and regional mechanisms to stimulate co-operation between African countries.

The Economic Commission for Africa has taken the lead in co-ordinating with other related regional initiatives such as the Organisation of African Unity[1] (OAU) and the Southern Africa Development Community (SADC). According to van Audenhove (1998) a few weeks after the adoption of the African Information Society Initiative framework the International Telecommunications Union adopted its *"African Green Paper"* at the Africa

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[1] The OAU was disbanded in 2001, and replaced by the African Union.

Regional Telecom Development Conference in Abidjan. This Green Paper focuses on the development of policies concerning network and physical infrastructure development necessary for a future Information Society. Its balanced view of the problems and prospects for telecommunication development points out the enormous infrastructural, economical and political problems hampering the development of Africa's telecommunication sector. The Green Paper stresses the necessity for an independent national regulatory authority, however, most developing countries lack the institutional development programmes to fund and train regulators and promote partnerships among regulators and experts.

A forum for the exchange of information and ideas and the generation of collaborative projects supported by a series of databases and a discussion list, *Partnership for Information and Communication Technologies in Africa* (PICTA), was formed in 1997. The interests of the particular donor agencies who support the implementation of the African Information Society Initiative projects through the Partnership for Information and Communication Technologies in Africa are also accommodated. Furthermore, in order to increase the utilisation of the network of national and institutional participating centres and increase the delivery speed of requests and responses, the Pan African Documentation and Information System, initiated a project with IDRC assistance, entitled *Capacity Building in Electronic Communications for Development in Africa* (CABECA). The projects' objective is to develop supportive infrastructure necessary for sustainable computer-based networking in Africa (Faye, 1995:16).

Other partnerships and initiatives of interest include:
- The African Connection. This is a political initiative led from within the continent by African Ministers of communication. It involves agreements in principle concerning infrastructure projects and serves to strengthen Africa's voice in regional and international dealing with telecommunications issues.
- The African Development Forum (ADF). It aims to reinforce African capacity to define and implement Information Society programmes and African leadership to

shape the multifold donor and private sector interest in the potential of information communication technologies in the region. It is intended to identify progress towards African Information Society Initiative goals and concrete projects. It also has a successful discussion list managed from within the Economic Commission for Africa.

- The Global Knowledge Partnership. This partnership emerged from co-operation among the organisations involved in the Global Knowledge 97 Conference held in Toronto, and is based on sharing information, experience and resources to promote access and use of information.

- The Global Information Infrastructure Commission. This forum is intended to enable African business leaders in the information communication technology sector, policy makers, academics and other decision-makers to share their perspectives on the need to expand the information infrastructure.

5.2.3 Telecommunications Policy and related developments

5.2.3.1 Background

According to Butcher (1998), the two areas relevant to information policy development in South Africa which have received the most attention so far are telecommunications and broadcasting. The two concepts, "infra" structure and an "info" structure, could serve to explain and better understand the different focus of telecommunications policy development and how that relates to this discussion. According to the Draft Report of the Inter-ministerial Working Group on the Library and Information Services Function (National Level) as presented to the Minister of Arts, Culture, Science and Technology and the Minister of Education on 14 June 1996 (South Africa, 1996b), "infrastructure" refers to the backbone information and communications networks, including telecommunications networks, broadcasting, satellite, and other wired and wireless options, which serve as conduits for all electronic communications. The latter- the "info" structure- refers to the "higher order" delivery systems of the information infrastructure, including programmes and software, the information content, the methods for producing that content, as well as services and applications. From previous discussions it can be seen that information sharing and access is a key issue in all sectors. Central to this is not only

effective library "info" structure development, but also electronic access to information, provided by various computerised information networks ("infra" structure). The effective implementation of information projects thus depends on the expansion of the telecommunications network- both in terms of geographical and population coverage, as well as modern data and information service capabilities. A brief overview of South Africa's telecommunications industry will now be given.

5.2.3.2 Developments

South Africa's telecommunications history is deeply intertwined with the local political position throughout South African history. The original South African Posts and Telecommunications (SAPT) service was a classic post, telephone and telegraph monopoly known as a "state business enterprise". This telecommunications structure changed in 1991 when posts and telecommunications were separated, and the government began moving toward a policy of privatising its key parastatals. South Africa's new telecommunications entity, Telkom SA, became a formally registered company with the state as the sole shareholder in 1991. In the early 1990's it was not clear who set policy for the sector since it answered in effect to two ministers. The "policy" portfolio, was held by the Minister of Transport and Communications, and because the state is its sole shareholder, the "shareholder" portfolio was held by the Minister of Mineral and Energy Affairs and Public Enterprises. The politics of transition to democracy complicated South Africa's telecommunications picture. In the area of broadcasting however, an Independent Broadcasting Authority was created in August 1991 (Horwitz, 19?). During 1992 the Department of Posts and Telecommunications contracted the international accounting firm, Coopers and Lybrand[1], to conduct an independent study of the South African telecommunications sector. This was to provide an independent expert analysis of South Africa's telecommunications to guide the writing of new legislation. The results of the study known as, the Coopers and Lybrand Report, was a comprehensive study addressing issues pertaining to regulatory authority and the structure of the telecommunications sector. Given that none of the political parties had the wherewithal or capacity to generate

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[1] This firm is now known as Price Waterhouse and Coopers.

its own study, the Coopers and Lybrand Report essentially became a baseline from which to assess South Africa's policies and the debates about them. In 1993 the government went ahead and began to formulate policy without first establishing a legal framework for the sector and its regulation, and without engaging in an effective consultative process. It tabled a new bill before Parliament to amend the Post and Telecommunications Act.

With a new government to be popularly elected in 1994, Telkom faced a difficult future with new equity-based demands imposed on it to expand the basic telephone network to populations historically denied access, on the one hand, and on the other hand, businesses wanted enhanced and value-added services. Telkom consequently allowed companies to register a Value Added Network (VAN) services company. Consequent to the 1994 elections three events began to move telecommunications policy:

- The establishment of a National Telecommunications Forum (NTF) finally engaged government, business, labour and civic organisations in a consultative process.
- The Reconstruction and Development Programme set goals for telecommunications development.
- The new minister for Posts, Telecommunications and Broadcasting put in motion a Green Paper/ White Paper process to develop telecommunications policy. The resulting Green Paper was published in 1995 and the White Paper in 1996.

According to the White Paper on Telecommunications (South Africa, 1996c) the state's vision for telecommunications is one that balances the provision of basic universal service to disadvantaged rural and urban communities with the delivery of high-level services capable of meeting the needs of a growing South African economy. Having to fund its Reconstruction and Development Programme obligations, Telkom opened up the process to a much bigger affair and unveiled a broad expansion plan which it called "Vision 2000". The telecommunications reform process was however thrown into uncertainty with the cabinet reshuffle in 1996 and the dismantlement of the Reconstruction and Development Programme to line ministries. However the legislation issued in 1996 suggested that

reform would continue in the spirit of the National Telecommunications Forum and the White Paper.

A Telecommunications Act was enacted in 1996, establishing the South African Telecommunications Regulatory Authority (SATRA) that will regulate this sector. The constitution of South Africa enshrines the Bill of Rights, which states access to information and freedom of expression as fundamental rights, these were also targets in the Reconstruction and Development Programme. It could then be argued that access to telecommunications services is a basic right to all citizens to communicate, which is essential for full participation in the community and as a basic element of the right to freedom of expression (South Africa, 1998c). Thus because South Africa is in a phase of transition, there is a pressing need for a transparent and accountable mechanism to ensure that universal service is delivered to all South Africans. While the issue of "universal service" is a global concern, the Universal Service Agency (USA) established by the Telecommunications Act in 1996 and officially launched in May 1997, is a response to the particular South African social, economic and political environment. The objective of the Universal Service Agency is to promote universal access to telecommunications for all in South Africa. According to the Universal Service Agency homepage (www.usa.org.za) telecommunications play a major role in wider development. Access to telecommunications has shown to have an impact on economic and social development in many countries, including Malaysia. The Agency works with the South African Telecommunications Regulatory Authority, Telkom, other operators and with community and development organisations on key issues which will determine the rate at which imbalances in the provision of telecommunications services are redressed in the South African society (Mkhize, 19?). According to Mkhize (19?) there are broadly two schools of thought defining universal service, an access based definition and a full service delivery definition. The distinction between the two definitions is whether each household or citizen should have access to a telephone service or a telephone service should actually be delivered to each household or citizen. Universal service refers to all households in a country having a telephone, so that all individuals can make a telephone call from home.

Universal access refers to all individuals having reasonable access to a telephone that they can use. This could either be at home, at a business or some public facility. The purpose of universal service is to ensure that the part of the population, which would not receive essential telecommunications service under normal market conditions, has access to those services.

Universal service and universal access measure different things, and require different policy measures to promote. The longer-term goal would be to provide telecommunications service to all households in South Africa, but realistically this will not happen for many years. Universal access is a realisable goal within a few years, and will be achieved through projects such as the establishment of telecentres. The IDRC is running the Acacia programme supporting telecentres in Uganda, Senegal and Mozambique as well as South Africa. Other initiatives include phoneshops and schoolnet. The International Telecommunications Union stresses the role of multi-purpose community centres.

5.3 South Africa in present context

This discussion describes the present situation in which South Africa finds itself. First, a picture of South Africa's socio-political circumstances is painted in order to provide a background to the discussion of the second and third sections. The second section provides an overview of the information resources presently available, while the third and last section discusses international and Third World information trends that would influence present information policies.

5.3.1. South Africa's socio-political circumstances

5.3.1.1 South Africa in political context

One of the major challenges facing the present South African government is the achievement of a balance between maintaining stable economic growth and redressing the inequalities of the past. For example, the post-apartheid government was left with a

modern telecommunications infrastructure, but one that was highly skewed in favour of white and urban regions.

Initially in 1994 when the new African National Congress government came into power a *"Democratic Information Programme"* was envisaged. The Reconstruction and Development Programme envisioned "Open debate and transparency in government and society are crucial elements of reconstruction and development. This requires an information policy, which guarantees active exchange of information and opinion among all members of society. Without the free flow of accurate and comprehensive information, the Reconstruction and Development Programme will lack the mass input necessary for its success" (African National Congress, 1994a:133). According to Harfoush and Wild (1994:3) any proposal for an information policy in South Africa at that time had to be directed at ensuring to serve two broad communities. The first, being government, where the main requirements were the implementation, monitoring and evaluation of Reconstruction and Development Programme programmes and facilitating transparency. The second being local communities, it should enable the development process to be driven by the needs of the community. A few years on, the emphasis of the policy must be for it to respond to the constitutional requirement of access to information as part of the rights of individuals. It must address the means by which citizens can be made aware of their new rights and remould government habits that favour secrecy over openness. It must also help reinforce the image of government as a partner of its citizens. In summary practitioners have to satisfy the information requirements of a very heterogeneous society, composed of many cultural, language and ethnic groups.

Information may be used to call for a national appeal in order to build a national unity, or national belongingness. The broad philosophical outlook guiding South African public life is that despite the various and distinct cultures and other differences that make up the society, the South African nation is united in its diversity. Therefore at present, at the turn of the century, South Africa's political leaders share the vision that information communication technologies can help to overcome some of the legacies of the past.

Especially in the area of services, information communication technologies are identified as both facilitators in the restructuring of sectors and as a means to deliver services. However, the extension of services is dependent on the extension of the necessary infrastructure, since infrastructure is instrumental in the provision of content and services.

5.3.1.2 Socio-economic conditions in South Africa

Economic and socio-political conditions are changing constantly, but the socio-economic conditions found in South Africa currently, according to Arnold (2000:73-74), are:

- Efforts are being made to address the imbalances of the past where there are pockets of wealth while the majority has minimal access to basic social and economic services.
- South Africa is a developing country with a Third World economy.
- An important trend is that many more Africans will urbanise rapidly in the next decade, which means that urban areas will be faced with growing and younger African populations, with major implications for infrastructure and service delivery.
- The majority of the population is poorly educated.
- South Africa has a high unemployment rate.
- The threat of AIDS is of big concern, implying overloaded health services as a large section of the economically active population is infected with the disease, and thus affecting the future available skilled work force.

There are many analysts and marketing bureau's providing up to date analyses and predictions of conditions in South Africa. One such bureau is the Bureau of Market Research (BMR) of the University of South Africa (UNISA), which publishes regular research reports. According to one such report (van Aardt, van Tonder and Sadie, 1999), specific factors that influence socio-economic conditions in South Africa include:

- weather (floods or drought);
- oil price;
- consumer and business confidence;
- instability in neighbouring countries;
- resultant agricultural year;

- the demand for commodities and fixed investment in certain industries such as the motor industry;
- underlying consumer inflationary pressure;
- the Rand;
- limited wage increases;
- fewer working days lost due to strike action and excess production capacity; as well as
- the launching of economic stimulus packages by government.

According to Lucas (2001) economic and socio-political expectations for 2001 includes an economic growth rate of 3,0%. A comparison between predictions for 2000 and 2001 reveals declining business confidence in South Africa. Lucas (2001) identifies the following positive and negative economic and socio-political scenarios for this year:

- The trade agreement with the European Union will impact positively on the South African economy.
- The proposed relaxation of labour laws will improve job creation in South Africa.
- The Competition Act continues to hamper the establishment of large institutions in South Africa, which will be globally competitive.
- Racial polarisation in South Africa impacts negatively on investment.
- Political and economic instability in other countries in Africa is a major deterrent to investment in South Africa.
- Low economic literacy hampers effective economic policy debate and formulation in South Africa.
- The emigration of well-educated and skilled people seriously hampers business in South Africa.

South Africa is a Less Developed Country, yet economic indicators reveal a shift in its economy (Arnold, 2000:72). This is reflected in the swing in the composition of the Gross Domestic Product away from the goods-producing sectors to the service producing sectors. The status accorded to a country by the World Bank on the basis of its Gross Domestic Product per capita is however not always a true reflection of the socio-

economic status of the country's population. The United Nations Development Programme (UNDP) publishes an annual Human Development Index (HDI) for certain countries, including South Africa. The Human Development Index is an alternative method of measuring the relative socio-economic development of a country by measuring life expectancy, educational attainment and income. The index is useful since it gives some indication of the development priorities, which should be attached to the provinces with below-average indices. South Africa, ranks 94th in the world with a Human Development Index of 0.677. Compared with the world's major regions, South Africa's Human Development Index is more than 40% higher than the average Sub-Saharan African country and compares favourably with the average for all Less Developed Countries. South Africa thus belongs in the medium range of the Human Development Index scale of human development (Ligthelm, Martins and van Wyk, 2000).

5.3.2 South Africa's information resources

The following discussion provides a very brief overview of the situation within South Africa and is not at all comprehensive. The facts and figures below are relevant to show the information trends within South Africa regarding information technology, and were taken from a draft proposal entitled *"Towards an Information Society Policy for South Africa"* (National Information Technology Forum, 1997:7-9).

The government has a number of networks, but they are poorly linked with one another and spread unevenly between departments, and between rural and urban areas. Although Government and financial institutions still have a high investment in networks, there are in excess of a million personal computers in the country, which is comparable with developed nations. Virtually all packaged computer software and hardware in South Africa is imported, but 60% of personal computers are now assembled in South Africa. The growth rate in sales of packaged software is about three times the general economic growth. Considerable inequalities in access to the public telephone network are present even

though the tele-density of 9.5 per hundred[1] is relatively high compared to the developing world and services such as Integrated Services Digital Network (ISDN) are available South Africa is also unusual in its growth of mobile telephony, and in its rapid take-on of the Internet. South Africa spends about 1% of its Gross Domestic Product on information technology, this is much less than countries of the Organisation for Economic Co-operation and Development (OECD) which spend around 2,5-3%. Compared with developed countries, South Africa has only about a tenth of the scientists and engineers in research and development, and research and development in information technology accounts for only 4-6% of overall expenditure. As a Less Developed Country, South Africa is unique in the sophistication of its information technology support, and there is a well-developed professional service sector. The retailing and wholesaling markets comprise about 70% of the market. This is very good. However, the manufacturing sector and public sector lag severely behind in its use of information technology. Training and education are important, and very few primary schools have adequate computing equipment, while secondary schools are progressively installing computer labs. At tertiary level, historically white universities have computing resources comparable with the developed world whereas historically black universities do not have facilities. About 3-4 million or 7.5-8% of the population might be able to tackle basic computer applications on their own, this is very low compared with the developed world.

The discussion of information resources often overlooks the important information infrastructure and services provided by libraries. They do not enjoy high priority, especially with allocation of funds, because the returns on investment or result are not sufficiently visible. Unfortunately there is thus little awareness of the contribution of libraries in disseminating information to grassroots communities. However, libraries form an important part of the country's information resources and are therefore included.

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[1] According to the Discussion paper on Definition of universal service and universal access in telecommunication in SA (1998c) the tele-density increased to 10, 05.

As with other services and infrastructure library and information services in South Africa are characterised by inequitable access as may be deduced from official census statistics published in 1989, when South Africa had approximately 583 public libraries. Following the geographical distribution of these libraries, it clearly shows that more libraries were found in areas of higher population density. The South African Institute for Race Relations also surveyed the provision of library services in 1991/92 and found it to be inadequate at the time. A more thorough overview of the state of library and information services in South Africa can be found in Annexure A of the *"Draft report of the Interministerial Working Group on the Library and Information Services Function (National Level), as presented to the Minister of Arts, Culture, Science and Technology and the Minister of Education on 14 June 1996"* (South Africa, 1996b:17). South Africa has a significant library infrastructure comprising over 1500 public and community libraries and several thousand school libraries or resource centres (South Africa, 1997).

Another point of oversight, which is only very recently being identified, is the so-called Indigenous Knowledge Systems. The present status of Indigenous Knowledge Systems is that these forms of knowledge have hitherto been suppressed. Indigenous Knowledge Systems refer to the complex set of knowledge and technologies existing and developed around specific conditions of populations and communities indigenous to a particular geographic area. It is transmitted orally through stories, legends, traditional songs, etc, practically through observing the tasks being performed by others and by practical involvement, and through the use of symbols and rituals. Most of the transfer is expressed in taboos, rituals, customs, laws etc. and passed on from generation to generation by word of mouth (World Conservation Union, 2001).

5.3.3. Information trends

Trends show the general course of direction and tendencies towards specific actions. Since we live in a global world, these trends or tendencies influence courses of action and place pressure on individual countries. In order for South Africa to compete in the global economy, it should take heed of international trends, but South Africa is a Less Developed

Country and therefore Third World trends are also important. An equilibrium must thus be found between what is happening internationally and on the African continent. South Africa's position on this equilibrium must then be found.

5.3.3.1. International trends in the mid-1990s

According to the South African Information Technology Industry Strategy (2000) framework, several key trends in the global information communication technology environment, capture the essence of the transformation information communication technology has made and is making around the world. Increased use of technology by businesses and individuals is driving many of these trends.

- The Internet as the backbone of a knowledge-based economy and Information Society. The improvements in computing power have allowed for increased computing storage and capacity and paved the way for the development of a knowledge-based economy and Information Society. The Internet and the World Wide Web have assisted in this growth and have become the platform for new applications.

- The growth in infrastructure, content and applications will drive even more explosive growth. Increased bandwidth and improved connectivity make new and improved applications possible, which in turn stimulate the need for even more bandwidth and better connectivity, as well as content. The continual evolution in the technologies, and growing demand for wire-line and wireless technologies and services, support this trend.

- Globalisation and deregulation. The globalisation trend has transformed the workforce and shifted business investment to information communications technology applications and infrastructure. Globalisation has led to the creation of vertically integrated organisations with distribution networks worldwide. The most significant policy change has been the liberalisation of the telecommunications market. Sixty-nine countries, including South Africa, signed the World Trade Organisation basic

telecommunications agreement to open up the world's telecommunications market to competition.

- The information communication technology evolution has changed the nature and level of interaction between citizens and community development organisations, government and public institutions. Equitable and affordable access to information communication technologies has the capability of empowering citizens to share ideas about solving common problems and allow them to form new relationships for idea generation, artistic expression and enterprise development. It can also be used to improve the effectiveness of government programs and service delivery.

- A major trend of concern is the emergence of what is known as the Global Information Economy (GIE). According to *Mission imperfect* (1998?: 11) the technologies of global communication and information processing have produced the phenomenon of the global village. The result is that business models in the private and public sectors are evolving and today's world economy is becoming more competitive, more global, and increasingly dominated by information and communications technology. This results in a transformation of the telecommunications service industry as the volume of Internet traffic exceeds the volume of voice traffic. Service providers are trying to provide customers with multiple integrated services over a single connection. Pervasive use of computer technologies has increased demand for new products and applications and increased the demand for lower prices, ease of access and improved functioning and portability.

- Science and technology in the fields of public health and medicine are largely responsible for another major trend in international relations, the global population "explosion" since 1950. More troubling is the expectation that 95% of this growth will occur in the poor and underdeveloped economies of the South. According to *Mission imperfect* (1998?:12) the consequences of runaway population growth are economic

decline, environmental degradation, the spread of diseases, and both legal and illegal migration.

- The major international relations problem of the Post Cold War world according to *Mission imperfect* (1998?: 13) is the steadily growing North-South divide, where the poverty of the South contrasts with the prosperity of the North. Life expectancy in poor countries of the South is around 40 years and declining, where as in the rich countries of the North it is fast approaching 80 years. In 1991 23% of the world's population enjoyed 85% of its income, whereas 77% of humanity struggled to exist on only 15% of global income (*Mission imperfect*, 1998?:13).

The following international trends can be identified from the discussion:

- Information overload. The increasing number of media, their radius of action and their diversification of contents are said to confront the public with an overload of information, implying they do not know how to handle or what to do with it.
- Alienation and resistance. The worldwide trend resulting in information overload leads to a decrease in the individuals will or capacity to absorb all this information. There is a shift to the "me-thinking" syndrome, which explains the emergence of smaller-scale media to satisfy the more localised and interpersonal needs of the smaller community and subculture. Deregulation and privatisation of the media according to Overton (1987:42) is therefore a worldwide trend.
- The information paradox. The development of information technology leads simultaneously and paradoxically to a greater need for communication on a human level.
- Information elite. According to Overton (1987:45) basic information which is of vital importance to society, is already so specialised that it can only be generated, used and communicated within the "info-elite".

5.3.3.2. Third World information trends

Keeping Africa's colonial history in mind, Neelameghan (1995:21) identified development trends in Third World countries as:

- Change in the orientation of planning, from a growth-oriented paradigm to one of growth with equity.

- Change in the structure of planning from that of a centralised approach to a decentralised approach.

- A need for disaggregated data and information for planning at different levels, and analysing and processing the data with speed and accuracy.

5.3.4 Contextual challenges

Having considered South Africa's present socio-political situation, available information resources and information trends or tendencies, various challenges associated with the situation in which the country finds itself in become apparent. Within an African context, South Africa is faced with challenges typical of Less Developed Countries, such as widespread poverty, lack of basic social and economic infrastructure, underdeveloped education and human resource development systems, technological dependence, economic crisis, subsistence economies and a different culture. Thus South Africa is an African Less Developed Country facing typical developing problems and challenges over and above its own challenges. The review below on contextual challenges first notes typically African problems and then more specifically South Africa challenges.

5.3.4.1 Typical African challenges

With the focus on Africa, the obstacles identified and discussed below are a summary of those found in the literature, chiefly from Rehman (1996:190) and Onyango, (1996:170-171).

- The greatest obstacle facing African countries is the lack of financial resources. Most African nations are classified as developing and are poor, facing extreme information impoverishment among especially the rural population.

- African nations have highly control-oriented public policies in the political domain. If African administrators do not appreciate the role that information could play in solving the region's economic and social development problems, this in turn could lead to insufficient allocation of available financial and material resources, which goes towards meeting basic needs such as food, shelter and health.

- Ineffective information infrastructures with inadequate physical facilities result in a lack of access to existing information resources, especially indigenous information. This situation is worsened by overwhelming hurdles preventing the implementation of networked systems, especially due to the lack of minimal infrastructural support.

- African nations typically experience low literacy rates, poor reading habits, and the impulse to use information is under-emphasised. This places demand constraint on African publishing houses related to financial sustainability.

- Limited education and training opportunities in African countries result in shortages of qualified personnel in the area of information, leading to the absence of physical and human resources and weak professional associations and leadership. The training available is usually oriented towards traditional library services and institutions with no retraining facilities for professionals or non-professionals.

- According to Jacob and Rings (1986:129) one of the aspects of cultural differences, leaving African nations with a dilemma, is language and how it affects information availability and use. It forms a vicious circle. The best publications are the most cited articles; the most cited publications are articles that are the most read. English is the most common language in the scientific community, so to be cited it is better to publish in English and publications in English are probably the best ones and will receive top priority in selection.

- African nations have an inadequate technological capacity, with limited general knowledge and information about the production of indigenous technologies. Inadequate sectoral linkages lead to a lack of integration and lack of technological information. This, in turn leads to excessive dependence on foreign technology where aid tied to technology is a major contributor to failed technology transfers. A plan that is successful in one area cannot be carried over directly to another because of socio-

economic differences, resulting in a lack of coincidence between capability and resources. The incorrect identification and selection of the correct technology is however often blamed on the absence of National Technology Policies.

- Technology costs are high due to lack of information on alternative sources of technology. A consideration is that the more complex the technology is, the less likely it is to succeed. Often what is called for in Less Developed Countries is to equip or imitate the facilities similar to those found in the more developed countries.

- A new problem being experienced is with the convergence of information and communication technologies. The formulation and implementation of new policies is starting to cut across existing policy domains such as technology policy, industrial and trade policy, telecommunication policy, media policy and educational policy. A National Information Policy will thus have to encompass and co-ordinate a broad body of different and formerly separated policy areas and frameworks, and most importantly integrate this policy with broader macro-economic and development policies.

The basic problem is that the resources do not exist or cannot be allocated and the overall expansion does not relate to alternative strategies connected with expected societal benefits in a dynamic perspective.

5.3.4.2 South African challenges

Roos (1998) perceives that some constraints in South Africa relate to the current inadequate national information infrastructure, funding and the need for an implementation strategy. South Africa's present information context may be summarised in the form of a number of challenges facing the country. In light of the political changes within the country, the general feeling is that the time for growth and development is now particularly possible.

The following challenges thus face the South African government when formulating a National Information Policy:

- Information gaps resulting from the fragmented approach of previous governments in terms of geography and population.

- Infrastructure gaps in terms of electricity and telecommunications services not being available in many rural areas and to large segments of the population.

- There is a lack of co-ordination and the sharing of information among different levels of government. This requires agreement on procedures, concepts, standards and formats.

- Provincial structures, responsibilities and facilities for statistics and computing. The definition of responsibilities for statistics and computing within the structure of provinces, and the ownership and control of central government facilities within the regions requires attention in order to avoid duplication of basic data collection and administrative systems. This is complicated by the lack of an overall policy for government information.

- There appears to be a lack of an information culture. There is thus little culture in government favouring the use of information in decision-making, the sharing of information or access to information by the public (Harfoush and Wild, 1994:2). Changes in information culture will also be necessary among the general population if development is to become a community driven process.

- Due to short-term pressures the government has not yet developed an information policy and lacks mechanisms to assess information technology proposals in the context of overall government objectives in general.

- The status of Indigenous Knowledge Systems needs to be evaluated. Recognition of and an understanding are required of Indigenous Knowledge Systems and their role in community life. There is a need to explore the potential contribution of these systems to local development, and also how to manage Indigenous Knowledge Systems at national level. The question of intellectual property rights, and the definition of a mechanism to protect the information in both the specialised traditional knowledge, which usually comes from specific individuals, and the community knowledge needs to be addressed.

- The supply and potential shortage of skills and the need for information communication technology workers within the information communication technology sector, and the "brain drain", are three of the human resource issues being faced by South Africa. Another challenge is the potential impact that HIV/AIDS will have on the future workforce.

- The spirit of dialogue and consensus building has brought together stakeholders from all sectors of society to consider a wide range of issues. South Africa's electronics and technology sector is better developed than most countries facing similar developing problems and experience in such technologies can find application in a development context. According to Harfoush and Wild (1994:13) the capacity for managing large-scale complex projects of the kind that will be required to implement an information management system exists in the parastatal and private sectors.

5.4 Critical evaluation of South Africa's efforts

In order to learn from the above attempts, a critical analysis and interpretation of the efforts made at implementing information-related policies in South Africa, is now presented. The discussion is structured into two parts, according to the past efforts made and the present developments.

5.4.1. Past

Looking at South Africa's initial main areas of development, an evolution in policy priorities can be followed, which reflect the political aims of the government at the time. The highlights of the efforts made at developing a Library and Information Services policy thus imitate this pattern. From 1927 at the Carnegie Corporation proposals, the constantly recurring factor underlying developments, was that of library co-operation and a centrally organised national library system in order to improve and extend library services. Throughout the next few decades, more or less till the end of the 1960's, the priorities lay with the general organisation of libraries on a national level in order to accomplish closer

co-operation among libraries. As from the 1970's the priority for formulating a policy was to set clear policy guidelines, sothat funds would be allocated and spent accordingly.

The pattern of priorities didn't only follow internal political priorities but were also influenced by trends, changes and pressures in the international arena. The social development of South Africa was always an underlying reason for developing library and information services. Due to international attention however, the focus changed in the late 1980's early 1990's from the social upliftment of traditional white communities to the development of all South Africans. If South Africa wanted to play a continued role within the international arena, then access to information was needed and thus the National Libraries Act was amended in 1991 (South Africa, 1991a). This brought about the first slight change of emphasis from collecting, recording and preserving, to facilitating access to the world's information resources, and to rid libraries of their traditional role of keeping printed matter only. From 1993 onwards coalitions and in 1996 an Inter-ministerial Working Group on the Library and Information Services Function was instituted to develop a National Library and Information Service Policy programme. This programme would direct the process of participatory change and reconstruction of South Africa's libraries and information services both at a regional and national level. The priority was thus to bring the advantages of the Information Society to all communities of South Africa in order to promote social development and economic growth through facilitating maximum availability and use of all relevant information sources.

Through access to the world's information resources, technological developments brought about the next shift in emphasis. There has since been a shift away from the traditional national library policies towards the role of information communication technology in developing Less Developed Countries, especially in Africa. Priorities of information communication technology projects are policy reform, infrastructure and applications. The Information Society and Development Conference in 1996 for example, was an important role player, even though it was still in the context of the Reconstruction and Development

Programme, which is now contained in the Growth, Employment and Redistribution (GEAR) program.

International donor agencies and information programmes have had an important role to play, especially in developing countries. The most well known agencies are the IDRC and UNESCO. Problems experienced with international projects such as the African Information Society Initiative, is that they do not take into account the enormous economic, infrastructural, political and social constraints hampering development of information technology in Africa. Often the institutional environment needed to implement the policy is also lacking. The African Information Society Initiative framework itself can however be seen as a guiding framework on which to base other information and communication activities in Africa. In the highly fragmented field of donor support, probably its most valuable aspect is that it constitutes a co-ordinating framework among donor and executing agencies.

5.4.2. Present

The controversial term "Information Society" itself suggests change. This will be in all sectors of society, from technology, economy, occupation, and culture to the organisation of space and time. The prospects for development through investment in and use of information communication technologies are presumed to be tremendous, and this assumption is clearly portrayed in the suggested African Information Society Initiative framework.

The convergence of telecommunications, computers, information production and broadcasting is largely determined by how societies are structured (South Africa, 1998c). As the information revolution has increasing impact around the globe, the issues of who has access to these technologies is of great importance. South Africa has also been one of the leading nations calling for these technologies to be used for economic and social development. According to South Africa (1998c), the International Telecommunication Union's, World Telecommunications Development Report of 1998 suggests that

developing countries should focus on universal access rather than universal service of telecommunications. Thus the Telecommunications Act (103 of 1996) makes providing access to telecommunications to all a key priority of the sector. This commitment is demonstrated by one of the fastest telecommunications rollout programmes in the world, *Vision 2000*, according to Nassimbeni (1998:155). It was envisaged that over the next five years 2,8 million new lines, including 120 000 pay-phones would be installed in Townships and villages to bring telephone penetration in economically qualified households in all provinces to more than 50%.

Most initiatives are still in their infancy, which means they focus on broad policy frameworks and plans. Many projects have also set unrealistically ambitious objectives, which are reflected in the budget available to reach these objectives. An obstacle resulting from this is that most projects still rely on funding from agencies or earmarked finances, resulting in very fragile medium- to long-term financial sustainability for the projects. South Africa lacks certain skills thus many projects have international links, resulting in many projects experiencing the paradox of trying to create international or national solutions for local problems. The projects are often also strongly dependent on the enthusiasm and energies of committed individuals. The problems experienced by trying to adopt foreign solutions in South Africa lie in the fact that they are founded on Western countries' modernisation theory. This theory is based on the assumptions that:

- Information technology is neutral and easily transferable.
- Information as such is neutral.
- Having access to information by means of information technology is sufficient to accelerate development.
- Information will be relatively cheap or for free in the Information Society.

In reality, technology can be seen as the product of a specific people and the transfer of technology into other societies may not yield the positive results it had in its society of conception. Technology can show considerable gains however if it is adopted and enhanced by the implementing nation, yet this is where the problem lies in Africa. Most

African countries lack the basic capacity to adopt, to innovate and to adapt information communication technologies to their own environment, needs and priorities. Many problems of development are also structural problems of distribution and power, thus the assumption that access to information is sufficient is not enough. Furthermore information is not neutral but contextual and the content provided by the international information infrastructure is also of Western origin. There is also the misconception putting information on a par with knowledge. According to van Audenhove (1998) what is needed is an assessment of what information, within which institutional context, leads to knowledge in the function of development, how to produce and structure this information and how to finance it. The assumption that information will be very cheap or available for free is also inaccurate in that a growing commercialisation of information can be noticed that in fact may have the opposite effect, by creating increased inaccessibility of certain information.

To speed up developments African governments often make use of the "leapfrog" strategy to gain access into the Information Society. The leapfrog theory should not be taken to mean that people can bypass the so-called traditional literacies of reading, writing and numeracy, and launch into computer literacy, nor that information technology will meet all their informational and reading needs. The "leapfrog" strategy will only be effective if it is accompanied by the transfer (and use) of "soft technologies" such as training, institutional capacity and infrastructure support. In this respect the role of library and information services should not be diminished. Often libraries, schools and churches already have useful information stores and play important roles in the community that should become the base for more formalised information systems. Thus South Africa must develop an approach to global information based on its realities as a developing country and governed by its need to ensure its requirements and goals within the international information order.

South Africa has already held various discussions and done some planning and drawing up of frameworks and National Information Policy principles. Workshops have been held as well as conferences. Yet there is to date no formal policy document nor is there a broad

strategic policy plan to arrive at the vision of an Information Society. A phenomenon, which has become ripe in South Africa, is that many initiatives are weighed down by excessive discussion, this prevents meaningful action and wastes resources. An example of the resulting lack of action can be seen in the fact that South Africa had the opportunity to harness the Information Society and Development conference to serve as a springboard to initiate its own policy developing process, yet this did not happen.

At this stage it seems that the Department of Communication has taken the lead on the issues of an Information Society. In order to be able to deliver services, governmental structures and institutions have to be reformed. To this end the government adopted a national *"Information and Communication Technology Strategy"* in March 1998. The Department of Communication became responsible for the co-ordination of the *Information and Communication Technology Strategy*, and subsequently released a position paper entitled *"South Africa's National Information Communications Superhighway"*. In conjunction with the Department of Trade and Industry, the Department of Communication was also involved with a project to develop the South African Information Technology Industry Strategy (South African Information Technology Industry Strategy, 2000). This document sets out an Information and Communications Technology Sector Development Framework for South Africa acknowledging that there is no single information technology industry but a range of industries that are commonly referred to as the Information Communication Technology Sector. The frameworks' strategies address the key issues to help the country become more proactive in its approach to the information age and is designed to assist South Africa to achieve its economic, social upliftment, empowerment and overall prosperity goals. The two main thrusts of the framework in order to achieve its goals are:

1) The development of the Information Communication Technology Sector.

2) Exploiting the capabilities of information communication technology in developing other sectors of the economy (which in turn will also drive the demand for information communication technology within South Africa).

Two planned initiatives of importance from this strategy are a review of policies affecting the Information Communication Technology Sector and participation in planning a national information infrastructure initiative.

The e-commerce debate (This can be followed at www.ecomm-dbate.co.za) currently in progress is surrounded by a lack of certainty on the provision of e-commerce services. The Internet and the provision of e-commerce are seen as being of particular importance for South Africa because they provide the means to either strongly stimulate economic growth through creative use, or to exacerbate the growing rich-poor divide that exists both nationally and globally. Issues raised by e-commerce include:

- Creation of a National Certification Authority.
- Legislation on the authenticity of digital signatures.
- Security.
- Privacy.
- Digital signatures.
- Certification by certification authorities (ca).
- Interpretation of legislation affecting digital signatures and electronic data.
- Contracts on the Internet.
- Delictual liability.
- Jurisdiction.
- Enforcement.

Another issue of e-commerce involves difficulties in taxing electronic data. A moratorium was declared by the World Trade Organisation until such time as a solution to the problem has been decided. A recent paper published by the Alliance for Global Business proposes that this moratorium preventing imposition of customs duties on electronic transmissions should be made permanent. Intellectual Property is a universal concept, and the future development of e-commerce rests heavily on two major intellectual property rights (IPR) issues, namely, the protection of copyrights and related rights and the protection and equitable allocation of trademarks and domain names (South Africa, 2001b).

The Department of Communication presented its *"info.com 2025 The dawning of a new information age for Africa"* at the 1998 International Telecommunications Union Africa Telecom conference. Its vision is based on what the South African government wants to achieve by the year 2025, namely growth, job creation, universal service, education, democracy and globalisation.

5.5. Summary

From the discussions in this chapter it can be seen that South Africa has over the years developed a comprehensive vision on the Information Society. This vision is based on a belief in the possibilities of information communication technologies for development and social change. The two most important sectors concerned with the information policy process, which can be described as "higher order" delivery systems of information infrastructure, have made their own development attempts. This focus has changed recently as a result of the concerns of national and global information infrastructures providing easier access to information. The impact of the new technologies on the information and communication fields is perhaps due to the critical role that the private sector is beginning to play, and that the importance of National Information Policy has become apparent in this sector. Close co-operation between Less Developed Countries and developed countries to minimise the negative effects of globalisation, to close gaps between developed and Less Developed Countries and to engender an international information community is thus necessary.

Any good policy process must start with a study of the country's past attempts at formulating related policies. It is therefore also necessary to know what the present situation is, as well as the existing resources and known trends. This chapter thus gave an overview of information related policy developments in the past as well as the present in order to give a critical evaluation of these developments. South Africa's vision may be ambitious but according to van Audenhove (1998) its implementation will ultimately

depend on the extension of infrastructure to under serviced areas. The time has come to publicise its necessity and to draw up a final presentation for parliament. Thus the above evaluations will be used and applied in the next chapter where some guidelines are proposed for a National Information Policy in South Africa.

Chapter 6 Proposed guidelines for a National Information Policy in South Africa

6.1 Introduction

This chapter is essentially a culmination of what has been learnt so far in all the previous chapters, and applied to South Africa. As part of the policy-making process, all past policies and efforts need to be debated and contextualised. Chapter five can be seen to provide a historical overview and current contextual perspective in preparation for this chapter. A critical analysis of the evolution of the main South African information related policy efforts was done. This may be used as background information to place the proposals below into perspective. The following discussion is divided into two parts. The first is structured roughly according to the theoretical basis provided in chapter two, while the second is structured according to the proposed approach towards formulating a National Information Policy as discussed in chapter three.

6.2 National Information Policy for South Africa

6.2.1 Why South Africa needs a policy

The aim of a National Information Policy is to produce an agenda for action focussing on necessary preconditions, skills needed, support needed and legislative and regulatory changes. South Africa finds itself in a unique position in the world, geographically, politically and strategically. Probably the most universally important reason for a National Information Policy is because of the rapidly changing ways in which information is produced, packaged, marketed and distributed. These changes have an enormous impact on various aspects of South Africa's economy and society. A National Information Policy is therefore needed to cope with the following major challenges:

- The external pressures put onto South Africa by international governments.
- An internal challenge of societal and economic renewal.

- Pressures for change emanating from the new information technologies themselves.
- The external challenge of the open global economy

The most important reasons why any country needs a National Information Policy were laid out in chapter 2.2. In addition to these, specific reasons for South Africa are listed under the same headings as in chapter 2.2.

6.2.1.1 Economic reasons

A National Information Policy provides the framework within which priorities can be established to govern the allocation of resources among different groups of users and sectors. A National Information Policy is also necessary to transform the government into the desired vision of an efficient and responsive instrument of delivery and empowerment.

6.2.1.2 Governmental reasons

The National Information Policy should stipulate guidelines for overcoming problems which may arise because of the country's geographical and political situation. Information is the life-blood of participative democracy and transparent administration. According to Smith (1998) in a democratic society information is essential to the growth of that society, free public access to information is a basic right, and information is a national resource to be developed, shared and protected.

South Africa's new constitution entrenches the right to privacy in terms of communication infringement, and each citizen has the freedom of expression. Everyone has the right of access to any information held by the state and any information that is held by another person that is required for the exercise or protection of any rights. National legislation must be enacted to give effect to this right and may provide for reasonable measures to alleviate the administrative and financial burden of the state.

6.2.1.3 Cultural reasons

The South African society is very complex in that there are First and Third World components, which are both dependent on information. A National Information Policy is

thus required so that all sectors of the information community in South Africa can develop in a co-ordinated, planned and optimal manner.

6.2.1.4 Educational reasons

Investing in people as the productive and creative core of the economy is one of the six pillars of the government's growth and development strategy. For this to happen, information literacy is a skill that needs to be acquired.

6.2.1.5 Developmental reasons

A wealth of information is said to speed up the tempo of development if critical activities such as decision-making, planning and management are based on sound information (van Audenhove, 1999 and Economic Commission for Africa, 1996). South Africa's most well documented development priorities are summarised in the Reconstruction and Development Programme's Working Group on the Importance of National Information Policy. These include, meeting basic needs, developing our human resources, the economy, democratising the state and society and implementing the Reconstruction and Development Programme (Miller, 1996:207). To achieve this, information is needed for successful implementation.

6.2.1.6 Technological reasons

The potential of advanced information technology must be harnessed in the service of South Africa's people to support education, the provision of household services, and social development. The establishment of a relevant policy will ensure that South Africa becomes and remains an information/ knowledge rich country.

In general the very fact that decision making and planning necessitates information of all kinds makes it imperative that a comprehensive basic policy statement be adopted. Inadequacies in the current legislative and regulatory frameworks necessitate the creation of a policy which will not only be adaptable to change, but which should be an active agent to facilitate change itself. In fact, change is inevitable and should be welcomed.

6.2.2 Proposed philosophical approach

As stated before, the formulation of a National Information Policy is based on a certain philosophy about how policy development is approached by the national government. Past policy developments in South Africa can be said to have been highly government-regulated with a plan-directed approach aimed primarily at economic and industrial development. Industries related to government for promotion as a means to achieve government-determined ends were targeted. In choosing a "new" philosophical approach for South Africa, the opposite "extreme" of a free-market approach should not be chosen simply because of the past failings of the government-regulated approach. A balance needs to be found between the two extremes, this is where Angelides and Agius's (2000) eight scenarios of distinguishing the amount of government "interference" or not, come in handy. These eight scenarios were discussed in chapter 2.3.4.

As a result of the recent liberalisation of many telecommunications markets in the world, scenarios one, two, five and six are unlikely to prevail for much longer according to Angelides and Agius (2000:63). They should therefore not be regarded as long term solutions. Taking all of the above and South Africa's past into consideration it is proposed that South Africa should consider either option three or four which involve high consultation. The reasons for this is that South Africa is based on a democratic society where transparency is important and therefore the process of consultation is of fundamental importance because it ensures that the production of government policy has occurred with the participation of citizens, stakeholders and interested parties. It also ensures that the policy enjoys the widest possible support and acceptance by the people and stakeholders. More specifically option three with high use is preferred. A government making high use of policies provides credibility and more confidence.

6.2.3 Principles underlying a South African National Information Policy

According to the literature, authors such as Wild (1996:155) and Roos (1998) have identified broad information policy principles with specific reference to South Africa.

Considering these, and having noted the information policy principles as discussed in chapter 2.4, the following auxiliary principles for use in the information policy formulation process in South Africa are derived.

Information is an economic resource

- The policy should be realistic and affordable in terms of the South African economy and should therefore form part of a consolidated government financing mechanism that ensures all major initiatives are prioritised, approved and funded in a co-ordinated manner.
- Co-ordination of services and integration of products must be promoted.
- Efficiency, productivity and effectiveness in the workplace should be improved.
- Better decision making takes place through timeous access to accurate information.

Information infrastructure

- The policy must be supported by a cost effective infrastructure in terms of the South African economy.
- Availability of information technology to allow for access to as well as to share and communicate with others.
- Common concepts, standards, procedures and formats must be negotiated.
- Design of open and modular systems should be supported.

Rights of ownership

- The policy must encourage the use of local and indigenous knowledge, expertise and technology.

Privacy and confidentiality

- The central government service should be run as a government enterprise by means of open practices to provide the best services to government itself and to all its citizens.

Democratic responsibilities

- The information resources of the country should be deployed to support democracy.
- The government should establish a forum for focussing government service and management concerns in respect of delivery of quality services to the citizens.
- The government should foster a work environment that promotes co-ordination of services, integration of products and recognises the value of and supports ongoing consultation with and education and training for employees, managers and citizens.
- It should address the needs of disadvantaged communities and encourage use of local knowledge, expertise and technology.

Access and dissemination

- The government must support the constitutional requirements for access to government-related information.
- The government should establish a central repository where current, consistent and co-ordinated core data and metadata would be available for access and dissemination.

6.2.4 Policy issues in South Africa

Every country has its own socio-cultural system as part of the political mechanism, however, international environments and circumstances of technology and political systems influence information policy at the national level. The chief area of debate is what type of information is relevant to a specific country. However the purpose of information and communication is conditioned by the needs of each, thus making it imperative to relate the definition of information to a particular society and community. In developing countries, such as South Africa, the concern is often with the type of information that could benefit the least developed areas of a country. Thus over and above the information-related issues discussed in chapter 2.5, additional policy issues pertaining to South Africa are noted below.

- The focus and priorities of a South African National Information Policy must find a balance between the first world components industrial and social levels of information

policy, and the Third World components concerns with national development and building infrastructures in order to provide information. Priorities need to be identified that address short, medium and long term goals of implementing and maintaining a National Information Policy.

- Typically issues concerning the information communication technology sector would include increasing the information communication technology sector's capacity, providing a sustaining environment for sector growth and increased global competitiveness. In turn this raises issues for innovation. For innovation to take place a culture of innovation must be established, information and communication technology research and development must be stimulated, information and communication technology transfer must be facilitated and intellectual property must be protected.

- The issue of technology creates two areas of concern. The first being a lack of skilled human resources and the accompanying inadequacy of familiarity of the role that information can play in socio-economic development is found. This creates the need to develop expertise in information technology and specialist subjects, to effectively and efficiently utilise computer software and hardware. In order to provide the professional human resources to facilitate the development of services, appropriate education must be provided at tertiary institutions. Human resources development issues thus include developing the future skills base, solving employment/ workforce issues, and countering the brain drain. The second area of concern is the fact that computer software and hardware have short lifecycles, thus continuous training and retraining and exposure to new information technology products are essential. This implies that tertiary institutions must also provide for continuing education.

- Available information may be under-utilised because users may not be adequately aware of and familiar with the use of information technology and information itself. Thus effective measures such as user education programmes to promote and market

information products and services must be instituted to encourage an information conscious society and a reading habit. Addressing issues such as local market development, applications development, information infrastructure development, and achieving ubiquity may increase information communication technology usage.

- The benefits of co-ordination and the sharing of resources can be maximised by fully exploiting technological management aids. The management of projects as well as government information is an important professional skill in the management of knowledge and information to support the creation, organisation, dissemination and utilisation of institutional knowledge resources.

- Services should not be concentrated in the urban centres only but should also be extended to rural communities thus allowing equal access to information services.

- Factors such as the geo-political environment, the socio-economic conditions, technological state and legislative machinery are major obstacles in Less Developed Countries. For example an issue of prominence currently in South Africa is the privatisation of state assets.

- When formulating information policies in the past, a single aspect with a single policy in mind, such as technology or library development was concentrated on. For a successful modern policy, the picture as a whole, involving all interested parties should be looked at.

- In order to provide services appropriate sources of information produced within the country as well as abroad must be acquired and described in accordance with national standards. In addition, participation in regional information programmes as well as international programmes and the Internet will be advantageous to the country.

- The issue of access to government information is one of significance in South Africa in the context of transparency of government, open democracy and efforts to improve government communication.

- Culture is what differentiates nations from each other. The use of technology and the prescription of policies by international organisations such as the Economic Commission for Africa, IDRC and UNESCO should not transform that which is unique to any culture. The authority must recognise cultural plurality as an asset in the society to foster unity and strength and harmony in diversity. Specific issues relating to a multicultural society identified by Yaacob and Seman, (19?) include the following:

  - Publishers involved in the publication of information in all languages and in all formats have the responsibility to ensure proper bibliographic control. Proper documentation of the resources of different ethnic cultures according to stipulated national standards should be done with the objective of facilitating an integrated national database so that the materials could be well recorded and disseminated and used effectively.

  - Reading on cultural diversity should be promoted.

  - Government should set up special funding such as subsidies and tax exemptions to assist small publishers in producing materials in local languages.

  - Qualified professional staff with appropriate knowledge in local languages and background should be produced. For example library schools should be sensitive to intercultural awareness and design courses related to cultural diversity and their information needs and services.

In conclusion, the general scope of a National Information Policy covers the acquisition, organisation, management and dissemination of information, which may be in any type of format, e.g. printed, graphic, audio, electronic or other media. As a result of national differences in laws, public policy and social and cultural values, important international issues that must be covered include intellectual property, commerce, security, privacy and censorship. There are many issues which need to be addressed by a National Information

Policy. Which issues South Africa chooses to address will depend not only on the global issues but also on the choices it makes in response to its very particular development situation.

6.2.5 Related existing legislation in South Africa

South Africa has typical related policies covering issues such as copyright and libraries. Recent legislation in the field includes the revision in 1997 of the Legal Deposit of Publications Act no. 54 of 1982. The concept of legal deposit is currently being reviewed worldwide in order to allow for developments in information technology. Up until 1999 there were two national libraries in South Africa and a working group on the National Libraries came to the conclusion that there was a need for a single National Library in South Africa. The South African Library (Cape Town) and the State Library (Pretoria) of the National Libraries Act of 1985 (Act no. 56 of 1985) were thus amalgamated to form the National Library of South Africa by Act no. 92 of 1998 (South Africa, 1998b). The National Council for Library and Information Services Act established the Council in 2001 to advise the Minister of the Department of Arts, Culture, Science and Technology and the Minister of Education on matters relating to library and information services (South Africa, 2001a). The existence of legislation for library services does however not in itself guarantee the establishment and implementation of a National Information Policy. Currently parts of the information field are fragmented across different government departments. The Sub- Directorate of Meta-information is found within the Department of Arts, Culture Science and Technology, the Chief Directorate of Data Systems in the Commission for Administration/ Public Service, the Central Statistical Services, and Central Computer Services within the Department of Finance.

Probably the most significant legislation affecting the information technology sector is the Telecommunications Act of 1996 (discussed in chapter 5.2.3). The new Broadcasting Act (No.4 of 1999), the Independent Broadcasting Authority Act (1993) and the Telecommunications Act (1996) have been amended in the Independent Communications

Authority Act (No. 13 of 2000). This Act effectively dissolves the Independent Broadcasting Authority and the South African Telecommunications Regulatory Authority (SATRA) and replaces them with the Independent Communications Authority of South Africa. The recently introduced Competition Act (No. 89 of 1998) creates a new and more robust institution to deal with anti-competitive conduct. The Act deals explicitly with anti-competitive behaviour in terms of restrictive horizontal and vertical practices and the abuse of a dominant market position. However, the Act provides regulated conduct exemption for Telkom, and it is thus immune to Competition Commission review.

The Department of Communications Rationalisation Act (No. 10 of 1998) transformed the old Department of Communications into the Government Communications and Information Service (GCIS) which aims to deal with government communication strategy and corporate image. According to Arnold (2000:70) the Promotion of Access to Information Bill, formally known as the Open Democracy Bill, was passed by parliament in January 2000. This Act provides for the citizen's constitutional right of access to any information held by the State, or by any other person, that is required for the exercise or protection of any rights.

The State Information Technology Agency (SITA) Act was promulgated as Act no 88 of 1998 (South Africa, 1998a:2), and was created to assist in addressing the government's information communication technology problems. The purpose of the State Information Technology Agency is to provide information communication technology related services exclusively to the Public Service and ensure guaranteed performance levels. This agency is incorporated as a private company, with the State as sole shareholder of the company. Initially the agency will comprise the Central Computer Services, Infoplan, and the sub-component Information Systems within the Department of Safety and Security. The State Information Technology Agency's tasks include full or partial integration of various government department information technology divisions and information technology procurement for the State. Amid concerns of overlap with the State Information Technology Agency, another company, the information technology parastatal known as

"arivia.kom", was launched on 15 January 2001 (Makgale, 2001:1). This parastatal was formed by consolidating the information technology divisions of Ariel Technologies and Datavia, as well as the information technology division of Eskom. The key focus of this company however will be to deliver information technology infrastructure solutions, focused business solutions and to engage in e-commerce. Recommendations from the Public Service Information Technology Policy Framework, released in February 2001, for an electronic government must also be considered (South Africa, 2001b). Regarding e-commerce, there is a need to introduce a 'fast-track' legislative process to handle the current legislative framework to in turn handle the changes required to accommodate a competitive e-commerce environment at the speed that is required. The intellectual property rights concerns of e-commerce have been a primary focus of international deliberations in recent years. For example the World Trade Organisation negotiated an Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), making intellectual property an integral part of the multilateral trading system since 1 January 1995. South Africa is a party to this agreement as well as the Berne Convention of 1886 and its revisions.

Other legislation that relates and influences a National Information Policy includes the National Strategic Intelligence Act and the Patents Act, both of which have been amended recently. Legislation regarding the promotion of research (for example the National Research Foundation Act No.23 1998) and National Heritage Resources (Act No. 25 1999) and even culture will also affect a National Information Policy.

6.3 Proposed Policy guidelines

In Chapter two the theoretical foundation was laid and from subsequent discussions an understanding of the information policy subject area has been reached, so that now the "best policy possible" may be developed. The proposed policy formulation approach as explained in Chapter 3.4 is followed and the discussion below thus follows the suggested structure.

6.3.1 Information gathering and analysis

Inside knowledge of the country is the key to choosing both where to start and the subsequent sequence of projects. Moreover, there are two "roads" to figuring out a solution. The slow, long-term development of a policy, or a fast "mopping up" operation. South Africa has so far chosen the long-term policy development road. In order to make this process successful and worthwhile an intensive review of the existing information services and infrastructures, including the extent to which such services are in a position to meet identified information needs, and the available financial and human resources, must be undertaken. This so-called information audit of the country's information resources needs to be undertaken so that we know where we stand, and for priority areas to be identified. Applying a philosophy of high consultation and use with low regulation implies that this information gathering process should be highly visible, transparent and encourage as much participation as possible.

The required information may be found in South Africa's most recent and specific prescription of development objectives and priorities of national goals in the country's macro-economic strategy known as the Growth, Employment and Redistribution Program (GEAR). According to this Program the present government's major mission is to improve the standard of living of all its citizens. The prevailing social policies can explain the policy maker's ideology and should therefore be kept in mind. An overview of past projects as background information is discussed in Chapter 3.2, whereas Chapter five provides the present South African context into which a policy should be brought. Chapter five also provides an introduction to the type of information required from this information gathering process. A review of existing information services and infrastructures was given in Chapter 5.3.2. Furthermore an important national study has been undertaken as part of the South African Information Communications Technology Sector Development Framework involving a survey of the information technology industry and related jobs and skills in South Africa. This study was limited to the information technology industry and should be broadened and supplemented to include other relevant aspects of a National Information Policy as already discussed (South Africa, 2000b).

It is recommended that a comprehensive structured information gathering process or audit be conducted by a taskforce constituting representatives from the State, private sector, academia and interested parties from civil society. Such an investigation can use the recently completed studies as mentioned above as their starting point. Once this information has been retrieved and organised it must be analysed. The suggested method of analysis is Moore's (1996a) analytical matrix. However, for the purposes of this study the information as presented throughout this dissertation and as explained above is applied.

6.3.2 Objectives and policy goals

On completion of the information gathering and analysis process, a vision, an aim, and objectives for a National Information Policy in South Africa can be formulated. To ensure the adoption of the National Information Policy, it has been recommended in the past that the policy form an integral part of the national development policy, plans and programmes and thus when identifying priorities, these should be kept in mind.

A suggested underlying vision is that all people have access to relevant information for development of themselves and the community. An example of the aim of a National Information Policy could thus be, to set out broad guidelines for the systematic and planned development of an information services infrastructure in keeping with the needs of all sections of the community whether urban or rural, in order to create an informed society capable of development.

It is proposed that a National Information Policy in South Africa should have the following objectives:
1) Facilitate the education and training of expert information technology skills by providing appropriate tertiary education. Provision for continuous training and retraining with exposure to new technology must also be made.

2) Create information awareness and user education programmes to increase familiarity and an understanding of the importance of information and its role in socio-economic development. Promote reading on cultural diversity.

3) In accordance with the aim of creating an informed society the policy should ensure the provision and progressive improvement of relevant facilities and services in order to contribute effectively to national development by the intellectual development of the people, their economic activities, their culture and recreational activities. This will be achieved through equal and open access to facilities such as libraries and archives, and community facilities and services.

4) Stimulate research and development to increase innovation in information technology for applications adapted to local development needs and circumstances. Create incentives to increase the capacity of the information sector of the economy and thus growth of the sector, while being globally competitive. Incentives to increase publication of local material should also be created.

5) Establish an integrated National Information System to co-ordinate and manage the information collecting and generating activities of both the public and private sector by linking them through a national network. Technical and organisational procedures and standards must be adhered to. The purpose of the system is to make appropriate, reliable and up to date information for decision-makers and researchers available.

6) Facilitate the publication of an up-to-date National Bibliography describing information sources produced within as well as outside the country in order to facilitate access and dissemination of information so that it can be used effectively. National standards should be adhered to and participation in regional and international information programmes encouraged.

6.3.3 Policy formulation and implementation

The policy formulation stage translates the goals and objectives set into feasible plans, programmes and projects. A policy is made up of statements of policy positions, which then become law through legislation, but this is only achieved through a long consultative process with all stakeholders. This dissertation by no means aims to formulate a National Information Policy and thus falls short in this aspect. The following discussion thus only suggests some aspects that should be noted.

Since information use for development is the desired outcome of the policy, information should drive the design of the systems and services and related training programmes. When formulating the policy:

- There should be high level co-ordination.
- Skills should be shared.
- The limitations of the user must be understood.
- Stick to simple solutions and training.
- Focus on the real priorities of the country.
- Explain the benefits of this policy at every opportunity.

It is good to address policy management issues before all policy-content issues have been settled. This is because policy management raises distinct problems of its own. To assure smooth implementation of the policy when it is finally developed, problems should be resolved before the policy has been developed. Improvements in policy management are likely to result in accelerated policy content development as well.

At this stage information is circulated by information inter-mediation, where a working framework is developed via meetings, discussion groups, seminars and conferences. All necessary information gathered and analysed previously is used in conjunction with the goals and objectives set, to formulate a unique policy with a unique plan. This strategic plan of action needs to take the following into consideration: infrastructure, development of information sources, common standards and procedures, co-ordination, development of

human resources, user awareness and improvement of information services. National Information Policy development must also include international implications as well as recommendations for international initiatives.

Formal policy development and formulation should now follow an inter-ministerial Green Paper process involving all stakeholders in identifying opportunities and issues with regard to the national vision. The policy is made up of statements of policy positions regarding national and international issues, but also includes proposals for systems for the capturing, repackaging and delivery of information produced locally. Use of information and technology in relation to human resources is also included. Following this an open participatory process will be needed to resolve outstanding issues which will then eventually result in a White Paper.

Implementing the project is the best and virtually only way to see whether it is successful and meets all stakeholders' needs. Implementation will thus require a high degree of collaboration between government, business, academia, labour, and civil society as well as substantial involvement at the community level. Before implementing the policy, it is suggested that the following "preconditions" defining the government's role, should be met:

- An informed citizenry is the cornerstone of democracy. Government should thus take a leadership role by finding ways to increase collaboration between the public and private sectors.

- Government must confirm the importance of considering information as a national resource.

- The National Information Policy must be aligned with the national goals and long-term objectives of the country by making it an integral part of the national development policy and national development plans and programmes.

- The National Information Policy must have accountability, inclusivity, consultation, transparency and work within the context of the developing world as well as the global context. When developing a South African information infrastructure in the context of

the global information community, the National Information Policy should aim to promote the development of an information infrastructure that will enable affordable universal service.

The new approach to government service delivery worldwide expects government to operate as a business, in terms of competitiveness, efficiency and effectiveness. Therefore fundamental changes to the way that government sees itself and does its business needs to be reflected in the new policy. The policy must be flexible and have an evolving framework that must consider both short-term and long-term objectives and also the constantly evolving social, economic, political and technological conditions. Thus the placement of a National Information Policy within the governmental structure needs to be well thought through. Two possibilities exist:

1. It answers directly to the office of the Sate President. The central government should put the overall National Information Policy in place and the physical projects should be carried out at local or even provincial level.

2. It may be placed in a specific Department or Ministry. If the government has a ministry of information, it may signify an interest in information, but there may be a particular bias whereby information is seen as a source of power. This affects the freedom of the mass media, secrecy and prevents the free flow of information. A general problem when the National Information Policy is set up in a specific Ministry is that each has its own subject field and specialises and focuses only on that subject. The perception of a National Information Policy will therefore be very narrow-minded and the needs and aspirations of that Department and its politicians will naturally influence it.

Although costs must be considered at all times, it is not financially advisable in the long run if the cheapest materials are used, unless they are of proper standard. Effective information and communication systems require reliable, low-cost and widespread technological resources such as computers, software and all the components of the telecommunications infrastructure for processing data and information. Existing infrastructure such as libraries and all types of community centres where people can find

information must be used, and may need to take additional projects into consideration especially in the short term (± two years) to reach the desired outcome.

6.3.4 Evaluation and policy review

The first evaluation takes place after implementation in order to ensure that the goals have been met. Constant policy review is essential to keep the project going effectively and efficiently. If overall evaluation and policy review takes place on a regular basis (for example, annually), it should have a positive influence on development. Goals and objectives set previously should be used as the benchmark against which evaluation should take place.

A mechanism for continuous development and policy review should be put into place by the policy. For example a National Information Board could be created. This Board should be set up with role players from central government, provincial government, other stakeholders for example the private sector (for example SABINET Online, Dimension Data, Telkom) information providers and producers and academics. Representatives of the broad-based community or consumer and the man in the street must also be included. Such a board's main task will be to draw up or keep up with developments by continual research on the national as well as the international scene, thus keeping the policy updated. It should also be entrusted with the task of developing information sources in co-operation with concerned national institutions. It should set up unified procedures and standards, provide access to timely information, networking related information sources and human resources development. These functions will lead to the promotion and development of the information sector within South Africa in order to achieve the goals of the National Information Policy. All monitoring of programmes that take place should answer to the board.

It should be kept in mind that information resources are in a constant state of flux and the search for timely answers requires a complex strategy. Therefore the policy must support

the integration of information vertically and horizontally within all tiers of government and between them. South Africa is a classical semi-peripheral state with a definitive First World and Third World situation with the poorer Third World component stating that they are being exploited by the First World component. The policy must thus be accessible to each and every South African citizen and must not create unnecessary information for dissemination if it won't be utilised.

6.4 Summary

Thus far it has been noted that a National Information Policy is essential for the steady growth and development of an emerging Third World country. South Africa is unique in that it comprises First and Third World components. If South Africa is successful in overcoming the problems posed it can become a leader in Africa in this field. The purpose of the National Information Policy however, is not to solve the socio-economic issues facing South Africa, but rather to provide the capability to support government initiatives in this regard.

This chapter has suggested the reasons why South Africa should invest in a National Information Policy and the philosophical approach that needs to be taken when developing it. Furthermore the principles underlying a National Information Policy in South Africa and the specific policy issues it should address have been discussed. This exercise culminated in proposed guidelines for developing a National Information Policy. In a further, more comprehensive study, such as for a PhD, actual policy positions and detailed content may be investigated. The next chapter thus completes this dissertation by expressing the conclusions that have been reached throughout this study.

Chapter 7 Conclusions

7.1 Introduction

Those countries that embarked on a National Information Policy formulation process around the 1970's or 1980's, were largely oriented towards library and documentation activities, which were the main flag bearers at that time as they were "historically" the major storehouses and suppliers of information. The increasing application of information technology has led to a complete re-examination of conventional information rules and policies. Consequently, National Information Policies have evolved to embrace the emerging capabilities of information technology to create, organise and disseminate data, information and knowledge unhindered by geographic location, and to mobilise resources to set up national information infrastructure. Information and communication technologies are no longer seen as a luxury from the developed countries, but rather as an absolute necessity for all, with global technological innovations presenting the opportunity for appropriate "leapfrog" strategies. However, being such an international concept, information is subjected to a variety of interpretations depending on factors affecting it in each country.

7.2 Review of the study

7.2.1 The problem

The problem posed in chapter one was whether existing National Information Policy formulation guidelines are sufficient and relevant to enable a Third World country such as South Africa to formulate and legislate a meaningful National Information Policy. It was subsequently found that the existing guidelines are outdated and not suitable for the unique conditions found within South Africa. Therefore the necessary guidelines to formulate a National Information Policy specifically applicable to South African conditions were developed from the theoretical foundation to the study of National Information Policies as discussed in chapter two.

Amongst the reasons for the necessity of a National Information Policy especially in Third World countries, it was found that it is generally accepted that a National Information Policy helps with the socio-economic development of a country. The mere presence of and access to information is however not sufficient and does not necessarily lead to economic development. What is needed are the necessary conditions fostering institutional and individual capability to adapt the use of information and information technology into useful knowledge in order to lead towards economic growth and development. The whole development process in Africa was originally conceived in ignorance, and the consequences of this have contributed to the failure of many policies and the disastrous implementation of many projects. The failures of development programmes in Africa have also had a great deal to do with inadequate attention to the environment into which they were introduced. This is not merely a failure of the planning approach, but it stemmed from and is contributed to by an almost wilful disregard of information resources available on the continent. There is much essential historical, environmental, spiritual, agricultural, scientific and medical knowledge in the corpus of African culture that for too long has been ignored. There is however not a total lack of information policies in South Africa. One or more policy instruments are in force for regulating information activities, for example, telecommunication, broadcasting and national library policies. Unfortunately each is recognised strictly on its own merits and not as complementary elements of the same parent activity. In other words there is a lack of co-ordination between sub-processes of the information process.

7.2.2 The goals and objectives

Chapter two presents an interpretation of the understanding of the theoretical background to studying a National Information Policy. This theoretical base was further expanded by an overview and critical analysis of past proposals for formulating a National Information Policy in South Africa, and by undertaking a case study of Malaysia, regarded as a Less Developed country. The purpose of the research was to develop a framework of National Information Policy guidelines suitable specifically for South Africa. Applying what was

gained from the theoretical investigations, the study produced guidelines for an own approach towards the formulation and implementation of a National Information Policy. South Africa was then placed within its present context. Further guidelines in the form of principles that should underpin a South African National Information Policy as well as issues that the National Information Policy would need to address were suggested.

7.2.3 Necessity of a National Information Policy

Information and knowledge are needed for academic pursuit, for decision making, for effective technology transfer, for social and cultural development as well as for entertainment. The development in information technology has forced and will continue to force governments all over the world to debate on the Information Society, its possibilities and problems and the way it is structured in each country in order to contribute both to national and to individual positive development. Globalisation is shaping the world community into a global village, and it exposes societies to the wealth and diverse global information resources created by various countries, therefore all nations need to deal with the Information Society.

An understanding of one's own culture as well as cultures of different countries can lead to better relationships among global communities. Hence, developing a national information infrastructure within a country is as vital as developing the nations' physical infrastructure for economic progress. Developing a strategy however, calls for innovative thinking to find ways and means of preventing social isolation among the information weak in all countries through, for example, improved educational efforts. Neither in human nor societal terms can any country afford not to deal with these matters and must sooner or later develop and support communication structures. It is therefore highly relevant for them to set up and adopt National Information Policies. Unfortunately there are certain fundamental inadequacies in the information structures of many Third World countries. Postal and telecommunications systems are often inadequate or don't function properly. Channels of information provision suffer from lack of funding, there is a

shortage of trained human resources and a lack of well stocked libraries. Rural illiteracy is also a major constraint as well as poor transport systems.

Upon reflection, the necessity of this study cannot be questioned. Information policies are concerned with modernising the telecommunications infrastructure, promoting industrial and commercial competitiveness, re-skilling the workforce, promoting social cohesion, extending democracy by making governments more open and accountable, and contributing to cultural development. The necessity of a National Information Policy, as is clearly seen, itself justifies the need to study the subject in order to gain an understanding of the role of a National Information Policy and to develop successful policies. There is in fact room for further investigation as studies specifically for Southern Africa were found to be lacking.

7.3 Insight gained

The following observations were made:

A) The major guiding objective for promulgating a National Information Policy is the promotion of information as a vehicle for technological advancement and economic growth. Development can only be achieved through maximum utilisation of resources and this in turn depends on the full use of national information. A National Information Policy that provides support for a National Information Strategy can lead to an expanding information economy. This would potentially stimulate socio-economic growth by supporting research, which can lead to innovation, the development of national expertise, the growth in indigenous knowledge, and expand the production of goods and services within the country.

B) A National Information Policy should identify or define the information problem areas and must commit the state to find ways and means of dealing with such problems. An important aspect of policy research is therefore to formulate the problem as clearly as

possible because policies have failed in the past as a result of a lack of effective problem formulation in the first place. The ability of governments to develop effective policies and plans thus depends on their capacity to interpret information relevant to the country's economic, social, cultural, and financial situation. A strong national infrastructure allows access to information from all of these sectors, and provides the basis for competent planning and decision-making. Such an infrastructure requires sound information policies to provide the framework for the development of information and communication systems and services to meet development needs.

C) Most initiatives are in the field of connectivity, technology transfer and training. Among the many initiatives however, a distinction needs to be made between programmes designed to foster information communications technology development and programs designed to serve specific goals. Unfortunately many Internet connection initiatives seem to be designed to merely strengthen and facilitate communication between donor agencies and their partners in the South. Although legitimate, such initiatives neither contribute to the overall development of information communications technology in Africa, nor to the development of an institutional framework needed to implement new policies. Furthermore, little attention is given to the development of information and content. Only a few initiatives contribute to the development of an institutional and research framework, putting Africa in a position to regulate, adapt and innovate information communications technology to its own needs and priorities for sustainable development. Where information communications technology connectivity exists, an imbalance in the content flowing over the information superhighway is found, and some (for example van Audenhove, 1998) feel that access to this content may have negative impacts on culture as well as development. The challenge for African countries is thus to produce the content that develops African cultures, diversity and strengths by exploiting the huge wealth found in terms of African dance, drama and culture.

D) Information providers have to bear in mind the fact that information has very little use unless it is communicated to the right user at the right time, and in the right way or format. Information is also transient of nature, therefore information that is not used becomes unproductive and it is important to get the most up to date information possible. Misunderstandings about national, regional and international issues crop up mostly due to the non-availability of relevant information. Information is vital for research and development and information that is meant for dissemination should not be withheld but should be made readily available. Initially, it may be both profitable and feasible to use simple and traditional methods to disseminate information in most rural areas. Thus even though non-literate and rural populations may not be able to make direct use of an African information infrastructure in the near future, the positive spin-offs to the country as a whole, will result in benefits for all sectors of society.

E) As a result of the economic value attached to information, institutions and government ministries are now concerned about who owns and controls the production, processing and distribution of this commodity. This may be a problem within the region since governments realise the kind of impact uncontrolled information flow may have on the people, especially where the democratic process and values are still under attack. A distinction has thus to be made between the management of information and its control. In African countries politicians wield enormous power in shaping the direction of public policies and determining how they are implemented. Therefore the policy research efforts are unlikely to have an impact unless political systems and practices are reformed. Information gives potential, but the ability to access and control that information is power. Thus we can say that knowledge is power, but power can be dangerous, unless it is managed successfully.

F) What is lacking in many Third World countries, such as Malaysia, is the availability of local information in digital format that can be accessible through the Internet. The development of a National Information Policy should stress the importance in the

systematic documentation of all information resources, preservation of, for example cultural heritage and the creation of databases that can be linked internationally.

G) From now on policy-makers, researchers and information professionals, will have to work together in order to encourage discussion at all levels about the right of access to information to ensure that development, democracy and security of the region remain on course. This means that international databases and subscriptions must be affordable to Third World countries. Obtaining information via bibliographies is troublesome therefore negotiations regarding the availability of full text databases are an important solution to the problem. Information as a force towards regional integration, indicates the way ahead. Cross-border information flow is a must in our search for effective regional co-operation and integration especially at grassroots level.

7.4 Conclusion

By examining the situation in detail it is clear that the information field is made up of a series of policies which in the past have added up to make an almost comprehensive policy. The hope is that this situation will advance to the more desirable state of a National Information Policy. The problem posed by the pervasive nature of information technology in modern societies has already led to a further broadening of the scope of information policies in the 1990's. Thus the library and information service industry continues to play a key role because all types of people need information in every aspect of the social and economic life, and libraries and information centres play an indispensable role in nation building.

The information revolution is changing the world very rapidly. However, the challenges facing developing countries are different in many respects from those facing developed countries. Developed countries face challenges of improving information infrastructures such as telecommunications. By contrast, in developing countries, the Information Society must serve national development needs and focus on the disadvantaged sectors and under-

developed areas. Thus for future national growth and development to take place in South Africa, " original indigenous information needs to be generated. Without this creative side within the nation, new enterprises and growth areas cannot come about" (Arnold, 2000:79). Herein also lies the key to the desired African renaissance, " by reasserting the significance of the indigenous knowledge base and placing it in a social intelligence framework, the continent can set about taking control of its own destiny" (Sturges, Mchombu and Neill, 1996:144).