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The management of electronic records in Botswana, Namibia and South Africa: opportunities and challenges

By

Segomotso Masegonyana Keakopa

This thesis is submitted for the Doctor of Philosophy degree in the Faculty of Arts of the University of London

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DECLARATION

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This thesis is a result of my original research work unless otherwise stated in the text or footnotes.

[Candidate's name and signature]

ABSTRACT

This study focuses on the opportunities and challenges in the management of electronic records in Botswana, Namibia and South Africa. It explores the background to information communication and technology (ICT) development and how it impacts on recordkeeping practices in the three countries. In addition, it examines strategies employed by the national archives of the three countries in the management of electronic records.

ICT is impacting on the way organisations function and is playing an important role in the information society. In spite of this, the information and records generated by use of this technology are not properly managed. This is posing a threat to accountability and good governance.

This study outlines and examines the environment in which ICT in the three countries is developing. Further, the study exposes the computerisation strategies in government agencies and examines the role of the national archives in the management of electronic records in these countries. In doing the above, data was collected using questionnaires, interviews and discussions with key personnel within the ICT industry, government agencies and national archives in the three countries.

ICT infrastructure was found to be limited in rural areas resulting in a need to bridge the urban-rural divide. A need to review policies and coordination frameworks in ICT development was identified. Further, ICT development was limited due to scarce human and financial resources. However, governments in the three countries, together with the private sector were making significant efforts. The increasing use of ICT in the three countries has impacted on recordkeeping practices in government agencies by enabling creation, capture, maintenance, use and disposition of electronic records. In Botswana and Namibia no policies and procedures were found to be in place to enable the management of electronic records whereas these were present in South Africa. Gaps were identified in staffing levels and professional training for the management of electronic records in the three countries.

It was found that Botswana and Namibia do not have clearly laid out strategies for managing electronic records whereas such strategies do exist in South Africa. Amongst the three countries, South Africa emerged as a good model of a country that has updated its legal provision to enable the management of electronic records.

In spite of the challenges faced, ICT has developed well and impacted positively in recordkeeping in the three countries. South Africa has taken great strides in developing policies, procedures, strategies and legislation for the management of electronic records in government agencies. Botswana and Namibia are seen as lagging behind in these areas. The study end, by making a number of recommendations, including the need for training and human capacity building for the management of electronic records.

ACKNOWLEDGEMENTS

DEDICATION

This thesis is dedicated to the loving memory of my father

Rev. Leonard Ramosidi (LR) Keakopa

and

my late sister Sophie Mmahaa Keakopa

both of whom I lost during my studies

My their souls rest in peace

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LIST OF ABBREVIATIONS

ARMA	Association of Records Managers and Administrators
ATU	African Telecommunications Union
AU	African Union
BAC	Business Acceptable Communications (Canada)
BIAC	Botswana Institute of Accounting and Commerce
BNARS	Botswana National Archives and Records Service
BTA	Botswana Telecommunications Authority
BTC	Botswana Telecommunications Corporation
DACS	Department of Arts, Culture, Science and Technology (South Africa)
DIRKS	Designing and Implementing Recordkeeping Systems
DIT	Department of Information Technology (Botswana)
DLIS	Department of Library and Information Studies (University of Botswana)
DLM	Document Life-Cycle Management (European Union)
DoC	Department of Communications (South Africa)
DoI	Department of Infrastructure (Australia)
DoJ	Department of Justice (South Africa)
DPE	Department of Enterprise (South Africa)
DPSA	Department of Public Service Administration (South Africa)
DPSM	Department of Public Service Management (Botswana)
DSS	Data Systems and Services (Namibia)
DTI	Department of Trade and Industry (South Africa)
E - mail	Electronic mail
ECT	Electronic Communications and Transaction Act (South Africa)
E-government	Electronic government
ERA	Electronic Records Archives (United States of America)
E-readiness	Electronic readiness

EROS	Electronic Records in Office Systems (United Kingdom)
ERPANET	Electronic Resource Preservation and Access Network (European Union)
ESARBICA	Eastern and Southern African Regional Branch of the International Council on Archives
E-term	European Training Programme on Electronic Records and Records Management
EU	European Union
GITOC	Government Information Technology Officer's Council (South Africa)
HANIS	Home Affairs Identification System (South Africa)
HATII	Humanities Advanced Technology and Information Institute (University of Glasgow)
ICA	International Council on Archives
ICT	Information Communication Technology
IDAC	Interdevelopment Archives Committee (United Kingdom)
IDM	Institute of Development Management (Botswana)
IDRMS	Integrated Document and Records Management Solution (South Africa)
InterPARES	International Research on Permanent Authentic Records in Electronic Systems
IPMS	Integrated Patients Management System
IRMT	International Records Management Trust
ISO	International Standards Organization
IT	Information technology
ITU	International Telecommunications Union
KIM	Knowledge Information Management (South Africa)
LGA	Local Government Association (United Kingdom)
MCST	Ministry of Communications, Science and Technology (Botswana)

MEDITECH	Medical Information Technology
Moreq	Model Requirements for the Management of Electronic Records (European Union)
MPRS	Management of Public Sector Records
MTC	Mobile Telecommunications Corporation (Namibia)
NAN	National Archives of Namibia
NARA	National Archives and Records Administration (United States of America)
NARMS	National Archives and Records Service System (Botswana)
NARS	National Archives and Records Service (South Africa)
NCA	National Council on Archives (United Kingdom)
NCC	Namibia Communications Commission
NDAD	National Digital Archive of Datasets (United Kingdom)
NDP	National Development Plan
NEPAD	New Partnership for Africa's Development
NICI	National Information and Communications Infrastructure
OPM	Office of the Prime Minster (Namibia)
PAIA	Promotion of Access to Information Act (South Africa)
PRO	Public Record Office (United Kingdom)
PROV	Public Record Office Victoria
PSITM	Public Service Information Technology Management (Namibia)
RKMS	Recordkeeping Metadata Schema
RMCAS	Records Management Capacity Assessment System (IRMT)
RMUs	Records Management Units
SADC	Southern African Development Community
SAHA	South Africa History Archive
SAITIS	South African Information Technology Industry Strategy
SATA	Southern African Regulators Association
School-Net	School Networking

SITA	State Information Technology Agency (South Africa)
SOUR	Statement of User Requirement (Botswana)
SPIRT	Strategic Partnerships with Industry-Research and Training (Australia)
TNA	The National Archives (United Kingdom)
TRASA	Telecommunications Regulators Association of Southern Africa
TSM	Teaching Service Management (Botswana)
UB	University of Botswana
UBC	University of British Columbia
UCL	University College London
UK	United Kingdom
USA	United States of America
VAT	Value Added Tax
VEO	Vers Encapsulation Object (Australia)
VERS	Victorian Electronic Records Strategy (Australia)
WB	World Bank

CHAPTER 1

INTRODUCTION

1.1   Background to the study

The use of Information and Communication Technology (ICT)[1] has revolutionised and continues to revolutionise the conduct of business in all spheres of life and in the course of this, it shapes many aspects of society. Organisations are becoming increasingly dependent on the new technology and are now using various systems to support their business. These processes range from simple word-processing and electronic mail (e-mail)[2] to integrated document management and geographic information systems. Most importantly, the use of ICT has offered the potential to computerise government services, enabling policy makers to have quick access to information and also to react to social and economic developments. In addition, the general public can access information on-line. The archives and records management profession has not been left behind and has taken advantage of the new and promising opportunities offered by ICT to computerise its services. This has resulted in a move from traditional manual recordkeeping[3] systems to electronic recordkeeping, thus changing the way information is captured, processed, stored, retrieved, presented and disseminated. This new trend has necessitated demands for the proper management of records regardless of their format. Even more demanding is the management of records that begin and end their life in electronic networks.

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[1] Information communication technology is generally defined as the technology that is used for accessing, gathering, manipulating and presenting or communicating information. The technology could include hardware (e.g. computers and other devices); software applications; and connectivity (e.g. access to the Internet, local networking infrastructure, and videoconferencing. See: UNESCO, 'Education and ICTs'. Available at <http://portal.unesco.org/education/en/ev.php-URL_ID=18645&URL_DO=DO_TOPIC&URL_SECTION=201.html>. Accessed 6 September 2006.

[2] Electronic mail is a system that enables users to compose, transmit, receive, and manage electronic messages and images across networks and through gateways connecting to other local area networks. See: ARMA International, *Guidelines for managing e-mail* (Prairie Village, KS: ARMA International, 2000), p 25.

[3] Recordkeeping can be defined as 'an information system that has been developed for the purpose of storing and retrieving records, and is organized to control the specific functions of creating, storing, and accessing records to safeguard their authenticity and reliability'. See: International Council on Archives: Committee on current records in an electronic environment, *Electronic records: a workbook for archivists*, Study 16, April 2005 (Paris: ICA, 2005), Available at <http://www.ica.org/biblio/Study16ENG_5_2.pdf>. Accessed 23 February 2006, p 14.

In Africa, organisations such as the Southern African Development Community (SADC)[4], World Bank (WB), International Records Management Trust (IRMT)[5] and national archival institutions have helped shape developments in the area of electronic records[6] management. SADC has committed itself to developing the capacity for the management of records in the region. This commitment is aligned to the New Partnership for Africa's Development (NEPAD)[7] initiatives, which view good governance as a basic requirement for sustainable political and socio-economic development and, in turn, records management as a central principle for good governance.[8] At the same time, international financial institutions, such as the World Bank, have demanded accelerated technological advancement and good recordkeeping to ensure better governance and accountability.[9] The IRMT has committed itself to ensuring good governance in the electronic age through strengthening information systems.[10] In fact, the WB and IRMT have been working together in raising awareness, inspiring collaborative efforts, and improving tools, training and strategies to improve electronic-readiness (e-readiness) in developing countries.[11] Meanwhile, national archival institutions have been pressurised by the new technological developments to change and modernise their recordkeeping practices and in particular to take up the challenge of managing electronic records.

Traditionally, records have been paper-based and manually managed. However, the advent of ICT and its impact on recordkeeping means that archivists and records

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[4] SADC was first established in 1980 and transformed in 1992. It brings together a group of countries in southern Africa to co-operate in pursuit of economic and social development.

[5] The IRMT is a UK-based non-profit making organisation committed to improving records management and supporting education and training in developing countries.

[6] Electronic records can be defined as files created by electronic systems, readable by means of those systems, which are created in the course of some business, administration or activity and used to continue that business, administration and activity. See: M Procter and M Cook, *Manual of archival description*, 3rd edition (Aldershot: Gower, 2000), p 226.

[7] NEPAD is a pledge by African leaders, based on a common vision and a firm and shared conviction, that they have a pressing duty to eradicate poverty, and place their countries, both individually and collectively, on a path to sustainable growth and development.

[8] 'Records management', National Archives and Records Service of South Africa. Available at <http://www.national.archives.gov.za/rms/best.practice.htm>. Accessed 19 October 2004.

[9] International Records Management Trust, 'Evidence-Based Governance in the Electronic Age'. Available at <http://www.irmt.org/evidence/wbnews.html>. Accessed 19 January 2005.

[10] International Records Management Trust, 'Evidence-Based Governance in the Electronic Age'. Available at <http://www.irmt.org/evidence/wbnews.html>. Accessed 19 January 2005.

[11] A Lipchak and J McDonald, 'E-government and e-readiness: e-records readiness and capacity building, an electronic discussion, 19 November-12 December 2003, a discussion paper'. Available at <http://www.irmt.org/download/DOCUME~1/GLOBAL/discussionpaper.pdf>. Accessed 10 December 2004.

managers are able to use the technology for records management as well as deal with the management of records generated by the new technology. Research in the area of electronic records management, particularly in developed countries, has sought to try to find better strategies for the management of this new format of records. There has been concerted interest in investigating theoretical and practical solutions for the management of electronic records in developed countries. This interest might be extended to the southern African region. There is a lack of detailed research addressing theoretical and practical solutions for the management of electronic records in this developing region, which is the focal area for this study, comprising Botswana, Namibia and South Africa. In Botswana and Namibia there is a lack of effort to strategise the management of electronic records. Where literature has addressed the management of electronic records, the focus has been on the challenges posed by use of ICT without any clearly designed strategies of how best to manage electronically generated records. This study is, therefore, designed to address this gap.

1.2   Location of the study area

1.2.1 Botswana

Botswana, formerly known as Bechuanaland, is a landlocked country in southern Africa, surrounded by Namibia to the west, Zambia to the north, South Africa along the southern borders, and Zimbabwe to the east. It occupies 575,000 square kilometres[12] and has a population of approximately 1.72 million.[13] The history of the country has been influenced by its geographic location and absence of significant nationalism, which was evident in other parts of the southern African region.

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[12] 'Botswana: background'. Available at <http://www.uneca.org/aisi/nici/country_profiles/botswana/botsab.htm>. Accessed 29 December 2002.

[13] S Sebusang, S Masupe and J Chumai, 'Towards an Africa e-index: ICT access and usage, Botswana (2005)'. Available at <http://link.wits.ac.za/papers/e-index-botswana.pdf>. Accessed 25 January 2006, p 32.

Figure 1-1 Map of southern Africa[14]
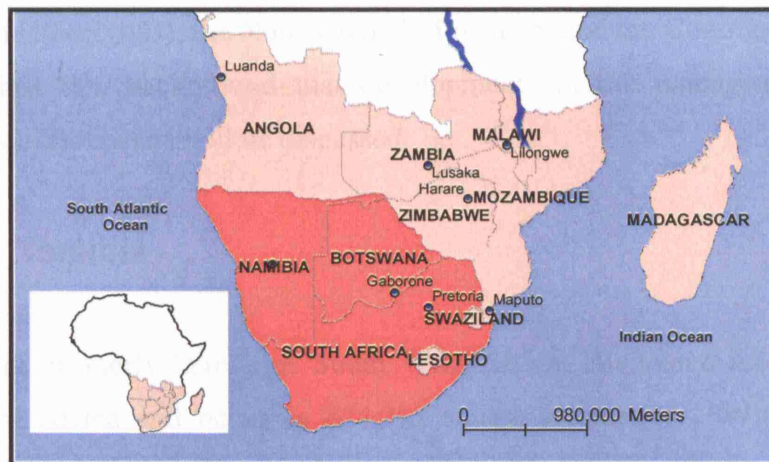
The country was declared a British Protectorate by Royal Decree in 1885. British protection of the country was influenced by German and Afrikaner threats to expand into British areas of interest, particularly into Rhodesia (now Zimbabwe). Botswana was strategically located and acted as a passage to such an expansion. Despite offering the territory protection, the British kept investment and administrative involvement within the protectorate to a minimum. They regarded the protectorate as a temporary expedient[15] and followed the policy of 'indirect rule'. This meant that they had little influence in the running of the affairs of the country. The British plan was to hand over the territory to the Union of South Africa. This posed a serious threat to Botswana's sovereignty and it forced the nationalist voices to organise political movements and make demands for independence. It was, however, not until 1961 that a series of constitutional discussions followed to determine proposals for self government. General elections were finally held in 1965 and the protectorate became the Republic of Botswana on the 30th of September 1966.

Since independence, Botswana has remained one of the most stable, prosperous and democratic countries in Africa. It has one of the fastest growing economies, mainly from diamond and beef exports. The country has managed to build basic infrastructures and has extended social services such as education and health to almost all its people. It has played a part in regional affairs, the most important of

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[14] 'Botswana: background'. Available at <http://www.uneca.org/aisi/nici/botswana/botsab.htm>. Accessed 29 December 2002.

[15] N Parsons, 'A brief history of Botswana' (a provisional version, April 1999). Available at <http://www.ubh.tripod.com/bhp1.htm>. Accessed 7 April 2003, p 7.

which was the formation of SADC. It is also a member of the United Nations, the African Union (AU), the Non-Aligned Movement and the Commonwealth League. It is against this background that developments in the management of electronic records in Botswana will be discussed.

1.2.2 Namibia

Namibia, formerly known as South West Africa, is situated on the south western coast of Africa and occupies 824,293 square kilometres.[16] With a population of approximately 1.8 million[17], the country is bordered by South Africa, Botswana, Angola, Zambia and the South Atlantic Ocean.

The early history of the country can be traced from its occupation by Germany and South Africa from 1884. Germany, which had occupied the territory in 1884, lost it at the end of World War I, after it was defeated. South Africa was given the territory to administer on behalf of the League of Nations but annexed the territory at the end of World War II. Afrikaners replaced German settlers, subjected the country to the same apartheid laws as practised in South Africa and followed a policy of racial discrimination and exploitation.

The whole colonial period witnessed white immigration into the country, a process which disrupted the already well established societal patterns and deprived Namibians of their political rights.[18] Afrikaner expansion in the territory dispossessed the local people of their fertile land and reduced them to a life of servitude in their own country. They were pushed into what became known as native reserves and their economic status deteriorated. As a result of this, the local population was denied participation in running the affairs of the country.[19] Whatever developments that took place in the country during the colonial period were

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[16] K Dierks, 'Namibia's telecommunications-link to Africa'. Available at <http://www.vii.org/papers/namibia.htm>. Accessed 17 March 2003.

[17] C Stork, Towards an Africa e-index: ICT access and usage, Namibia (2005)'. Available at <http://link.wits.ac.za/papers/e-index-namibia.pdf>. Accessed 25 January 2006, p 106.

[18] 'Namibia: political'. Available at <http://www.iss.co.za/AF/profiles/Namibia/Politics.html>. Accessed 7 April 2003.

[19] 'Namibia: background'. Available at <http://www.uneca.org/aisi/nici/country_profiles/namibia/Namab.htm>. Accessed 29 December 2002.

concentrated in urban areas, which had a large white population. It is not surprising that any technological infrastructure in the country is mostly found in these areas. Namibia has a long history of struggle for independence, and in the end it was the guerrilla campaign that finally pushed for independence, which came on 21st March 1990.

On independence, the government began making efforts to develop areas that had been disadvantaged during the colonial period. It has also promoted private sector growth and foreign investment. The Namibian economy is based on minerals, agriculture and fishing resources. Despite its wealth, Namibia remained underdeveloped during the colonial period, and problems of rising unemployment inherited from the colonial period have continued to hamper developments even today. The challenges that the country faces are to a large extent influenced by its long years of conflict, the bitterness of the liberation, war and the legacy of racism. It is against this background that Namibia's economic, social and political institutions have had to develop, and it is in this context that the management of electronic records in Namibia will be discussed.

1.2.3 South Africa

South Africa is located on the southern tip of Africa and is bordered by the Atlantic Ocean on the west, and the Indian Ocean on the south and east. Namibia, Botswana and Zimbabwe lie on its border from west to east, while Mozambique and Swaziland lie to the northeast. The country has a population of about 43.6 million.[20] Almost all of South Africa's 1.2 million square kilometers lie below the Tropic of Capricorn.[21]

The history of South Africa can be traced back to the 1650s when the Dutch arrived at the Cape Colony in 1652. This history, from the beginnings of Dutch and British colonisation, was marked by racial policies. In 1934, South Africa was established as an independent state within the British Commonwealth. From the early 1950s until the

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[20] A Gillwald, S Esselaar, P Burton, and A Stavrou, 'Towards an Africa e-index: ICT access and usage, South Africa (2005)'. Available at <http://link.wits.ac.za/papers/e-index-south-africa.pdf>. Accessed 25 January 2006, p 130.

[21] 'South Africa: location, geography and climate'. Available at <http://www.geographia.com/south-africa/>. Accessed 19 January 2005. For the location of South Africa, refer to the map of southern Africa presented as Figure 1-1.

early 1990s, the country was governed by a system of apartheid that gave whites many of the basic political and economic rights at the expense of the blacks.[22] The structure that was created formed the basis of one of the harshest, most inhumane societies in the world.[23]

With pressure from the international community and political unrest in the country, the racist regime was forced to the negotiating table. The negotiations led to the birth of a new constitution which was to ensure equality among races and finally independence in 1994. The 1994 elections were the most crucial in building new developments for a new South Africa. In spite of the cost of apartheid, past injustices and many decades of oppression, South Africa today boasts a thriving economy based on vast mineral resources. The government has made an effort to build a stable economy and political system, and has encouraged international investment, and the country is today one of the wealthiest in Africa.

This brief historical background will influence the discussions that follow on the management of electronic records in South Africa.

1.2.4 Justification for location of the study

While a study of the management of electronic records in the whole of the area embraced by the Eastern and Southern African Regional Branch of the International Council on Archives (ESARBICA)[24] would have formed an important foundation for a regional strategy, this was not possible for several reasons, including data size, data collection time, the logistics of data collection in the whole region, and duplication of data. Even the southern African region shown in Figure 1-1 contains many countries, not all of which could be covered in this study. Three main reasons

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[22] 'South Africa: background'. Available at <http://www.uneca.org/aisi/nici/South%20africa/southab.htm>. Accessed 29 December 2002.

[23] N Mandela, *Long walk to freedom: the autobiography of Nelson Mandela* (Boston, M.A: Little, Brown and Co., 1994), p 621.

[24] ESARBICA is a regional association bringing together a group of countries in Eastern and Southern Africa so as to cooperate and assist each other in professional matters and work as a team in carrying out the aims and objectives of the mother body, the International Council on Archives (ICA). Members include Tanzania, Malawi, Kenya, Zambia, Botswana, Swaziland, Lesotho, Zimbabwe, Mozambique, South Africa, Namibia, Comoros, Seychelles and Zanzibar.

made it necessary to choose only three countries within the region for the purpose of this detailed study.

First, the amount of data from a larger area would have been too large to handle, whilst a smaller area than the chosen region would not suffice. Choosing only one country would not have offered diversity and would not have been representative of the region. So, Botswana, Namibia and South Africa were chosen to represent a realistic sample.

Second, the time for data collection was sufficient for the number of countries chosen for the study. Coverage of a larger area than the region chosen would have required more time than was available in this study.

Third, it is unlikely that the three countries, though having similar cultural and historical backgrounds, will have the same level of advancement in the fields of ICT and records management. A study of the three countries will, therefore, provide an opportunity to draw lessons from each other's strengths and weaknesses.

The three countries also have sound national economies, common approaches and reasonably advanced technological infrastructure. Most importantly, they are politically stable.

While similar recordkeeping practices may be found in other parts of Africa, the findings of this study cannot be used to generalise practices in other countries in the continent. The different regional policies, cultures and organisational politics may not accommodate a single solution. Other countries in the southern African region and the rest of ESARBICA might play a role in subsequent or follow up research initiatives.

1.3   Statement of the problem

Governments in developing countries, particularly those in the southern African region, have in recent years taken up computerisation initiatives, which have in the

process generated many electronic records. Generation of these records will further increase as more government agencies carry out work electronically. Evidence of some of these activities may never be recorded on paper and may be restricted to databases and e-mail. Although computerisation has led to increased generation of electronic records, the records have not always been properly managed in terms of capture, maintenance and access. In addition, there often appears to be inadequate provision of resources and infrastructure for the management of these records. These weaknesses (improper records management and inadequate infrastructure and resources), if not addressed, may lead to lack of transparency and accountability, thus undermining governance process in the electronic age. The continuing growth in number and complexity of computerised information systems in Botswana, Namibia and South Africa, therefore, creates a significant need for strategies that will ensure the proper management of electronic records in these countries. Without concerted efforts to deal with these issues, government institutions in the three countries will also lose significant public records, including those which make up their cultural heritage. While the three countries seem to recognise the need for appropriate strategies in the management of electronic records, little has been done to find solutions.

1.4   Purpose and objectives of the study

The main purpose of this study is to explore the developments in ICT, that have had an impact on recordkeeping systems in government agencies in Botswana, Namibia and South Africa, with a view to making specific recommendations for the management of electronic records in each of the three countries. In doing this, the study examines the current state of management of electronic records practices in each of the three countries, identifies the main obstacles in managing these records, and examines how, through their national archives, governments in the three countries can meet the challenges of managing electronic records. In particular, the study seeks to discover if there currently are any policies and procedures regarding the management of electronic records; the extent of the national archives' involvement in the recordkeeping practices in the three countries; how staffing levels and professional training for the management of electronic records are coordinated, and what legislative requirements are in existence or are planned.

The study has the following objectives:

1. To review theoretical issues in the management of electronic records in the developed and developing countries.
2. To review the status of management of electronic records in both developed and developing countries.
3. To explore the background to ICT development in Botswana, Namibia and South Africa.
4. To assess the impact of ICT on recordkeeping practices in Botswana, Namibia and South Africa.
5. To examine the national archives' strategies and role of legislation of the three countries in managing electronic records.
6. To make recommendations for the management of electronic records in each of the three countries and to suggest ideas for further research.

More specifically, the study answers the following research questions:

1. What are the theoretical issues in the management of electronic records in the developed and developing countries?
2. What is the status of management of electronic records in both developed and developing countries?
3. What is the extent of ICT development in Botswana, Namibia and South Africa?
4. How has the use of ICT impacted on recordkeeping practices in Botswana, Namibia and South Africa?
5. What national archives' strategies are place in Botswana, Namibia and South Africa, and what is the role of legislation in managing electronic records in each of the three countries?
6. What recommendations can be drawn from this study to help strategise the management of electronic records in Botswana, Namibia and South Africa; and what issues necessitate further research in this area?

These questions can also be thought of as broadly addressing the following central question: how has utilisation of ICT impacted on the recordkeeping practices in Botswana, Namibia and South Africa and how have the national archives in the three countries coped with the challenges of managing records generated as a result of this utilisation?

1.5 Significance of the study

The importance of carrying out detailed research on the management of electronic records in the southern African region and, in particular, Botswana, Namibia and South Africa, cannot be overemphasised. While governments in the region are computerising essential public services and producing electronic records, there is no guidance on their management. In fact, no such detailed study has ever been conducted in the region. A study of current practices on the management of electronic records is needed before any suggestions can be made on strategies for managing such records. This study is, therefore, important as it will contribute to the archives and records management profession in the following ways:

1. It complements the archives and records management literature that is available in southern Africa, in that it is the first detailed and comparative study to thoroughly investigate the impact of ICT use in the recordkeeping profession in the region. It is intended to provide an integrated picture of archival and records management development in the region and suggests ways to forge ahead in the electronic age, hence making an original contribution to knowledge and to existing works on the management of electronic records in southern Africa.

2. The study suggests some answers to the questions that have been raised in the archival profession regarding ways of facing the challenges of the computerisation and management of electronic records. In this way, it will assist the policy-making process regarding such management in Botswana, Namibia and South Africa.

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3. It is also hoped that this study will provide recommendations that will enhance the training programmes for archives and records management courses at the universities in Botswana, Namibia and South Africa. This will be the basis for regional training of records professionals. The specific recommendations offered on restructuring and strengthening of archives and records management courses and introduction of short professional courses will guide each of the three countries in providing relevant professional training. This will equip archivists and records managers with the skills to face the challenges of managing electronic records in the 21st century. It is also hoped that universities and training programmes throughout southern Africa may be able to use the findings of this study to develop and enhance education and training.

4. Archivists and records managers in the region are expected to benefit from the study as the results will be disseminated in conferences in the region organised by ESARBICA, and a summary report will be made available to the executive committee of ESARBICA in an accessible form. Copies of the report will also be made available to archival institutions in Botswana, Namibia and South Africa. Where possible, the recommendations will be discussed with the principal persons concerned and those who were interviewed in the course of this study.

1.6 Research methodology

This section presents the research methodology used in this study to investigate how utilisation of ICT has impacted on recordkeeping practices in Botswana, Namibia and South Africa, and how the national archives in each of the three countries have coped with the challenges of managing electronic records.

The fields of information management and systems have become very broad and researchers are employing different approaches in their studies. In particular, information professionals are using qualitative and quantitative methods to support studies concerned with the practice and techniques of information and knowledge

management, as they relate to librarianship, archives and records management, information science and information systems.

Qualitative research involves the use of qualitative data such as in-depth interviews, document and participant observation to understand and explain social and cultural phenomena.[25] It often focuses on viewing the experiences from the perspective of those involved. The essence of this approach has been covered by several authors among them, G Allan[26], P Leedy[27], Huberman and Miles[28], C Busha and S Harter[29] and S. Holdaway[30] who agree that qualitative research is broad and uses a variety of methods and techniques to investigate a problem.

Quantitative research on the other hand is based on testing a theory composed of variables, measured with numbers and analysed with statistical procedures.[31] It includes the use of closed survey methods and laboratory experiments[32] and usually ends with confirmation or disconfirmation of the hypotheses tested. It is more focused than qualitative research.

In discussing methodologies in human geography research, Rob Kitchin and Nicholas J Tate have argued that since the distinction between qualitative and quantitative methods is misleading, it is best to think of the two as a continuum rather than polar opposites.[33] According to the authors, it would be a mistake to prescribe any methodology as the best for any researcher as research is understood in

[25] M Myers, 'Qualitative research in information systems'. Available at <http://www.qual.auckland.ac.nz/>. Accessed 23 October 2002, p 1.

[26] G Allan, 'Qualitative Research', in G Allan and C Skinner (eds.), Handbook for research students in the social sciences (London: The Falmer Press, 1991), pp. 177-188.

[27] P Leedy, Practical research: planning and design, 6th edition (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1997), pp. 155-156.

[28] A M Huberman and M B Miles, Qualitative data analysis: a sourcebook for new methods (Beverly Hills, CA: SAGE, 1984).

[29] C Busha and S Harter, Research methods in librarianship: techniques and interpretation, (New York, NY: Academic Press, 1980).

[30] S Holdaway, 'Theory and method in qualitative research', in D Burton (ed.), Research training for social scientists: a handbook for postgraduate researchers, (London: SAGE, 2000), pp. 156-166.

[31] P Leedy, Practical research: planning and design, 6th edition (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1997), pp. 104-105.

[32] M Myers, 'Qualitative research in information systems'. Available at <http://www.qual.auckland.ac.nz/>. Accessed 23 October 2002, pp. 1-2.

[33] R Kitchin and N J Tate, Conducting research into human geography: theory, methodology and practice (Harlow: Prentice-Hall, 2000), p 40.

different ways. They prescribe that one can "mix-and-match" by adopting an approach which best matches their study and by so doing make individual alterations to suit own unique personal view points.[34] Robin Flowerdew and David Martin, also from human geography, have suggested that it will be wrong to endorse any particular research methodology at the expense of the other.[35] So with the realisation that each of these methods has its own strengths and weaknesses some researchers are increasingly combining them in one study to enhance their analysis. Leedy[36], London & Schwartz[37] and D Burton[38] have supported the integration of these two methods. Elspeth Graham[39] and Kitchin and Tate[40] have used various combinations of questionnaires, interviews and observations in data collection for both qualitative and quantitative researches.

This study uses a combination of interviews and observations together with questionnaires within a case study design. In some disciplines, the use of questionnaires is commonly associated with capture of quantitative data: for example, Elspeth Graham[41] has used examples that only associate questionnaires with a quantitative approach and interviews with a qualitative approach. However, Michael D Myers[42] and Catherine Dawson[43] among others have argued that open-ended questionnaires can be used to produce qualitative evidence. Dawson says that

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[34] R Kitchin and N J Tate, *Conducting research into human geography: theory, methodology and practice* (Harlow: Prentice Hall, 2000), p 26.

[35] R Flowerdew and D Martin (eds.), *Methods in human geography: a guide for students doing a research project,* 2nd edition (Harlow: Prentice-Hall, 2005), p xxi.

[36] P Leedy, *Practical research: planning and design,* 6th edition (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1997), p 108.

[37] A London, E Scott and S Schwartz, 'Models of integration: the promises and pitfalls of combining qualitative and quantitative research'. Available at <http://www.appam.org/conferences/fall/tx02/sessions/METH-04-D.shtml >. Accessed 23 October 2002.

[38] D Burton, 'Design issues in survey research', in D Burton (ed.), *Research training for social scientists: a handbook for postgraduate researchers* (London: SAGE, 2000), p 298.

[39] E Graham, Philosophies underlying human geography research, in R Flowerdew and D Martin (eds.), *Methods in human geography: a guide for students doing a research project,* 2nd edition (Harlow: Prentice-Hall, 2005), pp. 8-33.

[40] R Kitchin and N J Tate, *Conducting research into human geography: theory, methodology and practice* (Harlow: Prentice-Hall, 2000), pp. 211- 213.

[41] E Graham, Philosophies underlying human geography research, in R Flowerdew and D Martin (eds.), *Methods in human geography: a guide for students doing a research project,* 2nd edition (Harlow: Prentice-Hall, 2005), pp. 8-33.

[42] M D Myers, 'Qualitative research in Information Systems'. Available at <http://www.misq.org/discovery/MISQD_isworld>. Accessed 6 December 2006, p 2.

[43] C Dawson, *A practical guide to research method: a user-friendly manual for mastering research techniques and projects,* 2nd edition (Oxford: How-to-Books, 2006), p 32.

when used in qualitative research, open-ended questionnaires do not contain boxes to tick, but instead leave blank sections for the respondents to write answers.[44] The questionnaires seek opinions rather than numbers. This model is adopted in this thesis as similar circumstances were envisaged. For this reason, the questionnaires used in this study were designed to obtain qualitative data. They were not employed to obtain numerical data for quantitative analysis but rather to seek in-depth opinions of how respondents felt about current recordkeeping practices and ICT in each of the three countries. A questionnaire was chosen because of its many advantages. First, it accommodated a variety of questions and secondly it minimised time and money constraints. Responses were also expected from more people, avoiding potential interviewer bias.[45]

The case study method has been defined as 'an empirical inquiry that investigates a contemporary phenomenon within its real-life context. It is an in-depth investigation of a discrete entity on the assumption that it is possible to derive knowledge of the wider phenomenon from intensive investigation of a specific instance or case'.[46] Literature on case study research is extensive and researchers have used this method for many years across a variety of disciplines, especially in the social sciences, to examine contemporary real-life situations.[47] There is also evidence that the case study method has widespread application in the fields of archives, library and information systems research.[48] The method has been used because of its advantages for this study. For example, it is appropriate where theory and research are at an early, formative stage and where the phenomenon is dynamic and not yet settled.[49] This fits well in this study because the management of electronic records is an emerging theme in the archives

[44] C Dawson, *A practical guide to research method: a user-friendly manual for mastering research techniques and projects*, 2nd edition (Oxford: How-to-Books, 2006), p 32.

[45] C Judd, E Smith and L Kidder, *Research methods in social sciences*, International edition, 6th edition (Fort Worth, TX: Holt, Rinehart and Winston, 1991), p 216.

[46] G E Gorman and P Clayton, *Qualitative research for the information professional: a practical handbook* (London: Library Association Publishing, 1997), p 50.

[47] 'The case study as a research method: use and users of information-LIS 391D1-Spring 1997'. Available at <http://www.gslis.utexas.edu/~ssoy/usesusers/1391d1b.htm>. Accessed 26 November 2004, p 1.

[48] P Darke and G Shanks, 'Case study research', in K Williamson (ed.), *Research methods for students and professionals: information management and systems* (Wagga Wagga: NSW, Centre for Information Studies, Charles Stuart University, 2000), p 93. See also M D Meyers, 'Qualitative research in information systems'. Available at <http://www.qual.ackland.ac.nz>. Accessed 26 November, 2004.

[49] P Darke and G Shanks, 'Case study research', in K Williamson (ed.), *Research methods for students and professionals: information management and systems* (Wagga Wagga: NSW, Centre for Information Studies, Charles Stuart University, 2000), p 95.

and records management profession. Further, it involves intensive analysis of a small number of subjects rather than gathering data from a large population.[50] Of course, in spite of its strengths, the qualitative method, like any other, has its drawbacks. For example, the cases selected may not give a compelling representation of a whole and, therefore, not a basis for generalisation.[51]

In investigating a case or cases using this method, the researcher collects information by a variety of data collection techniques, which may include questionnaires, interviews, discussions and participant observation. This provides the opportunity to triangulate the data in order to strengthen the research findings and conclusions. Utilising the case study method, the present study used three countries from the southern African region, namely Botswana, Namibia and South Africa, where each country represented a single case, to provide a detailed evaluation of the management of electronic records in the region and develop a possible approach to strategies for its administration.

1.6.1. Study population

Although I had in mind the target population for this study and some contacts had been established before the field work started, most of the respondents were identified on an ongoing basis as the study continued. The respondents were selected from different institutions in the three countries, mainly from the ICT industry, government agencies and the national archives, and this was based on the research questions. The IRMT, which is involved in records management research activities in developing countries, was a great source of help in identifying some useful contacts in government agencies. The information technology (IT) departments involved in coordinating ICT in government and national archives in each of the three countries also helped in identifying useful contacts in the agencies. These were in most cases those agencies that had good signs of ICT utilisation and which offered useful lessons for others. As many government agencies as possible were contacted in all three countries and only those that responded positively were visited. Although I had prepared a list of contacts

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[50] R R Powell, *Basic methods for librarians,* 2nd edition (Norwood: Ablex Publishing Corp.,1991), p 49.

[51] R E Stake, *The art of case study research* (Thousand Oaks, CA: SAGE Publications, 1995), p 6.

in the three countries, during the actual visit I was re-directed time and again to new informants, who were not originally on my list. This was because some organisations designated officers to participate in the study representing the views of those organisations.

In total, data was collected from 76 respondents in all three countries. Of these, 28 responded to the questionnaire, 33 were interviewed, and discussions were held with the remaining 15.

1.6.2. Description and collection of the data

This study used both primary and secondary data. The primary data comprised questionnaire responses, interviews and observations, while the secondary data were published studies, texts, and other unpublished dissertations dealing with library, archives and information management studies in general. Web based sources were also examined.

The first phase of the study involved an extensive review of both published and unpublished literature. The process of obtaining the literature and appropriate publications involved a thorough search of books and journals through the libraries catalogue. The publications were located and scanned to discover their relevance to the research topic. New books were identified by browsing displays on library shelves using references from secondary sources and publishers' advertisements, both hard copy and on-line. Individual articles from journals were scanned to pick issues related to the research topic. Some newspaper articles with special reports carrying stories and supporting information were accessed through the Internet. Information on the Internet was located using the search engines such as Google and AltaVista, using keywords associated with the research objectives. Data and other information was also located at the web-sites hosted by professional archival and records management associations and government agencies. Useful web-sites were bookmarked. Further, discussions with my supervisors were helpful in pointing to relevant literature of which they were aware. This helped in identifying what information was available on the state and development of programmes for the management of electronic records, their characteristics and limitations. It also helped

in planning for the scope of the thesis. The literature review is discussed in Chapters 2 and 3.

The second phase of the study involved a field visit to the three countries in the study region. The collection of data was carried out during the three months from June to early September 2003. A schedule of my visit to Botswana, Namibia and South Africa was prepared and strictly followed. Each country was visited at least twice. During the first round of visits, respondents were located in their offices and appointments arranged. Questionnaires (attached as appendices A, B and C) were distributed and arrangements made for their collection. The second visits were mainly used to collect questionnaires distributed during the first visits and also to follow up on contacts not located during the first visit.

Upon returning to London in September 2003, the data from the first visit to each of the three countries was analysed and results presented. This helped in identifying gaps that needed to be filled. From the identified gaps, a list of questions (attached as appendix D) was prepared in preparation for the final phase of data collection which involved interviews. This was carried out from June to mid October 2004. Table 1-1 below provides a summary of phases of data collection with dates.

Table 1-1 Summary of data collection phases in Botswana, Namibia and South Africa, 2002-2004

Data collection stage	Dates/Period	Activity
Phase 1	September 2002-June 2003 (Broad plan developed)	- desk research - considering methodology - considering research questions - identifying cases to use and - considering possible informants.
Phase 2	June 2003-September 2003 (First visit)	- field research in Botswana, Namibia and South Africa. - returned to London in September 2003, analysed data and presented results. - gaps identified and broad plan revised.
Phase 3	June 2003-mid October 2004 (Second visit)	- field research in the three countries to gather additional data to fill the gaps identified and validate key issues.

1.6.3. Data collection instruments

(a) Questionnaires

The questionnaires (see appendices A, B and C) circulated from June to September 2003 were used as the central data collection instruments.

Since I could not go at an early stage to any of the three countries, pilot questionnaires were instead circulated to colleagues and consultants for comments and suggestions. Records managers from Botswana studying in the United Kingdom (UK), former civil servants living in London who had worked in Namibia, consultants from the IRMT and colleagues in South Africa who were accessible by e-mail were all involved in piloting the questionnaires. Three separate draft questionnaires, three on ICT issues, four on the impact of ICT on recordkeeping and four on the role of the national archives in managing electronic records were piloted. The feedback helped in identifying problems in the questionnaire, thus resulting in the questionnaires being revised and corrected.

In order to have a comprehensive understanding of ICT development in the three countries, how it has impacted on recordkeeping and the role of the national archives in managing electronic records, it was apparent that three separate questionnaires would be required. Three revised questionnaires addressing the three different areas were prepared. Questionnaire A (attached as appendix A) asked questions related to ICT issues and government policy on ICT. Questionnaire B (attached as appendix B) asked questionnaires related to the impact of ICT on recordkeeping practices, while Questionnaire C (attached appendix C) asked questions on national archives' strategies and role of legislation in managing electronic records. All the questions were open-ended and the questionnaires were uniform in all three countries. Questionnaire A was circulated among directors, senior managers, technicians and personnel assistants. Questionnaire B was circulated among records managers and IT specialists. Questionnaire C was circulated among directors of archival institutions, archivists, and IT staff based at the national archives. The three different groups offered an opportunity to trace the development of ICT in each country adequately, to see how this development has impacted on recordkeeping and to assess the efforts made by

archival institutions in each of the three countries to manage electronic records. This provided basic information on existing local initiatives and recordkeeping activities, available technical infrastructure and expertise, computer use and the general attitude towards information technology in government agencies and national archives. All the questionnaires were hand-delivered and collected.

Table 1-2 presents the number of questionnaires distributed in each country and the number of responses received, together with the totals.

Table 1-2 Number of questionnaires distributed in each country and number of responses received

Questionnaire Type	Number of questionnaires distributed and responses received.			
	Botswana N = 18	Namibia N = 13	South Africa N = 11	Total collected
A	(6) 5 = 83%	(6) 4 = 67%	(3) 2 = 67%	(15)11=73%
B	(8) 6 = 75%	(4) 0 = 0%	(4) 3 = 75%	(16)9=56%
C	(4) 3 = 75%	(3) 2 = 73%	(4) 1* = 100%	(11)9**= 82%

In Table 1-2, the numbers in brackets represent the number of each questionnaire type distributed in each country. The numbers next to them represent the number of questionnaire responses received and these are followed by response rates in percentages. The single star (*) under South Africa for Questionnaire C indicates that the four respondents from the National Archives and Records Service in South Africa collectively answered one questionnaire, making the response rate 100%. The two stars (**) next to the number nine under totals indicate that although the total for Questionnaire C makes up six, the table shows nine because the other three respondents from South Africa who had an input in one questionnaire collected were also counted.

As the statistics show, in all three countries nearly everyone responded, making a total response rate of 73% to Questionnaire A and 82% to Questionnaire C. In Namibia, no responses were received to Questionnaire B, so discussions could not be held on the issues addressed by the questionnaire, hence the blank boxes shown in Tables 1-3 and

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1-5. This also explains the 0% for Questionnaire B under Namibia. However, follow-up interviews were used to fill in the gaps. Those respondents who did not have answers for certain questions responded by giving N/A (not applicable).

Table 1-3 presents the questionnaire types and respondents identified by country and theme.

Table 1-3 Questionnaire type and lists of respondents identified by country

Questionnaire type and theme covered	Respondents		
	Botswana	Namibia	South Africa
Questionnaire A (ICT issues and government policy on ICT)	- 1 Director: Development Analysis Botswana Telecommunications Authority (BTA), 6 years experience - 1 Senior Market Analyst (BTA), 11 years experience - 1 Senior Manager, Engineering (BTA), 6 years experience - 1 Government Chief Systems Analyst, Department of Information Technology (DIT), 29 years experience - Government Advisor IT strategy (DIT), 3 years experience	- 1 Personal Assistant, Namibian Communications Commission (NCC), 6 years experience. - 1 Control Officer (NCC). - 1 Manager, Telecom Namibia, 5 years experience - 1 Communications Consultant.	- Deputy Director: Knowledge and Information Management (KIM), Department of Communications (DoC), 10 years experience. -1 General Manager: Telecommunications (DoC).
Questionnaire B (Impact of ICT on recordkeeping)	- 6 Record Managers from different government agencies, mainly Teaching Service Management (TSM), Secondary Education, Local Government, Ministry of Finance and Attorney General's Chambers.		- 1 Information Analyst. - 1Records Management Archivist, National Archives and Records Service of South Africa (NARS). - 1Audio Visual Records Manager.
Questionnaire C (National archives' strategies and role of legislation in managing electronic records)	- 1 National Archivist / Director, Botswana National Archives and Records Service (BNARS) - 1 Archivist (BNARS). - 1 Senior Systems Analyst (BNARS)	- 1 Senior Archivist, Research, National Archives of Namibia (NAN). - Acting Director (NAN)	- 1 Records Management Archivist (NARS). - 2 Deputy Directors (NARS). - 1 National Archivist (NARS).

As can be seen from the table, the respondents are professionals with experience ranging from 1 to 29 years. Years of experience are likely to show that the respondents were well aware of the issues investigated. Also, the individual consultants who participated in the study were recommended by archival institutions, because they were thought to be well conversant with the issues investigated by this research study. The six records managers from Botswana who responded were those deployed by the National Archives to different government departments and ministries as part of an effort to manage records throughout their life-cycle.

Along with the questionnaire, discussions were held with 15 respondents from all three countries, 13 of whom had also responded to the questionnaire. This gave

insights into pertinent issues under investigation. During the visits, relevant publications, for example acts and institutional reports, which led to elaboration and clarification on some issues raised, were collected and have been used throughout the writing up. Discussions were used to supplement data collected from questionnaires, thus improving data quality. A diary of discussions was kept and used later in the analysis.

Table 1-5 displays the themes covered and a list of people with whom discussions were held. As can be clearly seen from the table, discussions were held on the same themes addressed by the questionnaires. Further, the discussions were held with almost all the respondents who had completed the questionnaires. The respondents were mainly chosen because of the experience they had in the relevant areas and their familiarity with the issues investigated by this study. The questions asked aimed at elaborating on some of the issues raised in the questionnaires.

Table 1-4 Themes discussed and lists of respondents identified by country

Theme discussed	Respondents		
	Botswana	Namibia	South Africa
ICT issues and government policy on ICT	- 1 Director: Development Analysis (BTA)	- 1 Chief Engineering Technician (NCC) - 1 Control Officer (NCC) - 1 Manager, Telecom Namibia	- 1 Information Analyst
Impact of ICT on recordkeeping	- 1 Record Manager (TSM)		- 1 Records Management Archivist (NARS) - 1 Audio visual records manager (NARS)
National archives' strategies and role of legislation in managing electronic records	- Archivist (BNARS)	- Acting Director (NCC) - 1 Senior Archivist/Research Officer (NCC)	- National Archivist - 1 Records Management Archivist - 2 Deputy Directors (NARS)

(b) Interviews

An interview can be defined as a conversation between researcher and respondent with the purpose of eliciting certain information. It is a process in which the researcher is

able to ask questions about what cannot be seen or observed.[52] It can follow up ideas, probe responses and investigate motives and feelings which a questionnaire may not be able to do. A major advantage is its adaptability. Interviews were used to fill in the gaps identified in data from questionnaire responses. Interview questions were developed on specific issues that emerged and needed clarification. Like the questionnaire, the interview schedule was divided into three sections. The first set of questions was related to ICT issues and was for professionals in the ICT industry. The second set of questions was related to the impact of ICT on recordkeeping and was for records users, records officers and IT specialists based in IT units of different government agencies. The third and final set of questions related to national archives' strategies and role of legislation in managing electronic records and was for directors, archivists and systems analysts at the national archives. The follow-up interview questions are listed in appendix D.

Before the interviews, I had to produce an introductory letter stating the purpose of the study. This assured the interviewees that the study was conducted solely for educational purposes. Interviews were semi-structured. Although I had a framework of interview questions for guidance, in most cases I had to adapt to the setting. For example, where necessary, I would follow-up on leads provided by participants for each of the questions. This shaped the questioning techniques. In spite of this, the framework of interview questions ensured uniformity and consistency in the data. Interviews were tape-recorded with the permission of interviewees and were later transcribed for analysis. At the end of interviews, respondents gave me their full contact details to be contacted where information was insufficient. Table 1- 4 provides a list of interviewees for each theme investigated and are identified by country.

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[52] G E Gorman and P Clayton, *Qualitative research for the information professional: a practical handbook* (London: Library Association Publishing, 1997), p 52.

Table 1-5 Interview themes and list of interviewees identified by country

Interview theme	Lists of respondents identified by country		
	Botswana	**Namibia**	**South Africa**
ICT issues and government policy on ICT	- Government Chief Systems Analyst (DIT) - Senior Market Analyst (BTA) - Manager, Broadcasting & Regulation (BTA)	- Chief Engineering Technician (NCC) - Deputy Director (Public Service Information Technology Management (PSITM)	- General Manager: Telecommunications (DoC) - Systems Analyst, State Information Technology Agency (SITA)
Impact of ICT on recordkeeping	- Record Manager, Ministry of Finance. - Principal Records Officer, Department of Public Service Management (DPSM) - Principal Records Officer, Ministry of Health - 2 Records Officers, Ministry of Health - 2 IT technicians, Ministry of Health - Deputy Attorney General: Civil and Prosecution, Office of Attorney General - The Accountant General, Department of the Accountant General	- Under Secretary: Administration and IT Management, Office of the Prime Minister (OPM). - Records Manager, (St Mary Hospital) - Records Officer, Office of the Ombudsman - Analyst Programmer, Ministry of Finance. - Lecturer, Information Studies, University of Namibia.	- Records Manger, Department of Justice (DoJ) - 2 Records Officers, Department of Public Enterprise (DPE). - Records Manager/Archivist, South African History Archive (SAHA) - Systems Analyst (SITA).
National archives' strategies and role of legislation in managing electronic records.	- Senior Systems Analyst (BNARS) - Archivist (BNARS)	- Acting Director (NAN) - Archives Assistant (NAN)	- Records Management Archivist (NARS) -Deputy Director (NARS) - Director (SAHA)

As can be seen from Table 1-4, interviews on ICT development were conducted with seven respondents in all three countries; three in Botswana, two in Namibia and two in South Africa. Interviews on impact of ICT on recordkeeping were conducted with 19 respondents in all three countries; nine in Botswana, five in Namibia and five in South Africa. Interviews on national archives' strategies and role of legislation in managing electronic records were conducted with seven respondents in all three countries; two in Botswana, three in Namibia and two in South Africa.

(c) Observations

Observations were also made during visits to examine the impact of technologies upon the routine functioning of records offices and national archives. The physical environment was also observed. Each of these was vital tools in data collection as they helped me get a diversity of views.

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1.6.4. Data analysis

Data analysis is a process of bringing order, structure and meaning to the mass of collected data. Amongst the many publications on analysing qualitative data, Marshall and Rossman describe it as a messy, ambiguous, time-consuming, creative and fascinating process.[53] According to Williamson and Bow, there are no strict rules to follow in analysing qualitative data.[54] The qualitative data in this study was manually processed and analysed. Instead of carrying out analysis of the responses by questions asked, it was done using broader themes. For example, while there were 15 questions under questionnaire A, the data was presented using three themes that emerged from the research question. Figure 2-1 below shows the process followed in data management and analysis.

Figure 1- 2 The data management process
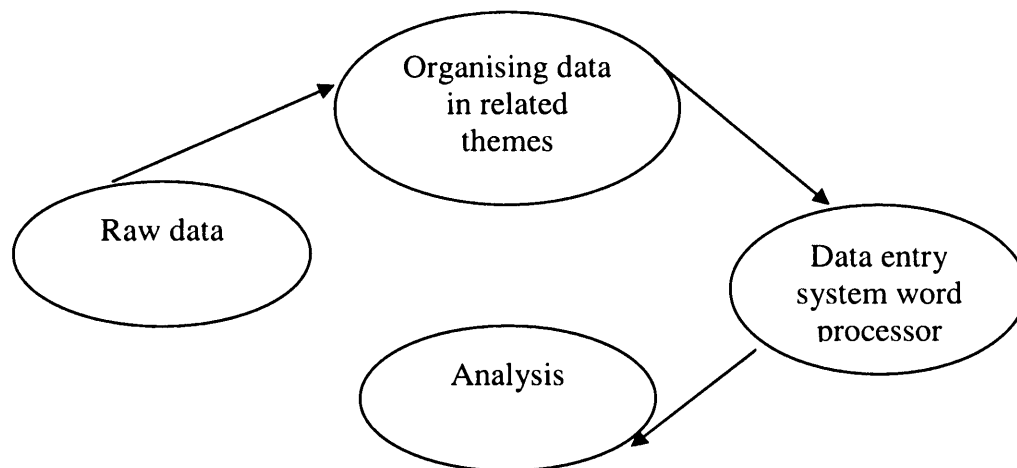
To manage the data collected, the raw data was organised under similar themes and by country. The completed questionnaires and the transcribed interviews were photocopied and originals kept safely. The answers to each of the corresponding questions from each country were then cut and kept together for analysis. This made analysis easier as data under each theme was analysed separately. The data was then typed into the word processor and reorganised as necessary.

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[53] C Marshall and G B Rossman, *Designing qualitative research* (Thousand Oaks, CA: SAGE, 1989), p 112.

[54] K Williamson and A Bow, 'Analysis of quantitative and qualitative data', in K Williamson (ed.), *Research methods for students and professionals: information management and systems* (Wagga Wagga: NSW, Centre for Information Studies, Charles Stuart University, 2000), p 275.

1.6.5. Difficulties encountered during the study

It is important to outline some of the difficulties encountered during the research for this study.

Some of the respondents, for example in Namibia's public sector, were not willing to either fill in the questionnaire or to be interviewed. This could be explained by the fact that Namibia's colonial history, as discussed in the earlier sections (see section 1.2.2), has left doubts in people's minds, so that many do not trust other people seeking information about the public service. The structure of the civil service is such that permission has to be sought from the Office of the Prime Minister (OPM) before any government information can be disclosed. Even though I made contacts with high officials in OPM through the Botswana High Commission, this did not help me in getting all the respondents that I needed to talk to. This was a limitation, because these particular respondents might have given different interpretations of how the use of ICT was impacting on recordkeeping in their workplace.

Some respondents who gave information did not want to be identified for fear of being victimised by senior management in their organisations. I had to assure the respondents of confidentiality. This put pressure on me during the writing up, as I had to be cautious not to mention any names. Instead, I used their job titles, which they preferred.

Although a number of government agencies in the three countries were contacted, only those that responded positively were visited. Most of these agencies only allowed some officers to be interviewed or to fill in the questionnaire. So, despite giving out more than one questionnaire in some agencies, only one would be returned, representing the views of that particular agency. Responses from more agencies, recipients of all the questionnaires and interviews with different respondents in one agency would have improved the results. For example, increased feedback might have provided a different understanding of the impact of ICT use in recordkeeping in a given agency. However, there was no way in which additional responses could have been elicited in the time and political constraints of this study.

1.7   Structure of the thesis

This thesis is divided into six chapters including this introductory chapter. (Chapter 1)

Chapter 2 addresses objective one of this study, which sought to review theoretical issues in the management of electronic records. In this chapter, a detailed review of related studies and international debates on the management of electronic records is provided. The chapter mainly focuses on the importance of electronic records, and challenges in their management, including debates on technological obsolescence and long-term preservation; concerns for authenticity and reliability; access to electronic records and concerns of privacy and an integrated approach to the management of records. Other issues covered include: theories on the life of records, records control and arrangement, and metadata requirements and standards. Further, the chapter reviews studies on the management of electronic records in developing countries, with particular emphasis on developments in ESARBICA and the southern African region.

Chapter 3 addresses objective two of this study, which was to review the status of the management of electronic records. The chapter looks at research prospects and practical projects in the management of electronic records in both developed and developing countries. It reviews cases studies from developed countries, mainly in Europe, Australia, the United States of America (USA) and Canada. The chapter also looks at case studies initiated by the IRMT in developing countries and the involvement of the International Council on Archives (ICA) in the management of electronic records.

Chapter 4 presents and analyses the data in relation to objective three of this study, which was to explore the background to ICT development in Botswana, Namibia and South Africa. In so doing, the chapter presents data on the background to ICT development in each of the three countries. It focuses on coordination and implementation of ICT initiatives; ICT infrastructure and availability; the challenges in ICT development, and ICT knowledge of recordkeeping. Further, it discusses the

implications of the findings on ICT developement in each of the three countries and how these have affected government operations and the delivery of public services.

Chapter 5 presents and analyses the data in relation to objective four, which sought to assess the impact of ICT in recordkeeping practices in Botswana, Namibia and South Africa. The chapter focuses on current electronic recordkeeping practices, including policies and procedures for the management of electronic records, and sets out the staffing levels in relation to the management of electronic records and availability of professional training.

Chapter 6 presents and analyses the data in relation to objective five, which sought to examine the national archives' strategies and role of legislation of the three countries in managing electronic records. In this chapter, data on strategies and legislative provisions for the management of electronic records is presented and analysed. Further, it highlights the need for national archives involvement in the management of electronic records.

Chapter 7 consolidates the study by presenting the research conclusions and making specific recommendations for the management of electronic records in Botswana, Namibia and South Africa. Some ideas for further research are given. This realises objective six, which was to make recommendations for the management of electronic records in each of the three countries.

CHAPTER 2

ISSUES ON THE MANAGEMENT OF ELECTRONIC RECORDS

2.1. Introduction

This chapter addresses objective one of this study, which is to review theoretical issues in the management of electronic records in developed and developing countries. In so doing, it provides an evaluation of some of the existing studies on the impact of ICT in recordkeeping practices. First, the chapter examines the general issues in the area of electronic records. This provides an important background and theoretical foundation for the study. Second, an examination is made of research issues in developing countries which are relevant to this thesis. In particular, the chapter explores developments in the management of electronic records in Africa with emphasis on the eastern and southern African region.

The literature reviewed in this study is based on current research issues on the management of electronic records. As Kelvin Smith has rightly observed, a lot has been written in this area since the 1990s, making it difficult for archivists and records managers to pick their way through.[55] There have also been many meetings[56], conferences[57] and papers on the management of electronic records. There has been rapid progress in this area of research and so it will be difficult for this study to review all the available literature in the management of electronic records in every country. For the purpose of this review, literature was selected on the basis of topical issues of concern in developing countries, particularly in the southern Africa

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[55] K Smith, 'Electronic records management (ERM)-first steps', in *ACRAM Newsletter*, Issue 32. Available at <http://www.acarm.org/documents/issue 32/erm.pdf >. Accessed 11 February 2004.

[56] A good example of such a meeting is the Electronic Records Research Working Meeting of 1997 organised by the Archives and Museum Informatics in Pittsburgh. This meeting brought together international researchers and practitioners to discuss issues of electronic records creation, capture and long-term preservation.

[57] An example of one of the conferences is *Playing for keeps* hosted by the National Archives of Australia in 1994. This conference facilitated new strategies and approaches to recordkeeping in the electronic environment.

region. In addition, this review is limited to literature written in the English language.

2.2. Literature on computerisation in records management

General literature exists on the role that information and communication technology plays in different organisations and how it has impacted on the changing profession of archivists and records managers. A review of this body of literature emphasises the need to find practical solutions for managing electronic records. Further, it seems that there is recognition of the need for connectivity between traditional archival practices and modern recordkeeping. An examination of this literature reveals that since the 1990s, renowned authors[58] in the field of archives and records management have written widely on the impact of the new technology on archival management and recordkeeping. Concerns addressed in this literature are related to the challenges of adapting to computerised systems, namely the importance of electronic records and the need for their management; long-term preservation; theories explaining the life of records; records control and arrangement; introducing metadata requirements; developing standards for best practice, professional training; and the importance of coordination and networking.

2.2.1. Importance of electronic records

Literature on the management of electronic records highlights the importance of electronic records as a strategic and valuable resource for organisations. The literature also emphasises the need to preserve records as evidence of organisational transactions for accountability and good governance. In fact, accountability has become an increasingly important issue in archives and records management with Australian archivists taking the lead in the 1990s to reveal the essential relationship that exists between accountability and records. Sue McKemmish and Frank Upward's book published in 1993 brings together articles and research papers covering a wide range

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[58] Some of these authors include: David Bearman, Terry Cook, Michael Cook, Richard Cox, Terry Eastwood, Luciana Duranti, Hans Hofman, Gregory S Hunter, John McDonald Sue McKemmish, Frank Upward, Wallace Saffady, Patricia Wallace, Wendy Duff, Geoffrey Yeo, Elizabeth Shepherd, Verne Harris and Piers Cain.

of issues in which the concept of records in relation to their role in accountability is explored.[59] This book would benefit organisations concerned with accountability. As Michael Cook observed in 1999, the aim of records management is now primarily seen as accountability.[60]

According to the IRMT[61] and the Society of American Archivists,[62] electronic records, like paper records, are important for: accountability and good governance; supporting decision and policy-making; solving problems; the planning and delivery of successful programmes and services, and safeguarding the rights and freedoms of citizens. Margaret Crockett and Geoffrey Yeo are in agreement with this, and they have argued that records form a basic building block for democracy and the transparent system of governance and electronic commerce.[63]

The need to manage records and information for accountability is just as important in Africa and other developing countries, where governments need to use this resource for managing their problems. As Richard Onyango has observed, the worsening problems in African countries since the early 1980s and mid 1990s have been traceable to public sector and political mismanagement. These problems have resulted in lack of transparency, human rights abuse, and corruption, including mismanagement of public funds.[64] Institutions of policy-making in Africa tend not to recognise records and information as a strategic resource. As Nathan Mnjama further reiterates, among the root of causes of corruption in Kenya is a lack of good recordkeeping practices and a failure by the government to institute measures that will ensure records are well managed.[65]

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[59] S McKemmish, and F Upward (eds), *Archival documents: providing accountability through recordkeeping* (Melbourne: Ancora Press, 1993)

[60] M Cook, *The management of information from archives*, 2nd edition (Aldershot: Gower, 1999), p 47.

[61] International Records Management Trust, 'Evidence-Based Governance in the Electronic Age'. Available at <http://www.irmt.org/evidence/wbnews.html>. Accessed 19 January 2005.

[62] Society of American Archivists, 'Statement on the importance of supporting state archival programmes'. Available at <http://www.archivists.org/statements/statearchives.asp>. Accessed 16 December 2003, p 1.

[63] M Crockett and G Yeo, 'Why electronic records are important?'. Available at <http://www.ucl.ac.uk/e-term/why.htm>. Accessed 8 October 2002.

[64] R Onyango, 'Marshalling information resources to revive African self-knowledge, pride and identity', Unpublished paper presented at the International African People's conference, 22-25 May, 1998, Bulawayo, Zimbabwe.

[65] N Mnjama, 'Combating corruption through efficient records management practices in Kenya'. Available at <http://wwwahm.uem.mz/esarbic/docs/nathan.pdf>. Accessed 11 February 2004, pp. 6-8.

Records, whatever their format, are important as they document, direct and control the expectations and actions of government business. Contemporary organisational activities from management of finance to personnel depend on reliable information to deliver services and operate. The growing pressure for organisations to preserve records for accountability is felt even more in the electronic environment, which, as David Bearman[66] has argued, requires urgent measures to preserve the integrity of records. There is, therefore, an urgent need to formulate strategies for the management of public sector records and build the capacity for managing electronic records.

In realising the importance of electronic records and the need for their management, the International Standards Organization (ISO) released a records management standard, ISO 15489, in 2001. This standard is used to guide the management of records in all formats and media. It provides the methodology and processes that serve as a basis for promoting best practices in records management.[67] Areas covered in the standard include: policies and responsibilities, strategies, design and implementation for records systems, record processes and control, and records monitoring and auditing. The main strength of the standard is its applicability in a variety of environments.

The above observations have, without doubt, highlighted the importance of records as tools to monitor any democratic society. It is, however, important to note that not all information provided in records is useful. Records that provide useful information should have the following characteristics: they should be relevant, complete, accurate and current.[68] Records cannot serve any useful purpose unless their content, structure and the business context in which they occurred are maintained.[69] This means that they have to be captured in some reliable form, stored in some appropriate system and retrieved efficiently whenever needed. There are, however, a

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[66] D Bearman, 'Archival data management to achieve organisational accountability for electronic records', in S McKemmish and F Upward (eds.), *Archival documents: providing accountability through recordkeeping* (Melbourne: Ancora Press, 1993), p 220.

[67] 'International Standards Organization, ISO 15489-1(first edition) Information and documentation-records management-Part 1: General (2001), Chapter 3, 13 Available at <http://www.ids.co.za/iso_15489-1.pdf >. Accessed 8 May 2006.

[68] E Oz, *Management information systems* (Cambridge: Course Technology, 1998), p 6.

[69] Society of American Archivists, 'Statement on the importance of supporting state archival programmes'. Available at <http://www.archivists.org/statements/statearchives.asp>. Accessed 16 December 2003, p 1.

number of challenges to be overcome if these records are to serve a useful purpose as evidence of organisational transactions.

2.2.2. The challenges of managing electronic records

While it has emerged that the use of ICT has in some ways eased the work of archivists and records managers, dependence on it has at the same time created problems. Consequently, archivists and records managers have been preoccupied with debates on the challenges of managing electronic records and trying to find answers to how best they can use the technology, at the same time minimising problems associated with it. In 1997, Terry Cook posed a number of questions to show how unreliable electronic records can be by asking:

> *"If electronic records exist as virtual documents how does an institution preserve evidence of and provide accountability of specific transactions? How do citizens protect their rights if there is no reliable evidence? How do we hold governments and corporations accountable in a democracy if there is no accurate way to understand what they did, to whom, when and why? How can we later conduct historical research ...?"*[70]

From these questions, it clearly emerges that although the new technology can process data quickly and accurately, it has limitations in many respects. For example, computers cannot make decisions or formulate steps for maintaining records as evidence. Human thought is needed. As has been widely discussed in the literature, some of the problems associated with the impact of technology on recordkeeping that are still unresolved include: technological obsolescence; long-term preservation; concerns of authenticity, reliability, accessibility and lack of privacy. These as Feng Huiling has observed, were long predicted in 1986 by M Cook in his book *Archives and the computer.*[71]

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[70] T Cook, 'The impact of David Bearman on modern archival thinking: an essay of personal reflection and critique', in *Archives and Museum Informatics*, vol. 11:1 (1997), p 23.

[71] F Huiling, 'An assessment of the archival literature', in *Archivum,* vol. 43 (1997), p 217. See also M Cook, *Archives and the computer,* 2nd edition (London: Butterworths, 1986).

(a) Technological obsolescence and long-term preservation

As Johannes Hofman has observed, use of ICT has changed the format of records from physical entities (paper records) to 'intangible things' (electronic records).[72] According to the author, this new format of records has necessitated rules and procedures to ensure their long-term preservation. Electronic records depend on technology and exist under software control and use of hardware. The rapid rate of technological change, however, means that the hardware and the software have to be upgraded constantly to ensure continuing accessibility. As Effy Oz has observed:

> "A computer that is considered fast now will be an outdated machine in 18 months. A software that is considered innovative now will be surpassed by a better programme in two years".[73]

In agreement with Oz, Bearman,[74] Elizabeth Shepherd[75] and the ICA[76] posit that because of generations of software and hardware, the length of obsolescence is less than five years. As Shepherd further argues, hardware life-cycle is about five years, while software life-cycle is down to about two years. Even if some may argue that there are new products which may offer a new solution, these would offer not more than five generations compatibility with earlier systems.

The above arguments seem to imply that electronic records, that can be accessed using one software programme now, may fail to be accessed in the future because the programme may be outdated and no new one is available on the market. This raises the need for constant migration[77] of records with continuing value across change in

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[72] J Hofman, "Shooting at a moving target": the development of a digital repository for the preservation of digital information'. Available at <http://europa.eu.int/ISPO/dlm/fulltext/full_hofm_eng.htm>. Accessed 15 March 2006, p 1.

[73] E Oz, *Management information systems* (Cambridge: Course Technology, 1998), p 21.

[74] D Bearman, *Electronic evidence: strategies for managing records in contemporary organizations* (Pittsburgh: Archives and Museum Informatics, 1994), p 21.

[75] E Shepherd, 'Managing electronic records', in *Records management Journal*, vol.4:1 (1994), p 44.

[76] International Council on Archives: Committee on current records in an electronic environment, *Electronic records: a workbook for archivists*, Study 16, April 2005 (Paris: ICA, 2005). Available at <http://www.ica.org/biblio/Study16ENG_5_2.pdf>. Accessed 23 February 2006, p 57.

[77] ISO 15489 defines migration as an act of moving records from one system to another, while maintaining the record's authenticity, integrity, reliability and usability. See: International Standards Organization, ISO 15489-1(first edition) Information and documentation-records management-Part 1: General (2001), 'Terms and definitions. Available at <http://www.ids.co.za/iso_15489-1.pdf>. Accessed 8 May 2006, p 3.

software, hardware and media to ensure that the records remain accessible for as long as they are needed.

It has been widely acknowledged in the literature available that the long-term preservation of electronic records is still problematic, and a number of writers have made attempts to offer possible approaches for the preservation of electronic records over time. A report entitled *'Avoiding Technological Quicksand: Finding a Viable Technical Foundation for Digital Preservation'*, published in 1998, is an attempt by Jeff Rothenberg to demonstrate the strength of emulation[78] as a true solution to long-term preservation of electronic records, even though the author failed to focus his argument on how this would be applied within the context of electronic records.[79] In this report, Rothenberg explores the technical depth of the preservation problem and analyses inadequacies of a number of approaches like migration and standardisation.[80] In arguing that these approaches do not offer a long-term solution, Rothenberg puts forward an unconvincing argument that emulation is a better strategy. While emulation may have been demonstrated to be a practical solution in some contexts[81] (for example in libraries and computing industries to prolong the life of legacy systems[82]), it still needs to be tested in the environment of electronic records. Further, emulation appears not to have been supported by any specific archival institution. This makes Rothenberg's argument weak in its model's application to electronic records. As such, his theoretical contribution is not as strong as it might be and perhaps the model needs a more convincing justification. Bearman's 1999 opinion piece posted in the *D-Lib Magazine* criticises this strategy and argues that Rothenberg has only shown his ignorance of the literature on the migration strategy and may encourage potentially dangerous wishful thinking.[83] In dismissing the emulation approach, Bearman argues

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[78] Emulation refers to emulating obsolete systems on future unknown computer platforms in order to make it possible to retrieve, display and use digital documents in their original software.

[79] J Rothenberg, 'Avoiding technological quicksand: finding a viable technical foundation for digital preservation'. Available at <http://www.cir.org/pubs/reports/rothnberg/introduction.html>. Accessed 6 April 2004, p 1.

[80] J Rothenberg, 'Avoiding technological quicksand: finding a viable technical foundation for digital preservation'. Available at <http://www.cir.org/pubs/reports/rothnberg/introduction.html>. Accessed 6 April 2004, p 1.

[81] International Council on Archives: Committee on current records in an electronic environment, *Electronic records: a workbook for archivists*, Study 16, April 2005 (Paris: ICA, 2005). Available at <http://www.ica.org/biblio/Study16ENG_5_2.pdf>. Accessed 23 February 2006, p 54.

[82] A legacy system is used here as a technical term to refer to a computer system that has been superseded by technology and is replaced by a new generation.

[83] D Bearman, 'Realities and chimeras in the preservation of electronic records', in *D-Lib Magazine*, vol.5:4 (April 1999). Available at <http://www.dlib.org/dlib/april99/bearman/04bearman.html>. Accessed 24 February 2004.

that this has to be tested and a convincing argument should be made from the results. The strength of Rothenberg's report, however, is that it has created a challenge for more research on how his proposed model might work or if indeed it has a future for the long-term preservation of electronic records. The National Library of Netherlands and National Archief of the Netherlands have engaged Tessella Support Services to design and develop an open modular emulation to test the practicality and durability of the emulation process.[84] This process, which started in 2006 and is scheduled to be completed in 2007, will help assess the capability of emulation and create an understanding of its potential.

Bearman and Jennifer Trant have found that there is a consensus that migration should be used as a preservation strategy.[85] Encouragingly, the standards development committee of the Association of Records Managers and Administrators International (ARMA) started work on a standard in 2005 that will address policy, procedural and technical issues associated with conversion and migration from one recordkeeping system to another, regardless of record format.[86] On the other hand, the Humanities Advanced Technology and Information Institute (HATII) of the University of Glasgow has since 1997 been conducting research and is participating in projects aimed at preservation of electronic resources.[87] Further, it has been the home of the European Union's (EU) Electronic Resource Preservation and Access Network (ERPANET) since 2001. Debates on long-term preservation of electronic records are continuing, and practical research projects have investigated this issue in the hope of coming up with a lasting solution.[88] Meanwhile, it would appear that data migration is a preferred approach, in spite of its limitations. This is because the approach is widely understood and supported by many archival institutions, many of whom have built

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[84] 'Emulation as a digital preservation strategy', in *Record Management Society Bulletin*, Issue 131 (April 2006), p 40.

[85] D Bearman and J Trant, 'Electronic records research working meeting: May 28-30 1997, a report from the archives community'. Available at <http://www.asis.org/Bulletin/Feb-98/bearman.html>. Accessed 1 October 2003, p 5.

[86] International Council on Archives: Committee on current records in an electronic environment, *Electronic records: a workbook for archivists*, Study 16, April 2005 (Paris: ICA, 2005), Available at <http://www.ica.org/biblio/Study16ENG_5_2.pdf>. Accessed 23 February 2006, p 77. See also the web-site of ARMA, International at <http://www.arma.org/standards/development/standardsprogress.cfm > Accessed 22 May 2006.

[87] 'HATII, University of Glasgow'. Available at <http://www.hatii.arts.gla.ac.uk/about.html>. Accessed 20 March 2006.

[88] Some of these projects are discussed in detail in Chapter 3.

experience on it. Without doubt, migration remains a popular preservation method among recordkeeping theorists.

(b) Concerns of records authenticity and reliability

The authenticity and reliability of electronic records are often questioned because of possible changes to content or structure. Authenticity can be defined as the ability of the records to be reliable over time and act as evidence of organisational transactions.[89] Reliability on the other hand, refers to a record's authority and trustworthiness, and this is tied to the ability of a record to stand for a fact it is about.[90] Hofman[91] and Heather MacNeil[92] have argued that there are no guarantees of authenticity and reliability in the electronic environment, as records can be deleted or changed at any time. It is, therefore, important that electronic records are managed to ensure that they remain authentic and reliable as evidence. Perhaps in the paper environment, one can say that this is more straightforward, as records are physical objects, and this makes identification of their characteristics easier than it is in the virtual world.

The records provide evidence of actions, but the computer systems may fail to capture the necessary information about the context of the creation and the use of records. MacNeil has used an e-mail example to verify the need to examine the aspects that ensure records remain authentic in the electronic environment.[93] MacNeil has argued that problems with e-mails arise when they are forwarded. This is because the e-mails may be edited as they are forwarded and in the process, their validity as records may be altered. Authorship of e-mails also poses a problem. It is possible that someone else may write a message under someone else's login (with or without their permission).[94] As the ICA has argued, although an e-mail may have an authorship date, we cannot be

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[89] G S Hunter, 'Preserving digital information: a how-to-do-it-manual (New York: Neal-Schuman, 2000), p 34.

[90] G S Hunter, 'Preserving Digital Information: a how-to-do-it-manual (New York: Neal-Schuman, 2000), p 34.

[91] J Hofman, 'Multidisciplinary aspects of electronic documents, concept of electronic document life-cycle, characteristics and links with information flow/work flow', in Proceedings of the DLM-Forum on electronic records, Brussels, 18-20 December 1996 (Luxembourg: Office for Official Publications of European Communities, 1997), p 30.

[92] H MacNeil, Trusting records: legal, historical and diplomatic perspectives (Dordrecht: Kluwer Academic Publishers, 2000), p 71.

[93] H MacNeil, Trusting records: legal, historical and diplomatic perspectives (Dordrecht: Kluwer Academic Publishers, 2000), p 72.

[94] K Skelton, 'Designing electronic recordkeeping system', in J Ellis (ed.) Selected essays in electronic recordkeeping in Australia (Co'Connor: Australian Society of Archivists, 2000), p 62.

sure when it was written.[95] The originating computer server's clock may not be correct. To ascertain the uniqueness and integrity of a record in such a system, one has to know where the system was in use, the sender of the message, the recipient, date of sending and date it was received. This is important, as such information may not be shown on the computer screen, but is needed to understand the structure, content and context of records.

MacNeil's contribution is important in exploring ideas on the importance of addressing challenges posed by electronic systems on the authenticity and reliability of electronic records. Using different court cases, she argues for the recognition of the legal status of electronic records. The author cites a significant case of 1989 between *Armstrong and the Executive Office of the President* to demonstrate the importance of the legal status of electronic records.[96] A remarkable feature in the case is that it challenged the courts to accept electronic records as integral to the operations of organisations and, therefore, as evidence. In this case, the judge had rejected the argument that electronic records were convenient copies by counter-arguing that not all electronic messages are copied onto paper. Consequently, it emerged that there was a need to formulate guidelines consistent with the law and regulation for the management of e-mail. The available literature, however, indicates that requirements that ensure the creation of authentic and reliable records in the electronic environment have been developed.[97] Ongoing research in this area by the University of British Columbia and its collaborators is discussed in Chapter 3.

To ensure the authenticity of electronic records, organisations should implement and document policies and procedures that control the creation, receipt, transmission, and

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[95] International Council on Archives: Committee on current records in an electronic environment, *Electronic records: a workbook for archivists,* Study 16, April 2005 (Paris: ICA, 2005), Available at <http://www.ica.org/biblio/Study16ENG_5_2.pdf>. Accessed 13 February 2006, p 45.

[96] H MacNeil, *Trusting records: legal, historical and diplomatic perspectives* (Dordrecht: Kluwer Academic Publishers, 2000), p 77. This case is well documented in the works of David Bearman. See: D Bearman, *Electronic evidence: strategy for managing records in contemporary organizations* (Pittsburgh, PA: Archives and Museum Informatics, 1994), pp. 118-144.

[97] See Chapter 3 for a review of some of the projects that have developed some of these requirements.

maintenance and disposition of records, and ensure that records are protected against unauthorised addition, deletion, alteration and use.[98]

(c) Access to electronic records and concerns of privacy

Electronic records have affected the way archival institutions preserve and make records in their custody accessible. The use of computers has enabled creation of databases that now handle huge amounts of data on-line, which is made accessible remotely. This has raised concerns that if the information is not properly managed, it may be made available too easily, resulting in lack of protection for the citizen's individual rights.

Further, the vast amount of information maintained about individuals by both government and private organisations threatens their privacy. Computers allow fast and inexpensive communication of information and the collection and storage of large amounts of data.[99] At the same time, these capabilities allow individuals and organisations to access information. Freedom to access this information may lead to violation of privacy. A case in point is the ChoicePoint Company in the United States of America (USA), which has since 1997 been compiling and selling personal information on the USA residents gathered from other sources, such as credit records, deed transfers and motor vehicle records, to the government.[100] This information can then be used for whatever purpose and this threatens the privacy of citizens. Generally, there is a concern that companies in the USA are supplying the government with personal information of citizens which compromises the citizen's privacy.

In the United Kingdom (UK), an electronic patient records system implemented in 2004 was part of a government national programme strategy to overhaul the records system in the National Health Service. [101] This system was expected to allow citizens access to their health records and ensure information sharing between doctors and

[98] International Council on Archives: Committee on current records in an electronic environment, *Electronic records: a workbook for archivists*, Study 16, April 2005 (Paris: ICA, 2005), Available at <http://www.ica.org/biblio/Study16ENG_5_2.pdf>. Accessed 13 February 2006, p 5.

[99] E Oz, *Management information systems* (Cambridge: Course Technology, 1998), p 10.

[100] 'US data mining spurs investigations in Latin America,' in *The Information Management Journal*, vol.37:4 (2003), p 16.

[101] 'UK to implement electronic patient records', in *The Information Management Journal*, vol.37:4 (2003), p 7.

nurses. However, in March 2006 there appeared to be concerns about software problems, which have led to operational disruption and the potential risk to patient safety, staff morale and patient confidence.[102] Following this, the National Audit Office has been urged to investigate reports that patients are at risk. All necessary measures such as use of passwords and appropriate legislation will have to be put into effect to ensure that the information is secure, because loose control and extended use raise concerns about the protection of the individual's rights to privacy.

Perhaps, from the legal point of view, one would be right to argue that privacy in the EU appears to be highly regarded. There are strict laws in Europe governing personal information, recognising the need to conform to privacy and other legal requirements. As Shepherd and Yeo have observed, many European countries have comprehensive data legislation.[103] In particular, the Data Protection Act of 1998 in the UK protects personal data relating to individual persons. The data must be used only for fair and lawful purposes, be relevant and adequate for those purposes and must be protected against unauthorised use. Electronic records pose a great challenge, and governments have to put in place mechanisms for security and access control to prevent potential abuse of electronic public record systems.

The problems experienced in the management of electronic records will continue to grow as technology changes. As the arguments have shown, these problems will require archivists and records managers to come up with new solutions to meet the immediate and future needs of managing electronic records. As developing countries and the southern African region in particular undertake computerisation of essential archives and records management services, they will have to deal with these problems and challenges.

[102] BBC news, health, 'Fears over the patient records system'. Available at <http://news.bbc.co..uk/1/hi/health/4802560.stm>. Accessed 14 March 2006.

[103] E Shepherd and G Yeo, Managing records: a handbook of principles and practice (London: Facet Publishing, 2003), p 10.

2.2.3. The life-cycle and records continuum theories

Since the late 1930s, the life-cycle theory (which defines the relationship between creation, use and disposition of records) has been the main conceptual framework for managing records, especially in the paper environment. However, with the massive shift in communication in the 1980s and 1990s, electronic records have developed, leading to new archival and records management practices. This has resulted in debates that have challenged the applicability of the life-cycle approach in managing records. It is now evident that there are two approaches to managing records: one is the life-cycle approach, as elaborated in the works of T R Schellenberg[104] and the second approach is the records continuum as illustrated by Australian researchers[105]

The life-cycle theory states that records can only live once at each stage in their life. This clearly defines responsibilities for the management of records at each stage. In contrast, the continuum theory developed in the 1990s argues that recordkeeping is a continuing and rolling process that does not separate the life of records in time and space. According to Upward, the continuum theory has been defined in ways which show it is a time/space approach instead of a life of the records approach.[106] In the continuum approach, there are no strict boundaries between archives and records management responsibilities, as current records can also become archives right from creation, instead of waiting for final disposition to determine this.

McKemmish has highlighted controversies surrounding the life of records.[107] McKemmish and her colleague, Upward[108], strongly disagree with claims made by traditional archival and records management theorists that there are clearly defined

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[104] T R Schellenberg, *Modern archives: principles and techniques* (Melbourne: FW Cheshire, 1956), pp. 237-38. 'The life cycle theory was developed in the USA in the late 1930s by Schellenberg as a framework for records management programmes, concerned with the whole life span of records from creation to disposition.

[105] More information on this can be found on the University of Monash website. Available at <http://www.sims.monash.edu.au/research/rcrg/publications>. Accessed 5 February 2004.

[106] F Upward, 'Structuring the records continuum-part one: post-custodial principles and properties'. Available at <http://www.sims.monash.edu.au/research/rcrg/publications/recordscontinuum/fupp1.h>. Accessed 18 November 2003', p 1.

[107] S. McKemmish, 'Yesterday, today and tomorrow: a continuum of responsibility'. Available at <http://www.sims.monash.edu.au/research/rcrg/publications/recordscontinuum.smck2..>. Accessed 18 November 2003.

[108] F Upward, 'Structuring the records continuum-part one: post-custodial principles and properties'. Available at <http://www.sims.monash.edu.au/research/rcrg/publications/recordscontinuum/fupp1.h>. Accessed 18 November 2003, pp. 1-12.

stages in the life of a record. In support of the records continuum, McKemmish argues that there should be a unifying purpose inclusive of archives and that no boundary should exist between archivists and records managers. Interestingly, while McKemmish seems to be over critical of the life-cycle approach, Upward appears more flexible in his argument, as he emphasises that if people wish or need to talk of the life span of records within the continuum, they can do so.[109] This seems to imply that he does not completely dismiss the life-cycle approach. Proponents of the continuum paradigm, such as Bearman[110], T Cook[111], M Cook[112] and Xiaomi An[113] have advanced debates in favour of the records continuum practice as a better approach to modern recordkeeping. For example, T Cook has argued that archivists should not wait until the end of the life-cycle, but be actively involved.

T Cook, as cited by McKemmish, sees the continuum as "something richer, more complex, more dynamic and more diverse"[114] and he had this to say about it:

> "In my view, the records continuum model articulated by Frank Upward and his colleagues is the world's most inclusive model for archives, but one that is misinterpreted by both some of its advocates and more of its critics. Yet it has sufficient vision and theoretical integrity, it seems to me, so that archivists of all stripes, jurisdiction, and mind sets, in archives large and small, corporate and collecting, may find a challenging and respected role for their part of the total archival mission in Australia, or indeed in any jurisdiction"[115]

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[109] F Upward, 'Structuring the records continuum-part one: post-custodial principles and properties'. Available at <http://www.sims.monash.edu.au/research/rcrg/publications/recordscontinuum/fupp1.h>. Accessed 18 November 2003', p 9.

[110] D Bearman, 'Item-level control and electronic recordkeeping'. Available at <http://www.archimuse.com/papers/mhprc/item- lvl.html>. Accessed 23 September 2003, pp. 1-19.

[111] T Cook, 'Beyond the screen: the records continuum and archival heritage'. Paper delivered at the Australian Society of Archivists conference, Melbourne, 18 August 2000. Available at <http://www.archivists.org.au/sem/conf2000.terrycook.pdf>. Accessed 11 November 2003', pp. 11-12.

[112] M Cook, The management of information from archives, 2nd edition (Aldershot: Gower, 1999), p 45.

[113] X An, 'A Chinese view of records continuum: methodology and implications for managing electronic records'. Available at <http://www.caldeson.com/RIMOS/xanuum.html>. Accessed 11 November 2003), 1-18. An looks at the applicability of the records continuum model in China and further promotes the model as a best practice model for managing records and archives within a broader context. See also X An, 'An integrated approach to records management', in The Information Management Journal, vol.37:4 (2003), pp. 24-30.

[114] S McKemmish, 'Cook and Harris on the continuum', web posting. Available at <http://lists.archivists.org.au/pipermail/archivists.org/aus-archivists/2000-December>. Accessed February 2004, p 1.

[115] T Cook, 'Beyond the screen: the records continuum and archival heritage'. Paper delivered at the Australian Society of Archivists conference, Melbourne, 18 August 2000. Available at <http://www.archivists.org.au/sem/conf2000.terrycook.pdf>. Accessed 11 November 2003', p 11.

In the continuum approach, T Cook sees hope and potential in its application. Comments made in 1999 on Internet discussions by David Roberts, Greg O' Shea and Tom Adami on the life-cycle and records continuum is testimony that the continuum is a preferred model.[116]

Despite the undisputed success of the records continuum model in explaining the life of records, it is important to note that fundamental practices in the paper environment as illustrated in the life-cycle approach are still relevant. While the need for a new paradigm shift is recognised, the author of this thesis is of the view that the life-cycle concept must not be dismissed or rejected. Instead, the continuum model should be looked at as an additional strategy useful for managing records in the electronic environment. This is because their existence as virtual objects makes their management in separate and clearly identifiable stages a difficult task. The literature seems to suggest that advocates for the records continuum fail to take into account the fact that paper records continue to grow, even in computerised systems. In view of this, and also of the fact that in the southern African region manual systems are still prevalent, the life-cycle concept perhaps remains more relevant. As Shepherd and Yeo[117] would agree, the life-cycle concept still offers a useful framework, hence its continuing relevance in records management.

The uniqueness of research on the records continuum, however, lies in the factoring of a new theoretical approach to managing records throughout their life and this, as Upward has said, should be seen as a salvation and not a threat.[118] It should, therefore, be welcomed not as a replacement to the life-cycle approach but as a new direction to developments in the archives and records management profession.

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[116] D Robert, 'Continuum and life cycle models'. Available at
<http://lists.archivists.org.au/pipermail/archivists.org.au/aus-archivists/1999-February>. Accessed 31 October 2003, 1-3. Also comments made by Greg O'Shea on the same discussion of the 'Life-Cycle = Continuum', available at <http://lists.archivists.org.au/pipermail/archivists.org.au/aus-archivists/1999-February>, accessed 31 October 2003, portray the continuum as a rediscovery and condemns American ignorance of this development. On the same discussion, Tom Adami argues that it would, however, be too early to state that the continuum has been embraced by record practitioners.

[117] E Shepherd and G Yeo, Managing records: a handbook of principles and practice (London: Facet Publishing, 2003), p 10.

[118] F Upward, 'Structuring the records continuum part one: post-custodial principles and properties'. Available at <http://www.sims.monash.edu.au/research/rcrg/publications/recordscontinuum/fupp1.h>. Accessed 18 November 2003, p 5.

2.2.4. Records control and arrangement

Computerisation and the increase in electronic records seems to be pressing the archives and records management profession to abandon traditional archival practices which, it would appear, are proving incompatible with the electronic environment. As T Cook has said, the profession needs a renewed and refreshed relevance to the Information Age.[119] In particular, the archival methods of provenance and original order, which have from the 1930s and 1960s formed the basis for archival theory, appear to be unsuitable to the electronic environment. According to MacNeil, as electronic systems replace paper ones, the visible links among the physical, formal and textual components of records disappear.[120] While realising the importance of archival principles and collective control methods in the paper environment, Bearman has argued that such traditional practices of managing records may not necessarily be applicable or desirable in the electronic environment.[121] In the works of Sir Hillary Jenkinson[122] and T R Schellenberg[123], provenance has been defined as the administrative origin of records or place from which archives come. It reflects the activities of the entities creating the records. What this implies is that records have internal structures imposed upon them as a result of current recordkeeping processes based on activities of the organisation that created them.

Shepherd and Yeo agree with this definition of the term provenance, but they further contend that "the term has been re-interpreted to include an understanding of the functions and activities that underlie records creation and maintenance".[124] Provenance is not equivalent merely to the office of origin but also to the function

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[119] T Cook, 'The impact of David Bearman on modern archival thinking: an essay of personal reflection and critique', in *Archives and Museum Informatics*, vol. 11:1 (1997), p 17.

[120] H MacNeil, *Trusting records: legal, historical and diplomatic perspectives* (Dordrecht: Kluwer Academic Publishers, 2000), p 73.

[121] D Bearman, 'Item-level control and electronic recordkeeping'. Available at <http://www.archimuse.com/papers/nhprc/item-lvl.html>. Accessed 23 September, 2003, p 1.

[122] H Jenkinson, *A manual of archives administration* (Oxford: Clarendon Press, 1922), p 80.

[123] T R Schellenberg, *Modern archives: principles and techniques* (Melbourne: FW Cheshire, 1956), p 87. See also T R Schellenberg, *The management of archives* (New York, NY: Columbia University Press, 1965), pp. 41-42 and 61.

[124] E Shepherd and G Yeo, *Managing records: a handbook of principles and practice* (London: Facet Publishing, 2003), p 11.

which gave rise to the records, or more specifically as Bearman views it, the transaction within the function.[125] On the other hand, original order has been used to mean maintaining the records in the order they were received from creators.[126] Traditionally, archivists insisted on retaining the arrangement of records within series and argued that the order in which records were kept by records creators was not to be disturbed. However, in the electronic environment this is difficult as the physical arrangement may be absent. According to Shepherd and Yeo, few physical clues are provided and the records have to depend on metadata.[127]

Several researchers, including T Cook[128], Bearman[129] and Hofman[130], have investigated the relevance of traditional archival practices and concluded that there is need for a new direction and approach in the application of these practices to the management of electronic records. Bearman has given examples of the incompatibilities in disposition, description, retrieval and access to electronic records as compared to paper or traditional records. As far as original order is concerned, for example, he has argued that, in the electronic environment, it is important to document the context, of creation and use, including the logical associations of records, in order to understand evidence. In this case, it will be impossible to preserve literally the original order of records.[131] MacNeil, however, sees records as a form of documentary evidence and argues that traditional rules of evidence have to be applied to them.[132] For example, the rule of admissibility as evidence should be applied to them. As far as provenance is concerned, MacNeil has argued that where computers are networked, this dissolves traditional boundaries between

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[125] D Bearman, *Electronic evidence: strategy for managing records in contemporary organizations* (Pittsburgh: PA: Archives and Museum Informatics, 1994), p 32.

[126] T R Schellenberg, *Modern archives: principles and techniques* (Melbourne: FW Cheshire, 1956), p 88.

[127] E Shepherd and G Yeo, *Managing records: a handbook of principles and practice* (London: Facet Publishing, 2003), p 91.

[128] T Cook, 'The impact of David Bearman on modern archival thinking: an essay of personal reflection and critique', in *Archives and Museum Informatics*, vol. 11:1 (1997), p 17.

[129] D Bearman, 'Item-level control and electronic recordkeeping'. Available at <http://www.archimuse.com/papers/nhprc/item-lvl.html>. Accessed 23 September, 2003.

[130] J Hofman, 'Multidisciplinary aspects of electronic documents, concept of electronic document life-cycle, characteristics and links with information flow/work flow, in *Proceedings of the DLM-forum on electronic records*, Brussels,18-20 December 1996 (Luxembourg: Office for Official Publications of European Communities, 1997), p 35.

[131] D Bearman, 'Item-level control and electronic recordkeeping'. Available at <http://www.archimuse.com/papers/nhprc/item-lvl.html>. Accessed 23 September, 2003, p 1.

[132] H MacNeil, *Trusting records: legal, historical and diplomatic perspectives* (Dordrecht: Kluwer Academic Publishers, 2000), p 50.

organisations, hence making identification of provenance difficult.[133] As Harold Thiele further argues, in this kind of environment, it becomes difficult to identify which linked computer system has which part of the record.[134] Information may be retrieved from a database without knowing the identity of its creator.

In the 1990s Bearman proposed an "item oriented approach" as a framework for managing electronic records.[135] The approach entails that if the metadata is linked to and retained with the data associated with each business transaction, it will guarantee that the data will be useable over time, be accessible under the terms and conditions established by the creator, and have properties required to be fully trustworthy as evidence and for purposes of executing business.[136] Bearman's contribution is important, as it adds a new approach to the recordkeeping practice. Bearman's ideas are promising, especially in calling for the need to build metadata for the management of electronic records. His item-level control approach has laid the foundation for more efforts to design and implement successful models for records control. Even though these have received criticism from others, especially T Cook, they form an important contribution to current debates on modern recordkeeping.[137]

Having studied various aspects of appraisal, T Cook has concluded that there is a need for a new direction in conducting appraisal. Consequently, he has contributed significantly to this new direction by advocating the macro-appraisal model in 1991. In this kind of appraisal, it is the functions, work processes and activities that are determined, instead of going through the large numbers of records accumulated.[138] A workbook for archivists on electronic records published in 2005 by the ICA argues that the assessment of electronic systems should be based on analysis of business

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[133] H MacNeil, *Trusting records: legal, historical and diplomatic perspectives* (Dordrecht: Kluwer Academic Publishers, 2000), p 72.

[134] H E Thiele (Jr), 'Appraisal, provenance and the computer revolution: an examination of organisational records in the electronic environment'. Available at <http://alexia.lis.uiuc.edu/review.old/6/thiele.pdf>. Accessed 5 May 2006.

[135] D Bearman, 'Item-level control and electronic recordkeeping'. Available at <http://www.archimuse.com/papers/nhprc/item-lvl.html>. Accessed 23 September, 2003, pp. 4-5.

[136] D Bearman, 'Item-level control and electronic recordkeeping'. Available at <http://www.archimuse.com/papers/nhprc/item-lvl.html>. Accessed 23 September, 2003, p 5.

[137] The point of T Cook's criticism was on Bearman's failure to take note of constraints such as financial and human resources which are important if his suggestions are to be realised in the real world.

[138] T Cook, 'Macro-appraisal and functional analysis: documenting governance rather than government', in *Journal of Society of Archivists*, vol. 25:1 (2004), p 5.

functions and activities.[139] Experiences from the National Archives (TNA) of the United Kingdom, where appraisal is based on the Grigg system,[140] are testimony of the fact that some practices based on traditional archival theories are unsuitable for electronic records. For example, the review of records file by file is impractical for electronic records, as these do not exist as physical objects. TNA responded to this challenge in 2003 by appointing the Appraisal Project Board to review the Grigg system and recommend how it could be modernised to take into account electronic records.[141] From this, the first version of TNA's appraisal policy was developed and published in August 2004.[142] Plans are in place to review this policy in 2008-9. Other archival institutions are considering new ways of managing and controlling the new format of records.

2.2.5. Metadata requirements and standards

The introduction of the new technologies in recordkeeping has further raised concerns about the need to identify and define metadata requirements and standards essential for controlling and managing electronic records. According to T Cook, "part of the recordkeeping discourse has included facing the challenges of capturing electronic records in meaningful context and with appropriate metadata".[143] Bearman also agrees that records are evidence when bound to appropriate metadata about their

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[139] International Council on Archives: Committee on current records in an electronic environment, *Electronic records: a workbook for archivists*, Study 16, April 2005 (Paris: ICA, 2005). Available at <http://www.ica.org/biblio/Study16ENG_5_2.pdf>. Accessed 13 February 2006, p 36.

[140] The Grigg System is based on a two stage review process relying on an individual examination of records. The first review which is conducted 5-7 years after creation considers the administrative need. Records which survive this review are examined 25years after creation to establish if they have sufficient value to merit preservation. See D Simpson and S Graham, 'Appraisal and selection of records: a new approach', in *Comma, 2002.1-2, Proceedings of the 35th International Conference of the Round Table on Archives*, Iceland, 10-13 October 2001, Paris: International Council on Archives, p 52.

[141] S Twigge, 'Public records, public consultation: the involvement of stakeholders in the selection of records at the PRO, The UK National Archives', in *Archives and Manuscripts*, vol. 31:1 (2003), p 22. See also The National Archives: Appraisal Project Board, 'The National Archives appraisal policy: background paper-the 'Grigg System' and beyond'. Available at <http://www.nationalarchives.gov.uk/recordsmangement/selection/pdf/background_appraisal.pdf>. Accessed 5 May 2006.

[142] National Archives (UK), *Appraisal policy*, version 1, August 2004 (London: The National Archives, 2005). Available at <http://www.nationalarchives.gov.uk/recordsmangement/selection/pdf/appraisal_policy.pdf>. Accessed 5 May 2006.

[143] T Cook, 'Beyond the screen: the records continuum and archival heritage'. Paper delivered at the Australian Society of Archivists conference, Melbourne, 18 August 2000. Available at <http://www.archivists.org.au/sem/conf2000/terrycook.pdf>. Accessed 11 November 2003.

content, structure and context.[144] This metadata then has to be always associated with the record and neither of these two should be altered. Metadata has been defined in the literature by different authors such as Oz[145], the International Council on Archives Committee on Electronic Records[146], ISO 15489[147], and Edward Atkinson[148] as "data about data". It is the data that identifies, authenticates, describes, manages and makes electronic records meaningful. This describes the content, quality, condition and other characteristics of the data, thus giving records context and structure.

The literature reviewed in the management of electronic records has discussed metadata requirements and identified some of the problems confronted by archivists in an effort to design metadata elements for the management of such records. Electronic records require sufficient descriptive data to make them available, understandable and useable. This makes the identification of metadata requirements an important component of research in the management of electronic records.

Individuals and organisations have made attempts to identify suitable metadata requirements. For example, Maria Guercio and Stefano Pigliapoco have identified the elements of metadata requirements as: registration, classification, content, structure, context and archiving metadata. These are similar to Bearman's Reference Model for Business Acceptable Communications (BAC) developed in 1994[149]. According to these requirements, registration will include giving incoming and outgoing records a unique code for identification. In addition to this, each classification code has to be assigned to records at creation. The classification scheme has to be based on the creator's functions. Class titles, hierarchical

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[144] D Bearman, 'Capturing records metadata: unresolved questions and proposals for research', in *Archives and Museum Informatics*, vol. 11:3-4 (1997), p 272.

[145] E Oz, *Management information systems* (Cambridge: Course Technology, 1998), p 226.

[146] International Council on Archives: Committee on electronic records, *Guide for managing electronic records from an archival perspective*, February 1997, Studies-Etudes 8 (Paris: The International Council on Archives, 1997), p 24.

[147] International Standards Organization: ISO 15489-1 (first edition): Information and document- records management Part 1: General (2001), Chapter 3, 12. Available at <http://www.ids.co.za/iso_15489-1.pdf >. Accessed 8 May 2006, p 3.

[148] E Atkinson, 'Much ado about metadata', in *Records Management Journal*, vol. 12:1 (2002), p 21.

[149] D Bearman, 'Item-level control and recordkeeping'. Available at <http://www.archimuse.com/papers/nhprc/item-lvl.html>. Accessed 23 September, 2003, pp. 6-8.

organisation of classification scheme and content notes all have to be identified.[150] These requirements should help identify, authenticate records and enable their retrieval, delivery and usage. These requirements could be of help in guiding developing countries, particularly those in southern Africa, which are currently computerising their archival and records management services.

BAC has focused on how metadata captured in record creation can be structured for future use and in ensuring the readability of records over time.[151] The layers and data clusters in BAC include information on handling (registration metadata); terms and conditions (access and use metadata); structural (recordkeeping metadata); contextual; content (description metadata) and use history (archiving metadata). However, the reference model will continue to be modified to meet any other components of business acceptable communications and to reflect requirements addressed by other efforts. The Universities of Pittsburgh and British Columbia projects have provided a foundation for the identification of specific sets of metadata.[152]

Different countries have established recordkeeping metadata standards in government agencies to guide the management of electronic records. The National Archives of Australia published the *Recordkeeping Metadata Standard for Commonwealth Agencies*[153] in 1999 that describes metadata elements recommended for commonwealth agencies. The *Recordkeeping Metadata Requirements*[154] for the government of Canada consisting of 26 elements was produced in 2001 to enable departments to capture and describe the identity, authority, content, context, structure and management requirements of electronic records. The model permits the departments to add new elements in order to satisfy their particular business

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[150] M Guercio and S Pigliapoco, 'Identification and control of documentary and business procedures, an integrated model for accountability and transparency in the public service: a case study from the University of Macerata, in *Proceedings of the DLM-Forum on electronic records*, Brussels, 18-20 1996 December (Luxembourg: Office for Official Publications of the European Communities, 1997), p 50.

[151] D Bearman, 'Item-level control and electronic recordkeeping'. Available at <http://www.archimuse.com/papers/nhprc/item-lvl.html>. Accessed 23 September, 2003, pp. 6-8.

[152] These two projects are discussed in detail in Chapter 3.

[153] National Archives of Australia, *Recordkeeping metadata standard for commonwealth agencies*, Version 1, May 1999 (Canberra: Commonwealth of Australia, 1999). Available at <http://www.naa.gov.au/recordkeeping/control/rkms/rkms_pt1_2.pdf>. Accessed 26 May 2006.

[154] *Recordkeeping Metadata Requirements for the Government of Canada*, January 2001. Available at <http://www.inforumgi.gc.ca/documents/2001/meta/meta_e.pdf>. Accessed 26 May 2006.

requirements. On the other hand, the UK metadata requirements for electronic records management systems were published in 2002.[155] It would appear from the literature reviewed that the number of metadata elements differs from country to country and organisation to organisation. But no matter how many elements are described, they all appear to be in reasonable agreement, as they all focus on similar information and services such as title, subject, access and availability.

A number of projects discussed in Chapter 3 provide examples of ongoing efforts to develop frameworks to understand sets of recordkeeping metadata. Many authors in their contributions have reflected on some of these projects, particularly the Pittsburgh one, which has already made an effort to define such requirements.[156] While the author of this thesis agrees that such requirements are important, it would appear that there is as yet little or no evidence of fully formulated and universally accepted metadata standards. There is a need for availability of standardised international metadata requirements.[157] This would ensure that metadata in one standard are compatible with those in another standard.

2.2.6. Other sources on management of electronic records

(a) A contribution by E. Shepherd and G. Yeo

A 2003 publication by Shepherd and Yeo on managing records has further demonstrated the importance of designing programmes for the management of records in all formats.[158] The authors have focused their discussion on eight major themes which they believe are central to the principles and practices of managing records in contemporary organisations. The chapters of the book are identified as:

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[155] National Archives (UK), *Requirements for electronic records management systems, Metadata Standard*, 2002, final version (London: The National Archives, 2002). Available at <http://www.nationalarchives.gov.uk/electronicrecords/reqs2002.pdf/metadatafinal.pdf>. Accessed 26 May 2006.

[156] The Pittsburgh project is discussed in detail in Chapter 3 under the section 3.2.3.

[157] S. McKemmish, 'Yesterday, today and tomorrow: a continuum of responsibility'. Available at <http://www.sims.monash.edu.au/research/rcrg/publications/recordscontinuum.smck2..>. Accessed 18 November 2003, p 17. McKemmish has suggested that the development of metadata elements has to be closely monitored so that this influences initiatives for a standardised universal set.

[158] E. Shepherd and G Yeo, *Managing records: a handbook of principles and practice* (London: Facet Publishing, 2003).

understanding records management; analysing the context for records management; appraisal and retention scheduling; maintaining the integrity of records; providing access; practical and managerial issues in implementing records management programmes. Discussions of these issues provide a sound orientation of the principles and practices in records management. The records management concepts and the context in which they are used are clearly defined. Moreover, the authors have provided frequent comparisons between records management practices and principles as applied in both paper and electronic systems. The authors' argument, that principles applied in paper systems also work in the electronic environment, is reassuring for archivists. This is one of the key elements of emphasis in this thesis.

The discussions in this book are detailed and are accompanied by clear illustrations in the form of tables and graphical representation of models, which explain the life of records. Further, an up-to-date bibliography of further readings and internet links, which leads researchers to different topics in archives and records management is provided. These elements are two of the main strengths of the book. Furthermore, the book provides a list of useful associations and societies concerned with records management practices. Although valuable, it is regrettable that this list does not include any of the associations in the African region, which would be of interest to the author of this thesis. In spite of this, the book is a rich piece of work, aimed at balancing the discussion between paper and electronic records systems design and implementation. It provides a broad perspective on the issues under investigation in this thesis and is relevant to new approaches in managing records. It also acts as a good guide, providing a framework and practical guidance for records management. It would be appropriate for inclusion in universities as a teaching resource.[159]

(b) Internet discussions

Internet debates, such as those posted by Richard Cox, have made important comments on developments in the management of electronic records. [160] For

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[159] During my discussion in 2004 with Dr Justus Wamukoya, a senior lecturer at the University if Botswana, I found out that he was using the book as one of his main sources of reference for teaching archives and records management courses.

[160] R Cox, 'Recent book reviews'. Available at <http://hopper.sis.pitt.edu/drcox/Saffady.htm>. Accessed 27 February 2004.

example, Cox has wondered how far archivists have progressed in the electronic environment. In his critique of some of the leading studies in electronic records management, Cox has made note of the fact that there is still need for a study that would 'neatly and fully integrate archives and records management within an organisational and cultural setting'.[161] Indeed, developing countries could well do with such a practical guide. This, however, has to be designed to suit the environment of a developing country.

2.3. Issues in developing countries

The general literature review seems focused only on developed countries, failing to take into consideration concerns in developing countries and how these could be assisted. The literature, however, provides a useful framework for discussing the management of electronic records in developing countries, particularly in Botswana, Namibia and South Africa.

2.3.1. Overview

Evidence shows that much research in developing countries is characterised by isolated research activities and lack of collaboration, although it would appear this trend is changing for the better.[162] Several studies addressing the management of electronic records in developing countries have been published, though unfortunately, these have not provided appropriate solutions in the context of a developing country. This remains a challenge for developing countries where there is still a lack of professionals with skills to manage paper-based records systems, let alone electronic records.[163] The vast majority of publications and other research

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[161] R Cox, 'Recent book reviews'. Available at <http://hopper.sis.pitt.edu/drcox/Saffady.htm>. Accessed 27 February 2004.

[162] A Uzun, Library and information science research in developing countries and eastern European countries: a brief bibliometric perspective', in *The International Information and Library Journal Review*, vol. 34:1 (2002), p 22.

[163] International Council on Archives, *Management of public sector records in developing countries*, a proposal from ICA, Paris, France. Available at <http://magnet.undp.org/Docs/efa/ICA~1.HTM>. Accessed 24 October 2003, p 9.

activities on the management of electronic records have been from developed countries in the form of consultancy missions.[164]

Richard Barry has argued that developing countries cannot in any way escape the technological challenge.[165] He argues that although the timing and scope of this development differs from country to country, it would appear that there are similar situations in those countries. From Barry's observation it can be argued that these similarities mean that countries, regardless of whether they are developed or developing, can learn from each other. However, this could take time in developing countries, as they are just starting to take up the challenges of computerisation and the management of electronic records. Citing examples of countries in Africa with which he is familiar and which he visited in the mid 1990s, Barry posits that these are just beginning to engage state-of-the-art information technology in national development.[166] However, he argues that this is happening in an environment where there is no information and technology architecture and no thought of the recordkeeping aspects. The result has been that most of the developing countries he has studied have been or are computerising inefficient manual recordkeeping systems. This situation appears prevalent in most developing countries. On efforts made to address the challenge in developing countries, Barry mentions efforts by the International Records Management Trust (IRMT) to assist in improving paper-based recordkeeping systems in parallel or prior to the establishment of electronic recordkeeping systems.[167] Barry's article is important, as it provides a succinct picture of the situation as it is in the developing world. It also advises on computerisation strategies that may offer learning experiences to developing countries and which would, in the process, help them avoid repeating mistakes that others elsewhere may have made. Further, Barry emphasises the need for careful planning before undertaking any project to avoid improperly implemented projects.

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[164] These consultancy missions are discussed in Chapter 3, section 3.3.

[165] R Barry, 'Electronic records management...The way we were..the way we are: one man's opinion'. Available at <http://www.mybestdocs.com/ukrmj-7.html>. Accessed 19 April 2004, pp. 5-6.

[166] R Barry, 'Electronic records management...The way we were..the way we are: one man's opinion'. Available at <http://www.mybestdocs.com/ukrmj-7.html>. Accessed 19 April 2004, p 5.

[167] R Barry, 'Electronic records management...The way we were..the way we are: one man's opinion'. Available at <http://www.mybestdocs.com/ukrmj-7.html>. Accessed 19 April 2004, p 6.

Without doubt, developing countries face huge challenges in managing electronic records yet few studies have been conducted on this. Experiences from developed countries, although useful in some context, may not be easily adaptable in the context of a developing country. As such, these may not be considered sufficient or appropriate records management solutions for developing nations. Even though the massive region of developing countries has many regional and institutional differences, experiences from one region may be applicable in another, hence the need to cooperate and share information on common problems. What has been tested in other developing countries may work well in an area explored by this thesis, because of a similar level of development and some cultural similarities. Although the literature from developing countries it still scarce, there is evidence that it is growing and will continue to do so, as better programmes for managing records are found.

2.3.2. Developments in eastern and southern Africa

Very little literature has been published on the management of electronic records in the eastern and southern African region. As Anne Thurston has rightly observed, there has been a dearth of professional literature in Africa as a whole.[168] A few archivists and records managers have written individual papers on the concerns of computerisation in archives and recordkeeping. These papers, however, have neither adequately addressed the challenges of managing electronic records, nor suggested practical solutions for managing such records. Moreover, they do not specifically address the issues in the context of an African environment. The limited literature in the region may be a result of the slow pace of computerisation in government agencies in the region. M Cook has observed that the change process in electronic communications has been very slow in Africa.[169] This may also be a result of low turnout of literature from those concerned, due to the high costs of conference participation. Research needs resources which are not always as abundant in developing contexts as they are in developed ones.

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[168] A Thurston, Records management in Africa: old problems, dynamic new solutions', in *Records Management Journal*, vol. 6:3 (1996), p 188.

[169] M Cook, 'East African archives 1964-6: some personal reminiscences', in *ESARBICA Journal*, vol. 19 (2000), p 39.

The Eastern and Southern African Regional Branch of the International Council on Archives (ESARBICA) conference, held in Botswana in 1991, marked an important development in the archives profession in the region. Bringing together professionals from a wide range of disciplines, the conference for the first time seriously addressed the challenges of the new information technologies to the archives profession in the region. Taking into account Africa's internal problems, worries and its context of underdevelopment, a number of presentations focused on the need for archivists to change and keep abreast with the advances in science and technology.

Peter Mazikana briefly highlighted the problems that ESARBICA faced and singled out difficulties in handling information technology. He posited that, although the technology has made an impact on the archives profession, the profession's mandate remains largely unaltered.[170] In detail, Mazikana raised the concerns and frustrations of coping with new developments and the serious worry that not much has been done in the region to face the challenge of involvement in the management of records in government agencies. The issues discussed in his presentation continue to be debated in regional conferences in the region held every two years since 1969, but no practical solutions have as yet been suggested. The article is, therefore, important in raising awareness of the need to take the necessary measures to deal with the impact of the new technologies on the profession.

It has become clear from the literature that many different departments are computerising without a clear idea of which hardware and software to use. In suggesting a solution to this, Kgomotso Moahi argued that an analysis of the existing systems should be made first to be able to identify the best computerisation options.[171] This author's contribution is important in providing the necessary logistics of a computerisation programme, which can help archival institutions and records management units that are in the process of computerising their services. Henry Kemoni, Justus Wamukuya, and Joseph Kiplang'at have summarised the

[170] P Mazikana, 'Archives and automation: the archivists' perspective', in R J Kukubu and D T Seabo, *Archives in the nineties: the challenges for ESARBICA, Proceedings of the 11th General conference and regional seminar on records management,* Gaborone, Botswana, 5-10 August 1991 (Gaborone: Botswana National Archives, 1991), pp. 175-177.

[171] K Moahi, 'Automation of the National Institute of Development Research and Documentation (NIR): a case study', in R J Kukubu and D T Seabo, *Archives in the nineties: the challenges for ESARBICA, Proceedings of the 11th General conference and regional seminar on records management,* Gaborone, Botswana, 5-10 August 1991 (Gaborone: Botswana National Archives, 1991), pp. 182-186.

technical problems facing the region as: non-utilisation of information technology, difficulties in identifying appropriate hardware and software together with costs of purchasing these, inadequate training in use of information technology, and protection of data from unauthorised access.[172]

The ESARBICA Journal, vol. 21 of 2002[173] is an important contribution to the management of electronic records in the region. The journal focuses on a wide range of issues that are of concern to the region including the management of electronic records. Although the whole edition of the journal is important, only three articles by Ndiyoi Mutiti, Richard Wato and the author of this thesis, directly tackle the management of electronic records. These articles have revealed that the region, while well aware of the need to manage electronic records, has only dealt with the issue theoretically.

In her article, Mutiti used a survey method in 2002 to investigate computerisation projects in the ESABICA region. From the results of this survey, she reported that, despite the use of information technologies in government administration, very few institutions have initiated programmes for the management of electronic records.[174] As a result of this, she argued that little attention has been paid to the management of electronic records. In a brief overview, she made reference to technological infrastructure, software applications, electronic records deposits which, she posited differ from country to country. The same observation has been made by Mazikana.[175] In pointing the way forward, Mutiti touched on training, broadening of job descriptions to include programmes for the management electronic records and strengthening of archival legislation. Mutiti's article is brief and only provides a simple report of computerisation activities. It lacks some detail on practical solutions for the management of electronic records in the region. Notwithstanding this limitation, the article should be seen as an important foundation for critical research in the management of electronic records in the region.

[172] H Kemoni, J Wamukuya, and J Kiplang'at, 'Obstacles of utilization of information held by archival institutions: a review of literature', in Records Management Journal, vol. 13:1 (2003), p 41.

[173] V Harris and P Ngulube (eds.), ESARBICA Journal, vol. 21 (2002).

[174] N Mutiti, 'Computerisation of archives and records in the ESARBICA region', in ESARBICA Journal, vol. 21 (2002), p 117.

[175] P Mazikana, 'Africa'. Available at <http://www.unesco.org/webworld/com_inf_reports/wirenglish/chap11.pdf>. Accessed 4 November 2003, pp. 152-153.

In a separate study which looks at the perspectives of the National Archives of Zambia in the new millennium, Mutiti noted that, having cleared the backlog of paper records, the National Archives was moving towards making use of the new technologies in the management of archives.[176] This according to Mutiti, would involve a pilot project on utilisation of on-line facilities, provision of information services on the Internet through use of web-sites and creation of electronic repositories. It is, however, not clear if this was also to involve the management of 'current' and 'semi-current' records. The introduction of the use of information technology (IT) was, however, expected to facilitate access and use of available information.

In an article on automation and digitisation of archives and libraries, Mutiti provided an overview in which she argued that the great advances made in the use of information technology have changed the way information is stored and retrieved.[177] The article further argues that this has brought challenges, especially of managing information, regardless of media. The article starts by giving definitions, benefits and uses of automation and digitisation and in doing this, takes a general approach. It further makes reference to a general assessment on the use of the technological infrastructure and needs in the ESARBICA region that the author made in 2002. The article is very general in approach and fails to focus on developmental issues in the region, except repeating the results of the 2002 survey that was conducted by the same author and to which reference has already been made above. Even though the article makes an attempt to identify major problems of automation and digitisation, it does not discuss this in the context of the region.

The current author of this thesis in her contribution, reviewed computerisation of records management systems in the ESARBICA region. Commenting on developments in the region, since the formation of ESARBICA in 1969, she argued that regional conferences and meetings held since this period have remained focused on concerns that have mounted from the independence period.[178] Much focus in the

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[176] N Mutiti, 'ESARBICA in the next millennium: the perspective of the National Archives of Zambia', in *ESARBICA Journal*, vol. 18 (1999), p 14.

[177] N Mutiti, 'An overview of automation and digitisation of archives and libraries'. Available at <http://www.ahm.uem.mz/eventos/an_overv.htm>. Accessed 16 December 2003, pp. 1-6.

[178] S M Keakopa, 'Automated records management systems in the ESARBICA region', in *ESARBICA Journal*, vol. 21 (2002), p 42.

region, she asserted, is still on the management of paper records and traditional archival practices. The article also reflected on projects like the Umgeni Water project started in the 1990s in South Africa, which aimed at re-designing and decentralising records systems. The author gave a brief overview of efforts in developed countries such as Australia and the United States of America (USA) which have made tremendous progress in defining requirements for the management of electronic records. The article raises ethical issues which, it is argued, have complicated practices in the profession. Although the study raises a number of questions arising as a result of ethical issues, it does not offer any answers to them. It only calls for further research in the area of electronic records in the region.

Richard Wato's article, on the other hand, examined the challenges and opportunities of information technology in the general archival practices in the 21st century. The study explored general issues such as data capture, technological obsolescence, and security of electronic data which are of obvious nature in electronic records management research.[179] The study, however, did not specifically address these issues in the context of ESARBICA.

Justus Wamukoya in his contribution argued that even though there have been dramatic changes in the economic, social and political histories of African countries, records have remained a neglected resource in this part of the world.[180] According to Wamukoya, records are important and, as such, programmes have to be put in place for their management throughout their life. In reviewing the position of records management in Africa in the 1990s, Wamukoya observed that while some governments in the region had begun to appreciate the benefits of records management, some were still struggling to manage all phases of the life-cycle of records. With a more particular focus on electronic records, the author posited that there were then no policies, standards or procedures developed to regulate the management of electronic media.[181] Although Wamukoya argued that there is need for

[179] R Wato, 'Challenges and opportunities of information technology for archival practices in the 21st Century', in ESARBICA *Journal*, vol. 21 (2002), pp. 125-134.

[180] J Wamukoya, 'Records: a neglected information resource in Africa', in *Records Management Journal*, vol.5:1 1995), p 16.

[181] J Wamukoya, 'Records: a neglected information resource in Africa', in *Records Management Journal*, vol.5:1 (1995) p 20.

an approach to address the management of information resources in Africa, he does not make any suggestion on the kind of approach he envisaged. In support of the need for policies and procedures, he argued that electronic records can no longer be equated with written documents and that the term 'record' thus embraces many forms of recorded information that include electronic records. Wamukoya seems to confirm the findings of the data collected from Botswana and Namibia by the current study that the present legislation should cover electronic records, as they also form part of records. Wamukoya also briefly made mention of the problems associated with the long-term preservation of electronic records.

In a separate article, Wamukoya examined the implications and challenges in managing public sector records as evidence. In doing this, he briefly looked at the impact of technology on recordkeeping and its relationship to records.[182] He argued that archivists and records managers in the ESARBICA region tend to perceive the profession only in terms of paper records. This, as he has observed, is because they have been accustomed to the management of paper records, as this has been the main storage medium. This trend, however, is changing as more records are now generated electronically. The article is an important contribution to the literature in the region because it does not only caution the need to change and tackle the management of electronic records, but provides ideas on how this might be done. For example, Wamukoya advises on the need for updated legislation to cover electronic records, on the re-positioning of archival institutions for a new role, on the provision of training and on the need to share experiences in the region. Some of the questions that he poses in the article still have to be answered and it appears the literature in the region has failed to adequately address the issues. Expressing his concerns, Wamukoya has asked:

> "Who creates and who takes responsibility for capturing and filing the electronic records; what procedures and standards need to be observed to ensure that information in electronic media is accurate, complete, reliable and authentic; and what conditions need to be provided for electronic records to be admissible in a court of law?"[183]

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[182] J Wamukoya, 'Records and archives as a basis for good government: implications and challenges for records managers and archivists in Africa', in *Records Management Journal*, vol. 10: 1 (2000), pp. 28-29.

[183] J Wamukoya, 'Records and archives as a basis for good government: implications and challenges for records managers and archivists in Africa', in *Records Management Journal*, vol. 10: 1 (2000), p 30.

It would appear that for as long as archivists and records managers in the region are not in a position to undertake their own research to provide the necessary answers to these questions, they will have to depend on solutions that have been provided elsewhere in the world. The solutions will, however, have to be used modified to suit the specific needs of the region.

Agreeing with Wamukoya's sentiments, Thurston has argued that the changes in Africa have brought with them perspectives of global significance.[184] According to Thurston, the main problem that archivists and records managers have is limited communication between African professionals and active vocal professionals elsewhere in the world, and even among African professionals themselves. This has been an impediment to the profession in the continent and what this implies is that serious research in the management of electronic records in Africa has been neglected or ignored.[185] In her 1996 review of records management initiatives in Africa, Thurston highlighted two of the most important developments, which she argued had impacted positively on records management. First were reforms in the public sector, which were important requisites for good governance and second was the realisation of the importance of computerisation in public administration. Thurston's contribution is important as it highlights development of computerisation efforts and some of the problems that have hindered such developments. Although the contribution is limited to the problems faced and the need to ensure that the computerised systems do not collapse once put in place, it is important in highlighting the need to take up the most important challenge of managing electronic records in Africa, which she argues could be done through capacity building.

Interestingly, a 2001 article by K Barata, F. Jochen Kutzner and Wamukoya on 'Records, computers and resources: a difficult equation for sub-Saharan Africa' focuses on ICT development and how governments in the sub-Saharan region have responded to computerisation efforts.[186] The article starts with a general overview of

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[184] A Thurston, Records management in Africa: old problems, dynamic new solutions', in *Records Management Journal*, vol. 6:3 (1996), p 187.

[185] A Thurston, Records management in Africa: old problems, dynamic new solutions', in *Records Management Journal*, vol. 6:3 (1996), p 187.

[186] K Barata, F. J. Kutzner and J Wamukoya, 'records, computers and resources: a difficult equation for sub-Saharan Africa', in *The Information Management Journal*, vol. 35:1 (2001), pp. 34-42.

ICT development in the region, further relating computerisation to recordkeeping. It then focuses on electronic recordkeeping in the Namibian government, which provides a more relevant focus to this study. In the overview, the authors argue that, while computerisation has led to changes in organisational strategies and operations, many developing countries still lack the necessary resources to integrate the management of paper and electronic systems. Consequently, they argue that ongoing research has to produce methodologies accessible and affordable to developing nations. The authors seem to agree with Thurston as they state that professionals need to be engaged in global discussions with an aim to find solutions on how best they could capture, manage and preserve computerised information over time. Although the article raises interesting issues on the management of electronic records the authors deliberately chose not to offer advice on how the challenges could be tackled. This appears to be a serious weakness because for the article to prompt a discussion, it should offer some kind of solution which could then be counterbalanced by other professionals.

Another contribution by Barata, Ray Bennett, P Cain and Dawn Routledge,[187] which focuses on the management of financial records as a strategic resource in Namibia, has been an important contribution to the literature on the management of electronic records in the southern African region. The authors of the article have used Namibia as a case study and this is one of the countries in southern Africa, together with Botswana and South Africa, on which this current study also focuses. After investigating both the computerised and paper-based systems, the authors concluded that there were inadequacies in structural and recordkeeping systems in the management of financial records, though there were areas of strengths reported in some departments.[188] A similar situation is found in most countries in the southern African region, especially in Botswana and South Africa, as has been revealed by results of the current research. The authors highlighted some of the problems, which they thought were responsible for poor records management practices in the country. Although the report had

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[187] K Barata, R Bennett, P Cain and D Routledge, 'From accounting to accountability: managing financial records as a strategic resource, Namibia: a case study', report to World Bank infoDEV Programme. Available at <http://www.irmt.org/download/DOCUME~1/DEVELO~1/RESEAR~1/NAMIBI~1.PDF>. Accessed 21 January 2004.

[188] K Barata, R Bennett, P Cain and D Routledge, 'From accounting to accountability: managing financial records as a strategic resource, Namibia: a case study', report to World Bank infoDEV Programme. Available at <<http://www.irmt.org/download/DOCUME~1/DEVELO~1/RESEAR~1/NAMIBI~1.PDF >. Accessed 21 January 2004, p 7.

envisaged that the National Archives of Namibia would in 2005 be able to develop the capacity to appraise and advice on the management of electronic records in government agencies[189], this does not appear to have happened, as this present study has discovered. The 2001 report has, however, come up with a number of important recommendations on a strategy that the government of Namibia might employ in its effort to manage financial records. It would, however, appear that as of 2006, these recommendations have not been taken on board. Although the 2001 report is valuable and contains important case studies, it would have been even more useful if insights on classes of records other than financial, had been provided. The contribution therefore, is limited in scope as it focuses only on financial records. Notwithstanding this limitation, the report forms an important contribution to the literature in the region. It has also made a breakthrough in investigating some of the recordkeeping practices in Namibia. It should be borne in mind that, until now, the state of all records, regardless of subject classification, has been unsatisfactory in the region.

Masisi Lekaukau, perhaps one of the pioneers of the archival profession in the ESARBICA region, has shared her personal experiences in an article entitled 'Serving the administrator: the archivist in the new millennium'.[190] Based on the rich ideas stemming from the author's experience over 20 years as a government archivist, the article argues that technological developments have allowed information to move rapidly across the globe enabling easy access. Consequently, the author cautions the profession to be wary of the effect that this challenge may pose to the profession and emphasises the need for archivists and records managers to take the necessary measures to ensure that information is secure.[191] It is, however, gratifying to note that all the reviewed articles seem concerned with the same problem and seem to be aware of the risks and challenges. Lekaukau argues that whatever solutions are provided, archivists and records managers have to bear in mind the fact that administrators want to be assured that the records, regardless of their format, will always be made available

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[189] K Barata, R Bennett, P Cain and D Routledge, 'From accounting to accountability: managing financial records as a strategic resource, Namibia: a case study', report to World Bank infoDEV Programme. Available at <<http://www.irmt.org/download/DOCUME~1/DEVELO~1/RESEAR~1/NAMIBI~1.PDF>. Accessed 21 January 2004, p 7.

[190] M Lekaukau, 'Serving the administrator: the archivist in the new millennium', in Archivum, vol. 45 (2000), pp. 119-123.

[191] M Lekaukau, 'Serving the administrator: the archivist in the new millennium', in Archivum, vol. 45 (2000), p 120.

when needed for decision-making and accountability. Interestingly, she looks back at past developments and challenges and calls upon archivists to change their approach, and develop new skills and appropriate tools for the management of records in the electronic environment.

Some of the articles on computerisation in the region tend to be limited to national efforts and as such lack a regional focus. As Thurston has observed, although African professionals are aware of international developments, they tend to operate in the context of their own national realities,[192] which explains the focus of the literature on individual national efforts. For example, Koo Ombati in his brief article on 'Computerization of the Kenya National Archives and Documentation Services' focuses on an update of the status of computerisation in Kenya. The article raises problems faced in computerisation projects, and argues for the need to provide training, acquire more equipment and training of users.[193] These problems are not unique to Kenya, as they appear to be widespread in the African continent. It is, however, encouraging to note that computerisation of finding aids at the Kenya National Archives is continuing and that more items have been entered in the database since 1999. According to Ombati, the Archives is expected to acquire more IT equipment which would go a long way in making the institution computerised.

Further, Nathan Mnjama has looked at the problems and prospects of archives and records management in Kenya in 2003, briefly making a review of electronic records. He argues that the Kenya National Archives Act's definition of public records implies that "all" electronic records are also public records and should be treated as such.[194] This definition would imply that privately held electronic records are also public records, a fact that will be difficult to sustain. Furthermore, Mnjama argues that although electronic records are generated in large quantities, no programmes have been designed to manage the challenges they pose, such as their preservation and legal status. In his argument, Mnjama only reports on the negative impact of the new

[192] A Thurston, 'Records management in Africa: old problems, dynamic new solutions', in *Records Management Journal*, vol. 6:3 (1996), p 188.

[193] K Ombati, 'Computerization of the Kenya National Archives and Documentation Service', in *ESARBICA Journal*, vol. 14 (1994), pp. 51-52.

[194] N Mnjama, 'Archives and records management in Kenya: problems and prospects', in *Records Management Journal*, vol.13:2 (2003), pp. 98- 99.

technologies on records management and seem not to appreciate the many opportunities that have come with the new technological developments.

With a more regional focus, Mnjama assessed the role and progress of ESARBICA in the new millennium. He cautioned that the electronic age had caught up with archival institutions and that there was a need to make efforts to manage electronic records.[195] Most important, however, the author suggested cooperation, networking and setting up of computerisation committees. Although this sounds like a good approach, there is no evidence that such committees have ever been set up or a follow up made on computerisation projects where they exist.

In an article on 'Taking archives to the people: the web-enablement of the National Automated Archival Information Retrieval System (NAAIRS)', Rudzani Mkwarela argues that South Africa has made a major advance by utilising information technology in its outreach programme, by designing and implementing the most comprehensive on-line archival information retrieval system launched in 2001.[196] Mkwarela starts by tracing the background to the NAAIRS project, and argues that the project is part of the National Archives mandate to maintain a national automated archival information retrieval system. In addition, Mkwarela focuses on the conceptualisation and design of the project, arguing that the user interface is user-friendly and that the web-site has extensive explanatory information regarding use of the retrieval system. Mkwarela further argues that the project has been a technological breakthrough for the National Archives as it has enabled all Internet users, whether they be research institutions, schools, community centres or homes, to have access to and retrieval of archival information. This, he argues, facilitates the objectives envisaged by the Promotion of Access to Information Act in the country. Makwarela's article is an important contribution to the literature on the management of electronic records in Africa, as it discusses a project that can be seen as a major technological development in the archives profession in Africa.

[195] N Mnjama, 'ESARBICA in the new millennium', in ESARBICA Journal, vol. 18 (1999), pp. 17-18.

[196] R Makwarela, 'Taking archives to the people: the web-enablement of the National Automated Archival Information Retrieval System (NAAIRS)'. Available at <http://www.ahm.uem.mz/eventos/taking.htm>. Accessed 16 December 2003.

Further, Verne Harris has put forward an argument on the form of a record, its legal status, and how this has been impacted on by electronic systems. Harris's argument rightly points out that governments in the region are creating records in both paper and electronic formats without any recordkeeping requirements in place to ensure the efficient management of such records. In addition to giving problems that are brought by the legal status of records, he suggests a strategy to help cope with this.[197] Although the author explores the issue in general terms, drawing on examples from the international scene, possibilities that could provide working suggestions to the management of electronic records, he does not adequately provide details of how these could be realised in the context of ESABICA. In addition, Pino Akotia, in discussing the management of public financial records in Ghana and the Gambia, has argued that electronic records should be recognised as legal evidence. This as he argued is in view of the fact that computerised audit records support the governance process.[198] The study, however, tackles one of the most important issues of electronic evidence, which has to be taken into account in any system designed to manage electronic records.

Patrick Ngulube who has particular interest on preservation of Africa's cultural heritage, posits that the new technologies are a challenge to preservation issues in sub-Saharan Africa. The author in a number of his articles on preservation and other issues has noted that there is a need for digitisation and management of electronic records. He suggests that reformatting and digitisation of manual records, even though costly, offer appropriate solutions.[199] He argues for the need to put in place relevant technological infrastructure. Although the author does not specifically address the management of electronic records, he provides details on the advantages and disadvantages of digitisation, and argues that at least in the region this has been confined to finding aids rather than actual archival materials.[200] The region still needs to do more in the areas of digital preservation and other electronic data formats. The author also provides a detailed list of very useful references.

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[197] V Harris, 'Law, evidence and electronic records: strategic perspective from the global periphery', in *South African. Archives Journal*, vol. 41 (1999/2000), pp. 3- 4.

[198] P Akotia, 'The management of public sector financial records: implications for good government', in *African Journal of Library, Archives and Information Science*, vol. 10:2 (2000), pp. 167-175.

[199] P Ngulube, 'Preservation reformatting strategies in archival institutions in sub-Saharan Africa', in *ESARBICA Journal*, vol. 21 (2002), p 70.

[200] Digitisation has been limited in scope, only for significant projects, except maybe in South Africa where the DISA project has made an effort to digitise as many collections as possible.

The reviewed literature in the eastern and southern African region has not produced a single detailed regional study on the management of electronic records. Although the literature indicates that there is some evidence of interesting and informative research on the management of electronic records by some countries and individuals in the region, the contributions do not provide appropriate solutions. However limited, this literature has reflected on some of the challenges, as well as difficulties, associated with the management of electronic records. What has been written so far is an important contribution for laying the foundation and directing future research. The region still needs to come up with strategies and practical tools to help design, support and implement recordkeeping systems, hence the need for a detailed study. Although the studies reviewed are of particular concern to the author of this thesis, this study will focus on the impact of ICT on recordkeeping practices in Botswana, Namibia and South Africa and the role played by each of their national archives in managing electronic records.

CHAPTER 3

RESEARCH PROSPECTS AND PRACTICAL APPROACHES TO THE MANAGEMENT OF ELECTRONIC RECORDS

3.1. Introduction

Chapter 2 has dealt with theoretical issues in the management of electronic records. This chapter will review the status of the management of electronic records in both developed and developing countries. This realises objective two of this study which is 'to review the status of the management of electronic records in both developed and developing countries?'[201]

The chapter examines research projects and practical approaches to the management of electronic records from 1993 to 2005. In this context, it looks at some case studies from developed countries in Europe, Australia, the United States of America, Canada and selected case studies from developing countries, mainly those initiated by the IRMT. The chapter further evaluates the role and efforts made by the International Council on Archives (ICA) in the management of electronic records.

3.2. Case studies from developed countries

The emergence of electronic records led to the formulation of a number of research projects and research initiatives. This formulation has largely focused on defining functional requirements for the management of this format of records from the time of their capture to final disposition. In recognising the need for practical solutions for managing electronic records throughout their life-cycle, some developed countries including those in the European Union (EU), Australia, the USA and Canada have been engaged in research projects aimed at addressing the challenges of managing

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[201] See Chapter 1, section 1.4.

these records. As part of this effort, the National Archives of the United Kingdom[202] ,

Australia, USA and Canada met in the UK in July 1998 to discuss the impact of

computerisation of government business on records. Among the challenges raised

were: effective records management, preservation of those records with archival value

and ensuring accessibility to records.[203] The four institutions reported similarities in

their operations and stressed the importance of sharing experiences on the

development of practical responses to challenges of computerised information. They

agreed on a common plan: to collaborate on projects, develop a network, share

information and most importantly to work with the ICA committee on electronic

records.

3.2.1. Developments in Europe

(a) The Document Life-Cycle Management (DLM) Forum

The European Commission and various EU member states have been engaged in

projects and have developed strategies aimed at addressing the challenges of

managing records in the electronic environment since 1994. These strategies have

been aimed at identifying and developing sets of requirements for electronic

recordkeeping. In particular, the DLM-Forum has been an encouraging development

in Europe to address the challenges of managing electronic records.

The DLM-Forum was first conceived in 1994 following a report from the group of

experts set by the European Commission to examine possibilities of coordination of

archives policy and practice within the European community.[204] The Forum,

however, officially started in 1996 when it held its first meeting. The DLM-Forum is

a multi-disciplinary meeting of archivists, record creators, administrators,

industrialists and researchers with a view to fostering cooperation in the field of

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[202] The National Archives of the UK was then known as the Public Record Office (PRO). It changed its name in April 2003 following modernisation reforms.

[203] 'Records management: the challenge of electronic records for national archives, a statement by the National Archives of Australia, Canada, USA and the UK, 1998'. Available at <http://www.pro.gov.uk/recordsmanagment/eros/ercollab.htm>. Accessed 8 October 2002.

[204] F Brady, European Commission introduction: the DLM-Forum, MoReq and the European Commission'. Available at <http://europa.eu.int/comm/secretariat_general/edoc_management/dlm_forum/doc/01_Brady_05-10-05.pdf>. Accessed 31 January 2006, p 1.

electronic records. Most significantly, this Forum provides a multi-disciplinary platform for discussing problems of the management, storage, conservation and retrieval of machine-readable data.[205] This Forum has seen efforts and experiences from experts and managers involved in creation, management, preservation, dissemination, retrieval and use of electronic records across Europe being combined to tackle the challenges of managing electronic records. Since 1996, the Forum has placed emphasis on the following areas: networking and coordination, establishing functional requirements, developing training programmes and addressing long-term preservation of electronic records.

Several meetings have been held since the formation of the DLM-Forum. These meetings have facilitated information sharing, technology and knowledge transfer, education and skills development and research in the area of electronic records. The DLM first meeting in December 1996 in Brussels was held under the theme "electronic records and cooperation Europe-wide". The meeting focused on initiating dialogue between professionals involved in handling electronic information and on exploring the possibilities for wider cooperation in the field of electronic records. In addition, the meeting called for the establishment of functional requirements for the management of electronic records and a comprehensive study of electronic records and their management. It also highlighted the need to publish proceedings and establish a training programme to address needs of administrators and archivists in the management of electronic records.[206]

The second DLM meeting was held in Brussels in October 1999 under the theme "European citizens and electronic information: the memory of the information society, cooperation Europe-wide". The meeting focused on the short and long-term preservation and accessibility of electronic documents and records to ensure accountability and transparency. In particular, it emphasised the need for functional requirements for managing electronic records and establishment of training programmes. The most important outcome of the meeting, however, was the 'DLM

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[205] DLM-Forum, *Proceedings of the DLM Forum on electronic records*, Brussels, 18-20 December 1996 (Luxembourg: Office for Official Publications of European Communities, 1997), p 7.

[206] F Brady, European Commission introduction: the DLM-Forum, MoReq and the European Commission'. Available at <http://europa.eu.int/comm/secretariat_general/edoc_management/dlm_forum/doc/01_Brady_05-10-05.pdf>. Accessed 31 January 2006, p 2.

message to the Information Communications Technology (ICT) industry' and the subsequent response from the industry. The message called for closer cooperation between the ICT industry and archivists and records managers to effectively ensure proper management and accessibility to electronic records.[207]

The third DLM Forum meeting, held in May 2002 in Barcelona, centred on the theme "access and preservation of electronic information: best practices and solutions". The meeting witnessed active participation from the ICT industry which provided valuable insights into how it was addressing issues in the field of electronic records. The meeting highlighted the effectiveness of partnerships and of the creation of a European DLM Network on electronic records to disseminate results and follow up initiatives.

The fourth meeting of the Forum was held in October 2005 in Budapest under the theme "electronic records supporting electronic government and digital archives". The meeting addressed information governance in the electronic government; policy and information legislation, standards and case studies on exchange and preservation of digital information as evidence and historical records; and the challenges of records management and cultural change.[208] The meeting provided a forum for the exchange of news about solutions, proven applications and ongoing projects in electronic records management.

The DLM-Forum has made commendable progress through a number of achievements since its formation. First, it has been able to publish proceedings of all its meetings.[209] These publications have contributed significantly to the literature and

[207] F Brady, European Commission introduction: the DLM-Forum, MoReq and the European Commission'. Available at <http://europa.eu.int/comm/secretariat_general/edoc_management/dlm_forum/doc/01_Brady_05-10-05.pdf>. Accessed 31 January 2006, p 2.

[208] 'Document Life Cycle Management Forum conference'. Available at <http://www.nationalarchives.gov.uk/electronicrecords/dlm.htm >. Accessed 31 January 2006, p 1.

[209] (a) DLM-Forum, *Proceedings of the DLM Forum on electronic records*, Brussels, 18-20 December 1996 (Luxembourg: Office for Official Publications of European Communities, 1997).

(b) DLM-Forum, *Proceedings of the DLM-Forum on electronic records: European citizens and electronic information: the memory of the information society, cooperation Europe-wide*, Brussels, 18-19 October 1999 (Luxembourg: Office for Official Publications of European Communities, 2000).

(c) DLM-Forum, *Proceedings of the DLM-Forum on electronic records: access and preservation of electronic information: best practices and solutions*, Barcelona, 6-8 May 2002 (Luxembourg: Office for Official Publications of the European Communities, 2002).

stimulated interest in the management of electronic records in the EU. Although many of the contributions to these publications have been focused and limited to EU member states, they can be used as reference materials outside the EU. According to Hofmann, these publications have been regularly requested internationally.[210]

Second, a comprehensive survey of electronic records and their management within the public administration and public service of EU has been completed and a report published.[211] The report describes the status of electronic recordkeeping practices in national archives in EU member states as at 2001, together with information about the legal provisions, staffing levels and other competencies needed for the management of electronic records. The report includes case studies focusing on practical solutions to the management of electronic records.

Third, the Forum has succeeded in developing a reference model specification for the management of electronic records (MoReq). MoReq is a generic specification intended for public or private organisations, which wish to introduce electronic records management systems or wish to assess the capability of such systems where they are currently in place. It highlights the essential elements an electronic records management system should have to ensure that records are: properly managed, can be accessed at all times, are retained for as long as needed and are properly disposed of once the retention period has ended.[212] This provides requirements for record capture, classification schemes, searching and retrieval, authorised access, audit trails, authenticity, retention and disposal and administrative functions.[213] The metadata requirements are also covered. Although MoReq focuses on functional requirements, it recognises the non-functional requirements like ease of use, system

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(d) At the time of writing this thesis, the proceedings of the 2005 meeting had not been published but the papers presented are available at
<http://europa.eu.int/comm/secretariat_general/edoc_management/dlm_forum/index_en.html>. Accessed 4 April 2006.

[210] H Hofmann, 'Presentation of the goals and achievements of the DLM-Forum'. Available at <http://www.narc.fi/dlm/4.htm>. Accessed 16 November 2005, p 3.

[211] K Schurer, Better access to electronic information for the citizen: the relationship between public administration and archives services concerning electronic documents and records management (Luxembourg: Office for Official Publications of the European Communities, 2001).

[212] F Brady, European Commission introduction: the DLM-Forum, MoReq and the European Commission'. Available at <http://europa.eu.int/comm/secretariat_general/edoc_management/dlm_forum/doc/01_Brady_05-10-05.pdf>. Accessed 31 January 2006, p 4.

[213] 'Model requirements for the management of electronic records'. Available at <http://europa.eu.int/idabc/servlets/Doc?id=16847>. Accessed 31 January 2006.

availability and technical requirements, which may vary according to organisational environment. However, the model does not cover the practical implementation of an electronic records management system.

Since it is generic, any organisation that decides to use it can incorporate relevant aspects into its electronic records management system. However, where requirements are lacking, users may make additions but these will have to be customised before use. MoReq is applicable to electronic files and hybrid files.[214] The specification is available on-line and has been published into seven languages for wider accessibility. MoReq has been the largest product of DLM and its impact has been felt elsewhere. Notably, it has been used by the IRMT as a benchmark for preparing its records management capacity framework for developing countries.[215] Because of the continuous and rapid technological changes, there are ongoing efforts to revise and update MoReq. Already there is a working group assigned to work on an updated version, MoReq 2. This version is intended to enhance existing areas of the requirements, adding areas like compliance testing which are not in the original MoReq.[216] Considerable work has already been done, and the new version is expected to be published in 2007.

Fourth, the DLM-Forum has encouraged the development of a training module, the European training programme on electronic records and records management (E-Term). The training programme was established as a partnership project to develop a common European framework model for electronic records management training for administrators, information professionals, archivists and records managers.[217] Partners included: University of Northumbria at Newcastle (UK), University of Tampere (Finland), the Fachhochschule (Germany), the Archiefschool, Amsterdam

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[214] E Shepherd and G Yeo define a hybrid environment as one in which records are created or received in paper, while others are created or received in digital form. See: Shepherd and G Yeo, *Managing records: a handbook for principles and practices* (London: Facet Publishing, 2003), p 21.

[215] S Demb, 'An introduction to records management capacity assessment system (RMCAS), in *ESARBICA Newsletter*, Issue 5 (2004). Available at <http://geocites.com/esarbica/esarnews5.pdf>. Accessed 6 March 2006, p 11.

[216] I Macfarlane, 'The plans for MoReq (Model for requirements for the management of electronic records)', a report on the scoping of a MoReq 2. Available at <http://www.europa.eu.int/comm/secretariat_general/edoc_management/dlm_forum/12bis_Macfarlane.pdf >. Accessed 6 February 2006, p 2.

[217] 'E-term'. Available at <http://www.ucl.ac.uk/e-term/>. Accessed 31 January 2006.

(Netherlands), University College London (UK), the Central Direction of the Italian State Archives, Rome and the University of Porto (Portugal).[218] The programme was established on the basis of experiences of these archives school and other specialised bodies including the ICT industry in member states; and was to be delivered via the Internet so that those interested could proceed at their own pace.[219]

The first stage of the project involved an analysis and assessment of an existing Dutch seminar model in the context of other existing materials by partners.[220] Based on this, a generic European model was drawn up. The second stage of the project was intended to focus on complementing the generic core with regional materials dictated by regional requirements.[221] Training modules were to be developed embedding theory and practical case studies. These were to be distributed to member states and also availed to others outside the EU. The layout was to be made flexible to enable individual universities to make modifications or possibly remove specific materials.

Some partners, for example the UK and Germany, have already tested the curriculum. The UK approach took the form of a pilot one-week intensive seminar. The training was delivered face-to-face to a group chosen from administrators, computing specialists, archivists and records managers from both public and private sectors with facilitators from the University College London and the University of Northumbria at Newcastle.[222] The pilot project in Germany was delivered by

[218] P Horsman, 'E-term and beyond', in *Proceedings of the DLM-Forum on electronic records: access and preservation of electronic information: best practices and solutions,* Barcelona, 6-8 May 2002 (Luxembourg: Office for Official Publications of the European Communities, 2002), p 320.

[219] F Brady, European Commission introduction: the DLM-Forum, MoReq and the European Commission'. Available at <http://europa.eu.int/comm/secretariat_general/edoc_management/dlm_forum/doc/01_Brady_05-10-05.pdf>. Accessed 31 January 2006, p 2.

[220] T Laeven, 'Dutch experience in digital records education and training: innovation and collaboration towards a European project, DLM-Forum '99'. Available at <http://www.europa.eu.int/ISOP/dlm/fulltext/full_laeven_en.htm>. Accessed 8 October 2002. The Dutch seminar model runs a five day cycle of training offered at intervals of two to three weeks. In between delegates must read and prepare assignments. They have to understand developments on their own roles and responsibilities.

[221] E Shepherd, 'Report of the proposal for a European training project for administrators, archivists and information managers: E-term', in *Proceedings of the DLM-Forum on electronic records: European citizens and electronic information, the memory of the information society,* Brussels, 18-19 October 1999 (Luxembourg: Office for Official Publications of European Communities, 2000), p 244.

[222] J McLeod, C Hare and R Johare, 'Education and training for records management in the electronic environment- the (re)search for an appropriate model'. Available at <http://informationr.net/ir/9-3/paper179.html>. Accessed 8 February 2006, p 11.

distance learning to a group of archivists with specific interest in electronic records.[223] The pilot projects were very successful and demonstrated the power of bringing together the different players who shared the benefits, expertise and concerns from their different environments.[224] If the resources are available, the results of the pilot projects will be used to modify the curriculum which will then be distributed outside the EU.

The DLM-Forum has shown that cooperative relationships are important in accelerating the capacity to develop programmes for the management of electronic records. Further, E-term's contribution to developing training modules, although European focused, provides a useful guide to others outside the EU and possibly in southern Africa who are still to develop materials for teaching to practitioners. It is hoped that these training materials, once developed, will make a contribution by changing perspectives and ensuring a new role for archivists and records managers. Although the initial E-term project has ended, partners are still working together to develop a European centre for higher archival education and training.[225]

The DLM-Forum has, without doubt, created a stable platform for presentations, discussions and development of approaches and solutions to the challenges of managing electronic records. Networking and cooperation among members has continued and, through the launching of the DLM web-site, members have been updated on DLM activities and have in turn made useful contributions to the best ways of addressing the challenges of managing electronic records. Projects arising from each meeting have been followed-up. Future activities planned for 2006-2009 include: publication of MoReq 2, more training programmes and dynamic on-line resources.[226]

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[223] 'E-term: pilot'. Available at <http://www.ucl.ac.uk/e-term/PRODUCTS/pilots.htm>. Accessed 24 February 2006, p 1.

[224] J McLeod, C Hare and R Johare, 'Education and training for records management in the electronic environment-the (re)search for an appropriate model'. Available at <http://informationr.net/ir/9-3/paper179.html>. Accessed 8 February 2006, p 11.

[225] R Johnson, 'Access and preservation of electronic information: best practice and solution', report on the DLM Forum, 2002, Barcelona, 6-8 May 2002. Available at <http://www.cultivate-int.org/issue7/dlm/>. Accessed 14 November 2005, p 2.

[226] S Tyacke, 'The report on archives in the enlarged EU and the DLM-Forum'. Available at <http://europa.eu.int/comm/secretariat_general/edoc_management/dlm_forum/doc/02bis_Tyacke..pdf>. Accessed 31 January 2006, p 7.

Although the DLM research efforts are an encouraging contribution to practical solutions for the management of electronic records, they are focused and limited to EU member states only and, therefore, appear to lack a more "universal approach". In summary, however, the DLM-Forum has remained a dynamic and progressive body, with clear evidence that it is moving from strength to strength. It remains a good learning example for other professionals around the world, that through establishment of multi-disciplinary bodies, guidelines and training for the management of electronic records can be developed for use at both national and regional levels. The Forum has also highlighted the importance of cooperation and partnership with the ICT industry in tackling the challenges of managing electronic records. As the results of this study will later show, Botswana, Namibia and South Africa need this kind of partnership if they are to effectively design programmes for the management of electronic records.

(b) The National Archives of the UK

Projects for the management of electronic records in the UK have been guided by the electronic government (e-government) strategy which forms a significant part of government modernisation reforms.[227] As part of these reforms, all government agencies had to ensure storage, management and retrieval of newly created records electronically by 2004 and the delivery of all dealings with government in electronic form by 2008.[228] Pressurised by this, The National Archives (TNA) of the UK, as the lead agency in government, spearheaded efforts by establishing two projects for the management of electronic records in 1998: the Electronic Records in Office Systems (EROS) and the National Digital Archive of Datasets (NDAD), to provide advice and guidance to records managers across central government. These two projects were to secure the preservation of, and provision of access to electronic records. TNA provided a framework in the form of a route map and milestones to guide the agencies and help them meet the set targets. The milestones included development of

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[227] Great Britain. Cabinet Office. 'Modernising Government', White Paper presented to Parliament by the Prime Minister and the Minister for the Cabinet Office by Command of Her Majesty', March 1999 (Cm 4310). London: The Stationary Office, 1999.

[228] Irvine, Alexander A M, Baron of Lair , 'Government policy on archives: forward', in *Journal of the Society of Archivists*, 21:1 (2000), p 12.

policies, strategies, identifying requirements for electronic records management appraisal and preservation plans.

EROS was started as a specialised programme to ensure that electronic records of long-term value, created across government, are available for future access. To realise the overall aim of the EROS programme, TNA, working closely with government agencies, published functional requirements[229], together with metadata standards, a reference document, the optional modules and implementation guidance[230], which formed a framework for a strategy to manage electronic records in the UK government. The functional requirements provide support for government agencies in developing their own requirements for the management of electronic records. Further, they define a benchmark for software suppliers for developing and upgrading products.[231] The statement of functional requirements covers two main sections: core requirements for an electronic records management system and optional modules for additional features which may be incorporated in an electronic records management system.

The core requirements deal with the ability to:

- build and maintain a classification scheme
- manage folders, parts and records, and their metadata
- declare an electronic document as a corporate record, and maintain its integrity as an authentic representation of a business action or decision
- search for and retrieve records
- consistently manage the retention and disposition of whole folders and records, retaining what should be kept and disposing of what should not, whether by transfer to another organisation or destruction

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[229] The original requirements were published in 1999 and the revised requirements which took into account new developments in e-government were published in 2002.

[230] All these documents are available at <http://www.nationalarchives.gov.uk/electronicrecords/reqs2002>. Accessed 24 February 2006.

[231] M Todd and S Harries, 'Functional requirements for electronic records management', in *Proceedings of the DLM-Forum on electronic records: access and preservation of electronic information: best practices and solutions*, Barcelona, 6-8 May 2002 (Luxembourg: Office for Official Publications of the European Communities, 2002), p 295.

- control access to folders and records, and maintain an audit track of actions taken on them

- provide manageable, useable and robust mechanisms to carry out core functions.[232]

On the other hand, the optional modules contain additional features closely related to electronic records management systems. These include authentication and encryption facilities, document management, hybrid[233] and physical folder management. Others include content management and electronic records management systems, casework and workflow, image management and document scanning and preparing records for transfer.[234] Like MoReq, the TNA statement of functional requirements is generic to all situations but can be adapted to suit business needs. Organisations have to assess each of the elements for relevance to their own needs and these will vary from department to department.

The system has been able to foster commonality and compatibility of electronic records management systems between government departments, and guide software suppliers to develop appropriate products. Most important, these requirements fit within the ISO 15489 standard framework.[235] They will continue to be revised to take consideration of future developments impacting on the UK government.

Following implementation of electronic records management in government in the UK, case studies were published to make available some of the approaches and lessons learned so far in different agencies. Examples of government agencies that have provided good case studies on implementation of electronic records management systems include: the Cabinet Office, the Department of Trade and Industry and the Department of Health.[236] From these case studies, TNA has

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[232] Public Record Office (The National Archives), *Functional requirements for electronic records management systems, 1: functional requirements* (London: Public Record Office (TNA), 2002), p 3.

[233] For definition of a hybrid environment refer to footnote 214, page 72.

[234] Public Record Office (The National Archives), *Functional requirements for electronic records management systems, 1: functional requirements* (London: Public Record Office (TNA), 2002), p 4.

[235] More information on ISO 15489 standard is contained in Chapter 2, page 32.

[236] K Schurer, *Better access to electronic information for the citizen: the relationship between public administration and archives services concerning electronic documents and records management* (Luxembourg: Office for Official Publications of the European Communities, 2001), p 71.

produced comprehensive guidelines on the management of electronic records, appraisal, planning for systems design, preservation of electronic records and transfer to the archives. TNA has produced and is now continuing to produce electronic toolkits for departments in relation to each individual milestone. All these are available on-line.[237] These toolkits explain principles and practical implementation strategies for managing records. In addition, a comprehensive guide to realising benefits from an electronic records management programme has been issued.[238] The guide covers information on management benefits, non-financial benefits and financial benefits. Guidance on achieving and evaluating of the benefits of electronic records management is also provided.

NDAD was introduced in the late 1990s as a service to the public, aimed at preserving and providing access to public records which take the form of structured computer datasets used in government agencies.[239] The project is operated by the University of London Computer Centre on behalf of TNA. TNA and government agencies together decide which data qualifies for permanent preservation. However, selection of material for transfer to NDAD takes place in the same way as for traditional paper records. TNA's records management department works with departmental record officers to select and transfer records. The records come in different formats, for example statistics and large surveys. When the data is received, it is converted into a standard form. NDAD has a web-site through which it provides on-line finding aids and access to the public. There is also catalogue information for each holding detailing metadata, software used and administrative history of the creating agency.[240] The catalogue can be accessed on-line.

The UK has been successful in its efforts at tackling the challenges of managing electronic records because of government commitment to making resources available as part of its overall IT strategy. As is the case in the UK, Botswana, Namibia and

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[237] National Archives (UK), 'Electronic records management'. Available at <http://wwww.nationalarchives.gov.uk/electronicrecords/advice/default.htm>. Accessed 24 February 2006.

[238] I Macfarlane, *Guidelines on the realisation of benefits from electronic records management* (London: The National Archives, 2004).

[239] 'NDAD: National Digital Archive of Datasets'. Available at <http://www.ndad.nationalarchives.gov.uk>. Accessed 24 February 2006.

[240] Interview with Contract Manager, NDAD, on 20th May 2004, at the offices of The National Archives, London, UK.

South Africa, as reported in Chapter 5, are getting support from their respective governments and as such are capable of making developments in this area.

(c) Key observations

The DLM and TNA projects have successfully developed generic functional requirements for the management of electronic records: the MoReq and Requirements for Electronic Records Management systems. However, while DLM's MoReq does not cover practical implementation of how agencies can use its functional requirements, TNA's toolkits give guidance on practical implementation of the functional requirements to help match the agencies' particular needs. These two specifications can, therefore, be used to complement each other where gaps exist. Their generic nature means that they can be employed in a flexible manner with minor modifications to take into account the agencies' specific requirements. TNA requirements though intended for use in the UK should be viewed as an additional European initiative to tackle the challenges of managing electronic records.

One important lesson from the DLM Forum is that the involvement of the ICT industry and of those possessing the professional expertise required in development of programmes for the management of electronic records is essential.

3.2.2. Developments in Australia

The impact of the work of researchers in Australia, notably the continuum approach reviewed in Chapter 2, has been felt internationally. The researchers have concentrated particularly on the issues of meeting the challenges of managing electronic records. The Victorian Electronic Records Strategy (VERS) and the Strategic Partnerships with Industry-Research and Training (SPIRT) are two of the most detailed and advanced projects for the management of electronic records in Australia.

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(a) The VERS project

The VERS project was initiated by the Public Record Office Victoria (PROV) in 1995 to assist agencies in developing systems for managing electronic records, archiving systems and policies that fit their existing business processes and records management structures.[241] The overall aim of the project was to ensure the capture of accurate, reliable and authentic electronic records to support good governance and preservation of digital heritage. The project can broadly be considered as having three key stages: preliminary investigation into potential solutions, building and testing a demonstrator system (prototype), and implementation of the system.

The first stage of the VERS project involved an investigation of how digital records could be safeguarded against obsolescence caused by changes and developments in computer software, hardware and storage media.[242] The key goals were to understand the government processes which led to records creation, and the ways in which these records were used, managed and archived. This investigation resulted in a report, *Keeping electronic records forever,* which was published in 1997.[243] The report was a starting point for collaborative efforts between the Victorian State government, ICT industry and academia to find practical ways to deal with digital records. The investigation found that no satisfactory solution existed at that time and it recommended encapsulation[244] as a digital preservation technique in favour of other possible solutions like system preservation, emulation, migration and standardisation.[245]

The second stage of the project involved building a demonstrator system, a prototype based on the notion of encapsulating files. This system had the VERS Encapsulation

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[241] 'Digital preservation: the Australian experience'. Available at <http://www.nla.gov.au/nla/staffpaper/dw001004.html>. Accessed 3 February 2006, p 3.

[242] J Smith, VERS: Victorian electronic records strategy, paper presented during a Digital Preservation Seminar, 2004. Available at <http://www.cs.odu.ed/~mln/teaching/cs791-s04/257,3,VERSProjectStage1:Investigation>. Accessed 8 February 2006, p 3.

[243] Ernst and Young, *Keeping electronic records forever* (Melbourne: Public Record Office Victoria, 1997), Available at <http://www.prov.vic.gov.au/vers/pdf/kerfv.pdf>. Accessed 23 February 2006.

[244] Encapsulation involves wrapping the information to be preserved within a human readable wrapper that contains metadata.

[245] The recommendations were published in 1997 in *Keeping electronic records forever.* Available at <http://www.prov.vic.gov.au/vers/pdf/kerfv.pdf>. Accessed 23 February 2006.

Object (VEO) as its architecture. VEO is composed of a VEO object, content document and encoding. Each layer contains metadata, authentication information and digital data.[246] Testing of the system focused on three major components: record capture, repository and record discovery. The metadata was generated automatically during record capture. Following from this, the records were captured from a range of diverse applications and in a variety of formats. A record encapsulation module converts records and their associated metadata into long life electronic formats. The records are locked to avoid undetectable modifications and passed to the repository. The repository then sends a copy of the record to the discovery system, which then provides the interface for locating and retrieving the records[247]. The system demonstrated that it was possible to capture records from existing business systems and make them available and accessible in the long-term. This stage also enabled PROV to produce a costing analysis to use as a basis for advice to government and industry on essential archiving requirements.

The VERS standard: a standard for the management of electronic records, PROS 99/007, was developed in 2000 and its revised version published in July 2002. This standard has specifications which describe system requirements for the preservation of electronic records, details metadata, long-term preservation formats and export of electronic records to PROV.[248] It also provides information on explanatory material and examples in support of the standard, record capture and detailed technical descriptions. The recommended metadata was based on the Pittsburgh model[249] but has been scaled down to a minimal metadata set.

The third stage involved carrying out a pilot project of the VERS system using the Department of Infrastructure (DoI) as a test bed. The system was successfully piloted in July 2001 and this implementation included record capture and management of

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[246] A Waugh, R Wilkinson, B Hills and J Dell'oro, 'Preserving digital information forever', in *Proceedings of the fifth ACM conference on digital libraries* (San Antonia, TX: ACM Press, 2000), pp. 179-180.

[247] Public Records Office Victoria project team, *Victorian Electronic Records Strategy: final report*, 1999 (Melbourne: Public Records Office Victoria, 1998). Available at <http://www.vic.lgov.au/vers/pdf/final/pdf>. Accessed 6 March 2006, pp. 21-28.

[248] 'Victorian Electronic Records Strategy-forever digital'. Available at <http://www.prov.vic.gov.au/vers/standard>. Accessed 23 February 2006, p 3.

[249] The Pittsburgh model is discussed in section 3.2.3 (a).

VERS encapsulated objects.[250] The pilot project served well for the whole of government and it helped with building an experience base to support further VERS roll-out across Victorian government which started in 2002.

A VERS centre of excellence was established in 2002 and has staff including technical experts and a contract lawyer.[251] The centre is overseeing the roll-out of VERS across the government of Victoria. It provides resources, advice and guidance and conducts research into long-term preservation of electronic records.[252] It is also responsible for building a digital repository to preserve and provide access to permanent electronic records. VERS has released an on-line VEO toolkit which contains a step-by-step implementation guide. This will support agencies and vendors in converting their digital records to VEO to enable their transfer to PROV.[253]

The outcomes of VERS have delivered useful information that has contributed to application of the VERS methodology in different agencies in Australia. The key finding of the VERS project is that it is possible and practical to capture electronic records in a long-term format to archive and discover them. VERS is being promoted globally and has been accepted and used by archival institutions, national and international governments and local and global product vendors.[254] The strength of this project depends on collaboration with others including Monash University (Australia) and the National Archives and Record Administration (USA) which provided much of the necessary expertise.[255] The project continues to develop as a world leader in the long-term preservation and management of digital records.

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[250] K Sinclair, 'The Victorian Electronic Records Strategy: a strategy developed by the State Government of Victoria (Australia) to preserve electronic records for the long-term.' Available at <http://www.pro.vic.gov.au/vers/pdf/acarm.pdf>. Accessed 6 March 2006, pp. 6-7.

[251] New, notes, VERS centre of excellence', in *Archives and Manuscripts*, vol. 31:1 (2003), p 145.

[252] 'Victorian Electronic Records Strategy – forever digital: background'. Available at <http://www.prov.vic.gov.au/vers/vers/background.htm>. Accessed 23 February 2006, p 1.

[253] 'Vers Encapsulation Object (VEO) toolkit scope'. Available at <http://www.prov.vic.gov.au/vers/pdf/PROV-VEOToolkitScope-Consultation-V1.pdf>. Accessed 23 February 2006, p 1.

[254] 'Victorian Electronic Records Strategy-forever digital'. Avilable at <http://www.prov.vic.gov.au/vers/vers/default.htm>. Accessed 23 February 2006, p 1.

[255] Public Record Office Victoria project team, *Victorian Electronic Records Strategy: final report*, 1999 (Melbourne: Public Record Office Victoria, 1998). Available at <http://www.prov.vic.gov.au/vers/pdf/final.pdf>. Accessed 23 February 2006, p 3.

(b) The SPIRT project

The SPIRT project (1998-1999), led by researchers at Monash University, developed the Australian Recordkeeping Metadata Schema (RKMS), which is a framework for creating metadata sets for use in domain-specific recordkeeping systems. In identifying the metadata, the research team, using the records continuum model and Australian series system as a conceptual frame of reference, developed three classes of entities: the business entities, people entities and records entities.[256] The external and internal mandates associated with these entities, which govern the relationship between them, were also considered. The developed elements identify and describe significant features of business context in which records are created, managed and used. They identify and describe the people or agents involved and the records themselves. They also link the business context to the people or agents carrying out business and the records that document it, and they reference the mandates that authorise and control business activity.[257] The metadata schema emphasises the need to document business transactions by maintaining close links between the people/agents involved in a business process, the specific transactions they carry out, and the resulting records. RKMS includes elements which are common to all entities and those which are unique to a particular class of entities.

A significant feature of this high level metadata schema is that when it is implemented, it can apply to records at any level of aggregation, to business activities ranging from individual to societal transaction, to the conceptual purpose it serves and to agents at any level of organisational and societal hierarchies.[258] In mapping this metadata, SPIRT referred to a variety of other metadata standards, including VERS, US Department of Defense standard[259] and Pittsburgh's Business Acceptable Communications (BAC) model among others.

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[256] G Acland, K Cumming and S McKemmish, 'The end of the beginning: the SPIRT recordkeeping metadata project'. Available at <http://www.sims.monash.edu.au/research/rcrg/publications/asaq99.html>. Accessed 3 February 2006, p 4.

[257] G Acland, K Cumming and S McKemmish, 'The end of the beginning: the SPIRT recordkeeping metadata project', Available at <http://www.sims.monash.edu.au/research/rcrg/publications/asaq99.html>. Accessed 3 February 2006, p 7.

[258] G Acland, K Cumming and S McKemmish, 'The end of the beginning: the SPIRT recordkeeping metadata project'. Available at <http://www.sims.monash.edu.au/research/rcrg/publications/asaq99.html>. Accessed 3 February 2006, p 10.

[259] United States Department of Defense 5015.2 STD, 'Design criteria standard for electronic records management software applications'. Available at <http://jitc.fhu.disa.mil/recmgt/p50152s2.pdf>. Accessed 5 April 2004.

(c) Key observations

These Australian projects have been aimed at developing a framework to support business, social and cultural needs for the creation and management of electronic records in the networked environment; making records accessible; and sustaining environments in which electronic records can continue to function over time as evidence for governance and accountability. Other initiatives in Australia, including the Australian Standard, AS4390-1996[260], which applies to records regardless of their format, have produced guidelines that effect the long-term preservation of electronic records.

The VERS and SPIRT metadata are closely related. However, while VERS concentrates on metadata for the long-term preservation of electronic records in archival systems, SPIRT centres attention on metadata for the management of electronic records in their immediate business context. Further, the metadata outlined in VERS is specific to the record entity only and does not separate the business and agent entities from the record. In contrast, the SPIRT metadata makes a clear distinction between the record, the business processes generating the record and the agents involved in carrying out the business. This implies that the VERS metadata can be enclosed within the SPIRT metadata structure. In addition to representing the minimal metadata, VERS specification is intended specifically for the public sector in Victoria, whereas SPIRT is more general.

However, VERS has taken a practical approach by building an actual preservation system which was implemented and has provided evidence that it is possible to preserve electronic records in a long-term format. Its striking feature is its ability to ensure accessibility to electronic records, but at the same time securing them from unauthorised access.

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[260] Standards Australia: *AS 4390-1996, Australian standard: Records management, Parts 1-6* (Homebush: Standards Association of Australia, 1996).

3.2.3. Developments in the USA and Canada

(a) The Pittsburgh project

The Pittsburgh project in the School of Information Sciences, Pittsburgh University, was a pioneer in producing a framework to use in designing recordkeeping systems as part of a solution to the management of electronic records. The project started in 1993 as a concerted effort to draw up specific methods and functional requirements for evidence in recordkeeping. In particular, the project established generic guidelines in four areas: compliance with best practice, accountable recordkeeping systems and the capturing of complete records, their maintenance and usability.[261] First, an organisation wishing to manage its electronic records had to follow codes and regulations: therefore it had to know what was required of it in order to acquiesce to policies and procedures. This was to ensure compliance with highest quality of information management. Second, the organisation had to be responsible and ensure that the records captured were those used in the normal course of business. Third, the organisation was to have the capacity to ensure that records were captured whenever there was a transaction. These records had to be identifiable, accurate, understandable and meaningful. According to the requirements, the record had to be maintained and any changes made to it be traceable. Fourth, the record had to be exportable, available, renderable and evidential. The project identified authentic electronic records as those which an authorised records creator must have originated. Within these guidelines, organisations had to develop their own methods relevant to their contexts.

The core intent of the project was to develop a warrant for recordkeeping from best practice; to develop functional requirements of contextual 'recordness' based on evidence and best practice; to translate these requirements into technical product rules that could be used to automate the creation of 'records' through metadata encapsulation; to field-test these approaches and implementation tactics; to refine the requirements, specifications and tactics accordingly; and to promulgate the results to

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[261] Ann Pederson, Lecturer Notes, University of New South Wales, Australia, 9 August 1999. See also D Bearman and K Sochats, 'Metadata requirements for evidence (1996)'. Available at <http://www.archimuse.com/papers/nhprc/BACartic.html>. Accessed 1 March 2006, p 3.

software companies, business, government and standards organisations for widespread implementation.

The Pittsburgh project was able to produce a general model with functional requirements by 1996. Though related specifically to electronic systems, this was also applicable to manual or hybrid systems.[262] The functional requirements that were developed have provided guidance that organisations can use and adapt as necessary to meet their own needs. Since the Pittsburgh project, conferences dedicated to the management of electronic records have been held around the world. As an early starter, the Pittsburgh project inspired many projects that followed.

(b) The University of British Columbia (UBC) project

The UBC's School of Library, Archival and Information Studies project (1994-1997) on the preservation of the integrity of electronic records was carried out to identify the best methods and define requirements for creating, handling and preserving the reliability and authenticity of electronic records during their active and semi-active life.[263] Its methodological approach formulated some general premises about the nature of records and examined if these were supported in electronic records. These premises generated a number of hypotheses expressing the necessary and sufficient components of a complete, reliable, and authentic electronic record.[264] The hypotheses were then translated into detailed roles for the creation and maintenance of reliable and authentic records. The first phase of the research work consisted of articulating concepts of the project, that is, reliability and authenticity of the record. Its specific goals were, therefore, to:

- establish what a record was in principle and how it could be recognised in the electronic environment;

- determine electronic systems that generated records;

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[262] G S Hunter, *Preserving digital information: a how-to-do-it manual* (New York, NY: Neal-Schuman, 2000), p 39.

[263] 'UBC project: preservation and integrity of electronic records, introduction'. Available at <http://www.interpares.org/UBCProject/intro.htm>. Accessed 15 February 2006.

[264] H MacNeill, *Trusting records: legal, historical and diplomatic perspectives* (Dordrecht: Kluwer Academic Publishers, 2000), p 90.

- formulate criteria that allowed for the segregation of records from all other types of information in electronic systems;

- define the conceptual requirements for guaranteeing the reliability and authenticity of records in electronic systems;

- assess these requirements against different administrative, judicial, cultural, and disciplinary points of view.[265]

The findings of the project fell into two categories. The first involved specific methods for ensuring authenticity and reliability of electronic records. The second involved management issues that concerned the maintenance and preservation of reliable and authentic records. In relation to specific methods for ensuring authenticity and reliability, the project found that: reliability and authenticity of electronic records were best ensured by embedding procedural roles in the overall records system; reliability and authenticity of electronic records were guaranteed by instituting controls that tightened connection between and among all records in the record system and that reliability and authenticity of electronic records could only be preserved if the management of electronic and non-electronic components of a records system was integrated.[266] In relation to management issues, the project found that there were two managerial phases, one involving active and semi-active records, and the other in-active records. Further, it found that entrusting the creating body with responsibility for reliability and the preserving body with the responsibility for authenticity of records best preserves the integrity of electronic records. According to L Duranti, the findings of the project demonstrated that transfer of records (to an archival body) was an essential requirement for ensuring authenticity.[267]

Overall, the findings contributed to an understanding of the nature of records in electronic environments and the specific methods necessary to ensure their reliability and authenticity during their active and semi-active stages. The project findings provided answers to what constitute a complete, reliable and authentic record in an

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[265] G S Hunter, *Preserving digital information: a how-to-do-it manual* (New York, NY: Neal-Schuman, 2000), p 34.

[266] L Duranti, 'The preservation of the integrity of electronic records', in *Proceedings of the DLM Forum on electronic records*, Brussels, 18-20 December 1996 (Luxembourg: Office for Official Publications of European Communities, 1997), p 61.

[267] L Duranti, 'The preservation of the integrity of electronic records', in *Proceedings of the DLM Forum on electronic records*, Brussels, 18-20 December 1996 (Luxembourg: Office for Official Publications of European Communities, 1997), p 61.

electronic environment. The findings also acknowledged that procedural, administrative context of electronic creation were all important in assessing the nature of records. The research resulted in a set of standards and rules, notably the DoD 5015.2 standard, for developing and implementing a trustworthy electronic recordkeeping system.

The UBC research group worked closely with the US Department of Defense Records Management Task Force and the resulting standards and rules were used to develop its DoD 5015.2 standard for certifying electronic records applications.[268] Features of this standard have interested a number of countries. In fact, as this study will later show, this standard is being used by the National Archives and Records Service of South Africa for certification of electronic records management software applications. The same standard has also been used by the Botswana National Archives and Records Service in preparing its statement of user requirements (SOUR), which is expected to guide computerisation of recordkeeping in government.[269]

(c) The InterPARES project

The International Research on Permanent Authentic Records in Electronic Systems (InterPARES) project began in 1999 and is still in progress at the time of writing. It is a major international research initiative bringing together archival scholars, computer engineering scholars, national archival institutions and the private industry collaborating to formulate international, national and organisational policies, strategies and standards for the long-term preservation of authentic records created in electronic systems.[270] The national teams are Canadian, American and Australian researchers with European and Asian contributors forming multi-national teams.

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[268] United States Department of Defense 5015.2 STD, 'Design criteria standard for electronic records management software applications'. Available at <http://jitc.fhu.disa.mil/recmgt/p50152s2.pdf>. Accessed 4 April 2004, p 2.

[269] Details on South Africa and Botswana's strategies for managing electronic records are contained in Chapter 6, section 6.2.

[270] L Duranti, 'Permanently authentic electronic records: an international call to action', in *Proceedings of the DLM-Forum on electronic records: European citizens and electronic information, the memory of the information society,* Brussels, 18-19 October, 1999 (Luxembourg: Office for Official Publications of the European Communities, 2000), p 159.

InterPARES, which forms an extension (the second phase) of the UBC research work, came about following the need to determine conditions for preserving records no longer needed for current business. It focused the efforts of experts from a wide variety of disciplines and countries on the problem of guaranteeing authenticity of the electronic record over time. Phase one of the project (InterPARES 1, 1999-2001) sought to address the long-term preservation of electronic records that were no longer needed in the day-to-day business but which had to be preserved for future operational, legal or historical use.[271] In doing this, the research focused on four main domains:

- identifying requirements that are necessary for preserving and maintaining the authenticity of electronic records over time,

- investigating and establishing the effect/influence of digital technologies on the methodology of appraisal and whether there is a need to change these methodologies,

- developing methods, procedures and rules for preservation of electronic records according to requirements identified in domain one and defining responsibilities for implementing them,

- developing a framework for the formulation of principles that will guide the development of international, national and organisational strategies, policies and standards for the long-term preservation of authentic electronic records.[272]

The research was undertaken by four different task forces each addressing the identified domains. The preliminary findings were tested and results communicated to the task forces. Revisions were made and re-tested. The multi-national composition of the research teams enabled examination of the results in the context of administrative, legal and social system of each country involved.[273] This phase produced requirements for the authenticity models of the processes of selection and preservation of electronic records, a glossary and other documents.

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[271] G S Hunter, *Preserving digital information: a how-to-do-it manual* (New York, NY: Neal-Schuman, 2000), p 46.

[272] G S Hunter, *Preserving digital information: a how-to-do-it manual* (New York, NY: Neal-Schuman, 2000), pp. 46-48.

[273] L Duranti and K Thibodeau, 'The InterPARES international research project', in *The Information Management Journal*, vol. 35:1 (2001), pp. 44-45.

The second phase of the InterPARES project (InterPARES 2) started in 2002 and will be completed in 2006. In addition to dealing with authenticity, InterPARES 2 is focusing on accuracy throughout the life-cycle of records. It is also looking at records generated in new digital environments such as those produced in the context of artistic, scientific and government activities that are conducted using experimental, interactive and dynamic computer technology.[274] To date, the project represents one of the largest and most comprehensive efforts to ensure authenticity and long-term preservation of electronic records.

(d) Key observations

The Pittsburgh, UBC and InterPARES projects are all concerned with the design of long-term preservation systems that ensure the reliability and authenticity of electronic records as evidence. The Pittsburgh project, however, emerges as a unique ground-breaking project which set the pace for development of generic guidelines for evidence in recordkeeping systems. Both UBC and InterPARES, and many other projects around the world have drawn from its innovative experience.

The Pittsburgh and UBC projects focused primarily on preserving the integrity of electronic records in their active and semi-active stages and successfully produced theories and methodologies that ensured their reliability and authenticity. In contrast, InterPARES has concentrated on the preservation of electronic records in their inactive stage. Nevertheless, the research initiatives of the three projects have centred on the nature and meaning of a record and explicit methods that ensure its reliability and authenticity.

Most interestingly, InterPARES, as compared to all other world-wide projects, includes the highest level of representation from different nationalities: European, Australian, American, Canadian and Asian. It is, however, a pity that the African region is not represented, making claims of its "universal context" questionable. This concern leads to a need for a more universal study. As the International Council on Archives' committee on archival legal matters has recommended, a world survey on

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[274] 'InterPARES 2 project: experiential, interactive and dynamic records'. Available at
<http://www.interpares.org/ip2_index.cfm>. Accessed 6 March 2006, p 1.

authentic electronic records is needed.[275] Such a new research project would help address needs in those nations not represented in ongoing research projects around the world and most importantly tackle challenges in developing countries and the southern African region in particular.

3.3. Case studies from developing countries by the IRMT

The IRMT has, since its formation in 1989, operated on the basis of teamwork and collaboration, consultancies, education and research projects to establish integrated records management systems for controlling public sector records in developing countries. In particular, it has worked with partners across the Commonwealth to support developing country governments in identifying relevant and sustainable strategies for managing records in all formats. This has identified infrastructure requirements and developed training materials, laying the foundation for the introduction of computerised systems and management of electronic records. Consultancy work has supported local officials and professionals in introducing infrastructure needed to manage official records. Education projects have supported professionals in understanding theory and practice in relation to local realities. On the other hand, the research projects have studied requirements for well managed records in key areas, most recently financial and human resource management.[276]

From 2001, the IRMT delivered the 'Evidence-Based Governance in the Electronic-Age' project. This was carried out in partnership with the World Bank to coordinate globally the management of records particularly in the electronic environment.[277] In particular, the project was aimed at modernising records management systems and improving public sector management, to provide complete and trustworthy information, and develop integrated systems for the management of paper-based and electronic records. A number of challenges justified the need for undertaking this

[275] International Council on Archives: Committee on archival legal matters, *Authenticity of electronic records*, a report prepared for UNESCO, Studies 13-1, November 2002 (Paris: ICA, 2002). Available at <http://www.ica.org/biblio/study13_1E.pdf>. Accessed 23 February 2006, pp. 10-11.

[276] A number of publications resulting from the consultancy work and research projects are available on the IRMTS's website at <http://www.irmt.org/download/documents.html#ebgp>.

[277] 'Evidence-Based Governance in the Electronic-Age'. Available at <http://www.irmt.org/evidence/wbabout.html>. Accessed 24 August 2005.

project. First, there was the existence of gaps in planning and knowledge in the management of electronic records in developing countries; second, there was lack of strategies for management of electronic records and third, there were discrepancies in legislations managing records.[278]

The first phase of the evidence-based project, which started in July 2001, developed assessment tools to measure the quality of records management systems. The diagnostic tools were developed and used to determine whether records management systems in a given government supported requirements in good governance in the key areas of finance, human resource management and legal and judicial reform.[279] More specifically the tool had to identify weaknesses and provide solutions in relation to the needs. The strength of the tools was its application in any governance context.

The second phase, from September 2002, provided a global forum through face-to-face sessions, electronic discussions[280] and video conferences[281] to stimulate global debate on public sector records. The face-to face sessions held in South Africa in September 2002 provided a unique opportunity to discuss issues at the top management level. The sessions brought together archivists from Africa, Asia (south and east), the Pacific and the Caribbean to share experiences and examine current issues in the management of electronic records.[282] The sessions focused on good governance, electronic government, transparency, accountability, access to information and human rights. Apart from sharing experiences, the forum had a significant impact, as it was able to highlight common problems faced by developing countries which would possibly be addressed using common approaches and strategies. This provided empowerment to teams involved in delivering professional development training for the benefit of archivists in individual countries. National

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[278] Discussion on the role of the IRMT in managing electronic records, with Project Manager, Evidence-Based Governance in the Electronic Age, on 19th May 2004, at the offices of the IRMT, London, UK.

[279] P Van Garderen, 'Evidence-Based Governance in Electronic-Age: records management capacity framework', May 2003 Progress report, p 2. The unpublished report was presented to the author of this thesis during a visit to the IRMT offices on 19th May 2004.

[280] The summary of e-discussions can be accessed through <http://www.irmt/org/evidence/wbstudies.html>.

[281] Information on video conferences can be accessed through < http://www.irmt/org/evidence/wbstudies.html>.

[282] M Hoyle, 'International Records Management Trust/World Bank Forum, Evidence-Based Governance in the Electronic Age', Johannesburg, South Africa. Available at <http://www.acarm.org/documents/issue32/hyle.pdf>. Accessed 7 November 2003.

archivists were trained in developing cost effective analyses and national strategic plans for managing electronic records. Electronic discussions explored the challenges and opportunities of electronic information management, while the video conferences discussed the importance of records as the basis for accountability and protection of citizens' rights.

The third phase, which started in 2003 and is expected to be completed in 2006, is addressing continuing skills development needed to manage electronic records.[283] A workshop held in Botswana from 20th March to 4th April 2003 facilitated the design of the capacity framework model to be used to assess and improve the records management capacity in areas of government finance, the judiciary and human resources.[284] A records management capacity assessment system (RMCAS) software has been developed to collect data on current recordkeeping systems, and where there are weaknesses, users will be able to obtain information about capacity requirements and obtain appropriate materials, which are available on-line through the IRMT web-site, for capacity building.[285] The tool has been successfully tested in government agencies in Botswana, Kenya, Ghana, India, Malawi, Singapore and South Africa.

As part of its future plans (2005-2010), the IRMT is planning to develop web-based training materials for professionals in eastern and southern Africa. This will include revising versions of existing manuals to take into account continuous changes in the electronic environment, developing new training modules in an e-learning format and developing case studies by staff and students of participating universities of east and southern Africa and archival institutions in the ESARBICA region.[286] African universities (University of Botswana, Moi University, Kenya and University of

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[283] 'Evidence-Based Governance in the Electronic-Age'. Available at <http://www.irmt.org/evidence/wbabout.html>. Accessed 10 February 2004.

[284] This tool was developed through integration and adaptation of the National Archives of Canada Information Management Capacity check tool into the structure and content of the IRMT tool. See: P Van Garderen, 'Evidence-Based Governance in Electronic-Age: records management capacity framework', May 2003 Progress report, pp. 5-6.

[285] S Demb, 'An introduction to records management capacity assessment system (RMCAS)', in ESARBICA Newsletter, Issue 5 (2004). Available at <http://geocites.com/esarbica/esarnews5.pdf>. Accessed 6 March 2006, pp. 8-9.

[286] P Van Garderen, 'Evidence-Based Governance in Electronic-Age: records management capacity framework', May 2003 Progress report, p 3. The unpublished report was presented to the author of this thesis during a visit to the IRMT offices on 19th May 2004.

Witwatersrand, SA) will work with the IRMT and its network of UK professionals to develop the training materials. Annual working meetings will be held to plan and monitor modules. Once designed, the modules will be piloted, formally introduced and upgraded as necessary.

The IRMT projects have been successful in bringing together a global network of institutions to tackle problems in the management of electronic records. Like the DLM-Forum, IRMT has placed emphasis on the need and importance of cooperation and partnerships in tackling the challenges of managing electronic records. This has helped in ensuring that public records are efficiently managed to ensure accountability, good governance and transparency. IRMT has remained in touch with practical realities in developing countries. It has been able to put in place the kind of foundation that will go a long way in helping countries in the southern African region to come up with policies, training programmes and other strategies for the management of electronic records.

3.4. The role of the International Council on Archives (ICA)

At the international level, efforts by the ICA are worth noting. The ICA was formed in 1948 as a professional body to bring together national archive administrations, professional associations of archivists, regional and local archives and archives of other organisations as well as individual archivists.[287] Since its formation, it has played a major role in encouraging the sharing and exchange of information amongst the international archival and records management professionals and in the creation of practical and professional products. Its role, however, has been focused on providing an international context to projects undertaken around the world on the management of electronic records through its electronic records management committee.

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[287] G MacKenzie, 'The ICA perspective on electronic records and documents'. Available at
<http://europa.eu.int/comm/secretariat_general/edoc_management/dlm_forum/doc/03bis_Mackenzie.pdf>.
Accessed 31 January 2006, p 1.

The ICA and the United Nations Educational and Scientific Cultural Organisation (UNESCO) have shown particular interest in the long-term storage of authentic electronic information and the global status of electronic records. Two studies were conducted by the ICA in 2002 and 2004 to address the authenticity of electronic records. The 2002 study focused on identifying the issues that archivists and record keepers have to keep in mind to ensure authenticity of electronic records.[288] In particular, the study concluded that authenticity should be of highest priority for the archives and records profession and emphasised the need to preserve electronic records so that they serve as authentic evidence. The recommendations emphasised the need for: education and training; a world survey on the status of authentic electronic records; the development of concrete guidelines on preservation; the organisation of a world forum on preservation of digital cultural heritage; increased resources and coordination for preservation of digital cultural heritage.[289] On the other hand, the 2004 study addressed the global status of the authenticity of electronic records, with particular attention to developing countries.[290] The study identified measures necessary to ensure authenticity of electronic records, their preservation and continued access. Recommendations offered by the study provide an opportunity for the involvement of UNESCO and ICA in helping developing countries address the authenticity of electronic records in their own contexts.

The ICA, through its committee on electronic records, has produced a valuable workbook[291] which provides practical guidance for the archives professionals. This workbook follows up on the 'Guide for managing electronic records from an archival perspective', first published in 1997.[292] The workbook is valuable in helping archival institutions reposition themselves for a new role in the management of electronic

[288] International Council on Archives: Committee on archival legal matters, Authenticity of electronic records, a report prepared for UNESCO, Studies 13-1, November 2002 (Paris: ICA, 2002). Available at <http://www.ica.org/biblio/study13_1E.pdf>. Accessed 13 February 2006, p 3.

[289] International Council on Archives: Committee on archival legal matters, Authenticity of electronic records, a report prepared for UNESCO, Studies 13-1, November 2002 (Paris: ICA, 2002). Available at <http://www.ica.org/biblio/study13_1E.pdf>. Accessed 13 February 2006, pp. 10-11.

[290] International Council on Archives, Authenticity of electronic records, a report prepared by Laura Millar representing the IRMT, Study 13-2, January 2004 (Paris: ICA, 2004), p 4.

[291] International Council on Archives: Committee on current records in an electronic environment, Electronic records: a workbook for archivists, Study 16, April 2005 (Paris: ICA, 2005), Available at <http://www.ica.org/biblio/Study1 6ENG_5_2.pdf>. Accessed 23 February 2006.

[292] International Council on Archives: Committee on electronic records, Guide for managing electronic records from an archival perspective, Study 8, February 1997 (Paris: ICA, 1997).

records. Most important, the workbook shows how to influence electronic records management practices from a strategic perspective, how to integrate recordkeeping functions into new or already existing systems and covers different options for the preservation of electronic records. [293]

The workbook advises on the need to develop a strategic vision, influence recordkeeping policy and practice and suggests different implementation approaches from which archivists can choose.[294] It stresses the importance of participating in major decisions concerning systems development, provides steps to take in addressing electronic records and development of tactical plans.[295] Most important, it emphasises on the need for archivists to be involved at conception of recordkeeping systems.

This workbook will be helpful for Botswana, Namibia and South Africa, as they are presently working on establishing systems for the management of records in the electronic environment. Overall, efforts by the ICA are expected to help developing countries with development of professional skills and design of methodologies for the management of electronic records. In fact, a proposal on Management of Public Sector Records (MPSR) in developing countries by the ICA in partnership with UNESCO, stresses the need to develop existing archival structures through staff training.[296]

Since the ICA provides international context to projects and a network of professional contacts, it is currently looking for projects which can have practical value throughout the world to which it can lend its expertise and name. This provides a worthwhile opportunity for Botswana, Namibia and South Africa to develop projects at both national and regional levels in which the ICA can play a major role. The

[293] G MacKenzie, 'The ICA perspective on electronic records and documents', Available at <http://europa.eu.int/comm/secretariat_general/edoc_management/dlm_forum/doc/03bis_Mackenzie.pdf>. Accessed 31 January 2006, pp. 2-3.

[294] International Council on Archives: Committee on current records in an electronic environment, *Electronic records: a workbook for archivists*, Study 16, April 2005 (Paris: ICA, 2005), Available at <http://www.ica.org/biblio/Study1_6ENG_5_2.pdf>. Accessed 23 February 2006, pp. 17-21.

[295] International Council on Archives: Committee on current records in an electronic environment, *Electronic records: a workbook for archivists*, Study 16, April 2005 (Paris: ICA, 2005). Available at <http://www.ica.org/biblio/Study1_6ENG_5_2.pdf>. Accessed 23 February 2006, p. 26.

[296] International Council on Archives, *The management of public sector records in developing countries*, a proposal from ICA, Paris, France'. Available at <http://magnet.undp.org/Docs/efa/ICA~1.HTM>. Accessed 24 October 2003, p 1.

recommendations of this study should be seen as a beginning to this. Also needed is an evaluation of how far the research undertaken in developed countries is appropriate for the rather different conditions prevailing in the developing world.

3.5. Conclusion

A review of the state of the management of electronic records in this chapter has indicated that there are already a wide range of research projects and practical approaches underway to find solutions to the challenges of managing electronic records. All the projects reviewed are important and testify to the recognition which countries give to the importance of managing this new format of records. As the ICA has rightly observed, it would be wasteful to embark on yet another study on how to preserve authentic electronic records.[297] What is needed now is an evaluation of the research completed, which will also indicate the ways of implementing the results of these research projects.

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[297] International Council on Archives: Committee on archival legal matters, *Authenticity of electronic records*, a report prepared for UNESCO, Studies 13-1, November 2002 (Paris: ICA, 2002). Available at <http://www.ica.org/biblio/study13_1E.pdf>. Accessed 13 February 2006, p 10.

CHAPTER 4

BACKGROUND TO ICT DEVELOPMENT IN BOTSWANA, NAMIBIA AND SOUTH AFRICA

4.1. Introduction

Objective three of this study was to explore background to ICT development in Botswana, Namibia and South. This chapter, therefore, presents and analyses the findings on ICT development from the field research conducted from June to September 2003 and June to October 2004 on the management of electronic records in Botswana, Namibia and South Africa

In doing this, the chapter presents and analyses the data collected using Questionnaire A supplemented by interviews which mainly focused on the background to ICT development, including coordination and implementation of ICT initiatives, ICT availability and access, challenges faced in ICT development and attempts made by governments in Botswana, Namibia and South Africa to address those challenges. In understanding electronic records, it must be borne in mind that they are dependent on technology in the form of hardware and software. It is evident, therefore, that the rapidity of technological changes means that the hardware and the software have to be continually upgraded to allow access to these records.[298] As such, the background on ICT development is important as it provides information and enables an understanding of the relevant infrastructure which creates conditions for electronic record creation, storage, use, access and preservation. Information was also sought on how much the ICT industry knew of electronic recordkeeping. Questionnaire A was circulated and interview questions were administered to directors, senior managers, information technology specialists and personnel assistants in government agencies in the three countries. Details of the respondents to this questionnaire and interviews are contained in section 1.6 on research methodology. The questionnaire and interview schedule are attached as appendices

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[298] P Ngulube, 'Strategies for managing digital records and documents in the public sector in sub-Saharan Africa'. Available at <http://www.ifla.org/IV/ifla67/papers/110-172e.pdf>. Accessed 13 December 2003, p 2.

A and D. In total 16 respondents from the three countries provided the data presented in this chapter. Each of the sections reports on the current position of developments, plans for moving forward and any aspirations and wishes for the future. A summary of findings of Questionnaire A and interview responses is given in Table 4-1. Sections 4.2 to 4.5 give in detail the findings of Questionnaire A and interviews. Section 4.6 discusses the implications of the findings on ICT development. Section 4.7 provides a concluding summary of the chapter.

Table 4-1 Summary of findings for Questionnaire A and interview responses (Background to ICT development)

THEME	BOTSWANA	NAMIBIA	SOUTH AFRICA
4.2 Coordination and implementation of ICT initiatives	- new ministry set up. - industry liberalised and has independent regulator. - new ICT policy to be implemented end of 2006. - role of private sector important.	- Office of Prime Minister in charge. - industry liberalised and to have new independent regulator. - new communication bill tabled before parliament in 2004. - National Information and Communications Infrastructure (NICI) policy available.	- DoC and Government Information Technology Officers' Council (GITOC) responsible. - industry liberalised and has independent regulator. - frameworks for policies, infrastructure, partnerships and taskforces have supported ICT. - rural areas targeted and using pilot projects.
4.3 ICT infrastructure availability and access	- availability concentrated in urban areas. - most rural areas not covered. - availability to be ensured in rural areas through planned projects. - progress made in electrification.	- availability concentrated in urban areas. - most rural areas not covered, but progress made. - plans underway for expansion of facilities. - power supply limiting factor in rural areas.	- availability concentrated in urban areas. - progress made in a number of rural areas. - rolling out facilities in services in multi-purpose community centres. - most areas electrified.
4.4 The challenges in ICT development and facing them	- computer illiteracy. - low level of education. - high cost of technology. - lack of awareness on use. - lack of skills transfer. - policy drafted to address access. - government encouraging BTC and other licensed operators to deploy networks in rural areas. - create awareness and training.	- computer illiteracy. - low level of education. - high cost of technology - lack of awareness on use. - lack of skills transfer - provide accessibility through Universal Service Fund. - rural areas targeted as priority areas. - need to retain skilled workers.	- computer illiteracy. - low level of education. - high cost of technology. - lack of awareness on use. - lack of skills transfer. - SchoolNet deploying computer labs in rural areas. - initiatives made on telecentres. -reducing costs through consultation with Reserve Bank. - need to retain skilled workers.
4.5 ICT industry and knowledge of recordkeeping	- have general knowledge of information and records management. - seem to appreciate the role records management plays in different organisations.	- have general knowledge of information and records management. - felt records management has to be taken seriously in government institutions.	- few have general knowledge of document and records management. - an effort made to create awareness on importance of document and records management.

Sections 4.2 to 4.5 will report further on details of the summarised findings presented in Table 4-1.

4.2. Coordination and implementation of ICT initiatives: presentation of findings of Questionnaire A and interview responses (Table 4-1)

4.2.1. Botswana

When asked about attempts being made to implement and coordinate the development of ICT, the respondents reported that the setting up of a new ministry in 2002, the Ministry of Communications, Science and Technology (MCST), was an attempt to implement and coordinate the development of ICT in Botswana.[299] This ministry was established to enhance research, science and technology and to build the country's national capacity for ICT. This, as noted by the respondents, was expected to have a significant impact on the development of the ICT industry in the country. However, prior to the establishment of the new ministry, there was evidence that the ICT industry had in fact began expanding from 1992, especially after the government adopted the 'Telecommunications Policy for Botswana' in 1995. This policy advocated the liberalisation of the telecommunications industry and argued for increased resources and the setting up of an independent regulator in 1996, the Botswana Telecommunications Authority (BTA).[300] The responses indicated that the BTA was promoting equitable participation in the ICT industry and that it was taking ICT development very seriously. In addition, the country's long-term strategy, Vision 2016, adopted in 1997, focuses on the development of ICT infrastructure to support different sectors, including education, research, communication, democracy and the economy.[301] The vision envisages that all Batswana[302] will have access to

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[299] Responses to Questionnaire A on ICT issues and government policy on ICT, completed by Director, Market Development and Analysis, Senior Manager: Engineering and Senior Market Analyst, all from BTA, Gaborone, Botswana, July 2003.

[300] C M Lekaukau, 'BTA Ruling No. 1 of 1999 on interconnection dispute involving BTC, Mascom Wireless (PTY) and Vista Cellular (PTY) LTD'. The BTA Ruling No. 1 of 1999 explains the telecommunications policy.

[301] 'Vision 2016'. Available at <http://www.gov.bw/gem/vision-2016.htm>. Accessed 7 November 2003.

[302] Batswana (used in plural) means citizens of Botswana whereas Motswana (used in the singular) means a citizen of Botswana.

telephones, radio, television and computer equipment by 2016. Further, information about operations of government and other organisations will be freely available to all citizens. This is expected to facilitate Botswana's entry into the global information and knowledge society. However, a further investigation during data collection in 2004 on the progress of the vision so far revealed that the vision did not seem to have made as much impact as had been expected.[303]

Besides government commitment, the private sector is also involved in ICT development. This involvement has helped in diversifying ICT services available to the public, for example, the use of the Internet. The private sector has played a pivotal role as it has opened up channels of communication which were never thought possible before.[304] As part of its commitment to developing the ICT industry, the government is helping the private sector to embrace information technology (IT) in the interests of national objectives. This is expected to see implementation of quality IT systems supported by a trained work force, with more emphasis placed on electronic storage of data and retrieval on computer networks.

As part of future government plans, it had became clear from the responses that preparations to implement the new national ICT policy by 2006 were at an advanced stage. In fact, the President of the Republic of Botswana, Mr Festus G Mogae, had in his 2004 state of the nation address, revealed that the government was developing an ICT policy which was expected to lead to further enabling legislation in such areas as electronic commerce and cyber security.[305] At the time of data collection in 2004, consultants engaged in preparation of the policy were working on its final chapters.[306] This policy is intended to promote access of citizens to critical government services and give them a say in decision-making. The policy was expected to focus on the following principles: electronic governance, rural access to ICT infrastructure, educational access through on-line distance education, access to

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[303] Interview with the Senior Market Analyst, BTA, on 10 September 2004, at the offices of BTA, Gaborone, Botswana.

[304] Response to Questionnaire A on ICT issues and government policy on ICT, completed by the Government Chief Systems Analyst, DIT, MCST, Gaborone, Botswana, September, 2003.

[305] 'Meeting the global challenge', state of the nation address by His Excellency Mr Festus G. Mogae, President of the Republic of Botswana to the first meeting of the fifth session of the eighth parliament, 10th November 2003, Gaborone, Botswana. Available at <http://www.gov.bw>. Accessed 10 January 2004, p 19.

[306] Interview with the Senior Market Analyst, BTA, on 10 September 2004, at the offices of BTA, Gaborone, Botswana.

health needs, and electronic commerce. It was the hope of the government that the planned policy would contribute significantly in preparing the nation for the Information Age as it would enable government-to-citizen and vice-versa transactions. From the responses, it is clear that government is attuned to the aspirations of the people.

While these attempts show tremendous developments in the ICT industry, the respondents were still hoping to see a more aggressive involvement from the private sector and other institutions, especially in provision of training opportunities and participation in social programmes. Further, the respondents expected to see the planned ICT policy improving the standards of living among the people of Botswana and making them an informed nation.[307] This is already creating a challenge for the government to sensitise the public to the benefits of using the technology and also to provide them with training on its usage. The respondents were, however, less sure as to whether the financial provisions would be sufficient in the face of serious problems such as drought, outbreak of animal diseases and the HIV/AIDS pandemic which continue to take the largest allocations of national resources.

4.2.2. Namibia

The ICT initiatives in Botswana as presented above are closely linked to the Namibian experiences, not only because of the historical similarities and cultural and ethnic proximities. Economically, Botswana and Namibia's beef and diamond dependence augment the correlation between these two countries.[308] Although Namibia had no defined national ICT policy, the country has shown commitment by investing in the development of the telecommunications industry.[309] For example, between 1993 and 1997 the government allocated US$69.4 million for information

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[307] Responses to Questionnaire A on ICT issues and government policy on ICT, completed by Director, Market Development and Analysis; Senior Manager Engineering, and Senior Market Analyst, all from BTA, Gaborone, Botswana, July 2003.

[308] These histories are discussed in Chapter 1, section 1.2.

[309] Discussion on ICT development with the Chief Engineering Technician, NCC, on 2 July 2003 at the offices of NCC, Windhoek, Namibia.

technology and telecommunications development.[310] Table 4-2 provides an example of the country's available investment statistics in ICT development.

Table 4-2 Summary of ICT investment statistics in Namibia[311]

Year	Total allocated	ICT project
1994	approximately US$ 3.6 million	International switch
1995	approximately US$ 47 million	cable expansion
1996	approximately US$ 9.8 million	of which US$ 3.6 was for computer support

The country has also focused its attention on developing policies and dissolving the monopoly of telecommunications operations to ensure that the public has access to an increasingly broad range of ICT services and government information. This was further reinforced by the establishment of Telecom Namibia, the Namibia Communications Commission (NCC) in 1992 and the Namibian Communications Policy and Regulatory Framework in 1999. Telecom Namibia was established as a state owned enterprise to provide basic telecommunications services. NCC, on the other hand, was established in 1992 as an independent regulatory body responsible for radio and television licensing, frequency management and other regulatory functions.[312] The Namibian Communications Policy and Regulatory Framework was approved by Cabinet in 1999[313] as an effort to restructure the ICT industry by establishing a well-coordinated telecommunications and regulatory authority able to advise government on policies and represent the country at international level.

The responses have further revealed that Namibia has two different ministries responsible for regulating the ICT industry. The Ministry of Information and Broadcasting is responsible for supervising Mobile Telecommunication Corporation (MTC) which is the mobile operator, through the NCC, whereas the Ministry of Works, Transport and Communications is responsible for regulating Telecom

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[310] 'The information technology landscape in Namibia: government policies'. Available at <http://www.american.edu/carmel/ja9985a/gov.htm>. Accessed 27 October 2004, p 1.

[311] 'The information technology landscape in Namibia: government policies'. Available at <http://www.american.edu/carmel/ja9985a/gov.htm>. Accessed 27 October 2004, p 1.

[312] 'Namibia: National Information and Communications Infrastructure (NICI) policy'. Available at <http://www.uneca.org/aisi/nici/namibia/nampol.htm>. Accessed 29 October 2003.

[313] 'Namibia: National Information and Communications Infrastructure (NICI), infrastructure'. Available at <http://www.uneca.org/aisi/nic/country-profiles/namibia/naminfra.htm>. Accessed 1 April 2004.

Namibia.[314] This means that NCC has no jurisdiction to regulate Telecom Namibia. However, plans to have a new single regulator, 'the Namibia Communications Authority', which would replace NCC were at an advanced stage.[315] A new draft of the Communications Bill which was released to the public in February 2003 for comments had been finalised. At that time, two stakeholder workshops had been held where these comments were considered and incorporated. The Bill was expected to be tabled before parliament by 2005 to provide for the establishment of this regulator. This is likely to have more control and jurisdiction over Telecom Namibia to ensure that it does not misuse its monopoly position. The regulator will also serve as a watchdog against "exploitation" of the public by the industry. Further, this development is likely to help promote regional telecommunications co-operation. As visualised in the country's Vision 2030, the people of Namibia should enjoy the standards of living comparable to a developed nation, including accessibility to ICT.[316]

Government commitment to developing policies and dissolving the monopoly of telecommunications operations has created a supportive environment for local ICT business and attracted much needed foreign investment in ICT from all over the world.[317] An ICT coalition has been created to help bring together stakeholders, especially in the private sector. This will help with discussion of technological issues and help create solutions to enhance rural development. The ICT Alliance which was formed following a meeting held on 11 June 2003, organised stakeholders from government, private sector and civil society to promote ICT development in Namibia.[318]

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[314] Interview with the Chief Engineering Technician, NCC, on 17 August 2004, at the offices of NCC, Windhoek, Namibia.

[315] Interview with the Chief Engineering Technician, NCC, on 17 August 2004, at the offices of NCC, Windhoek, Namibia. "Namibia Communications Authority" is the new name proposed for the new regulatory authority that will replace NCC. It is, however, not yet certain if this will be the final name as the Communications Bill is still to be enacted.

[316] E N Namhila, 'Namibia's transition to an information society: challenges and prospects', paper presented to the World Library and Information Congress, 70th IFLA General Conference and Council, 22-27 August 2004, Buenos Aires, Argentina. Available at <http://www.ifla.org/IV/ifla70/papers/112e-Namibia.pdf>. Accessed 26 October 2005.

[317] Discussion on ICT development with the Control Officer, NCC, on 5 August 2003 at the offices of NCC, Windhoek, Namibia.

[318] Response to Questionnaire A on ICT issues and government policy on ICT, completed by Communications Consultant, August 2003, Windhoek, Namibia.

As part of government's future plans in developing the ICT industry, Telecom Namibia aims to provide user-friendly databases of products and services offered. Its long-term vision is to have national contact where all calls in Namibia will be routed to a central facility in the capital, Windhoek.[319] It was the hope of the government of Namibia that the proposed Communication Bill would outline regulations for the new regulatory body and pave the way for further liberalisation of the ICT industry. This would mean that all activities in the telecommunications sector would proceed in an orderly and efficient way while keeping in mind the competitiveness of the industry. The respondents were, however, optimistic that campaign by industrial stakeholders would result in a new telecommunications ministry like that in Botswana.[320] Unlike South Africa, Namibia and Botswana have had to make tremendous leaps in the ICT industry and no doubt there have been teething problems in both these countries.

4.2.3. South Africa

In comparison to Botswana and Namibia, in the new dispensation South Africa began on a very firm foundation in 1994. One of the respondents revealed that South Africa has a clear national ICT policy and has placed a strong emphasis on the development of ICT to ensure that it plays a dominant role in the delivery and dissemination of information.[321] Frameworks for policies, infrastructure, partnerships and taskforces have been put in place to support the development of this initiative. Principals other than the Department of Communications (DoC) itself include: South African Information Technology Industry Strategy (SAITIS), State Information Technology Agency (SITA), Government Information Technology Officers' Council (GITOC) and Knowledge Information Management.[322] DoC was established in 1996 to develop policies and programmes that would strengthen the

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[319] Response to Questionnaire A on ICT issues and government policy on ICT, completed by Manager: Applications, Telecom Namibia, Windhoek, Namibia, July 2003.

[320] Discussions on ICT development with the Chief Engineering Technician and Control Officer, NCC, on 2 July and 5 August 2003 at the offices of NCC, Windhoek, Namibia

[321] Response to Questionnaire A on ICT issues and government policy on ICT, completed by Deputy Director: Knowledge Information Management (KIM), DoC, Pretoria, South Africa, September 2003.

[322] Discussion on ICT development with the Deputy Director: KIM, DoC, on 3 September 2003 at the ofifces of DoC, Pretoria, South Africa. Some of the supplemtary information provided was sourced from reports received from the respondent during the visit.

country's telecommunications. SAITIS is a bilateral project between the South African government represented by the Department of Trade and Industry and the Canadian International Development Agency. It focuses on building telecommunications infrastructure to support the country's social development and empowerment.[323] SITA, on the other hand, was established in 1999, as a government effort, to serve as the information systems facility of the state and chiefly responsible for the management and execution of information technology (IT)-related work.

GITOC is responsible for determining the Information Management, Information Systems and Information Technology Strategy of the government. Information experts sit in GITOC and all government departments, including the National Archives and Records Service of South Africa, are represented. According to the respondent, the council coordinates and implements ICT development in South Africa.[324] At the time of data collection in 2004, GITOC was involved in a pilot project called District Information Management System funded by the DoC. Through this project, reports on technological needs from local government were sent to the provincial government, who in turn sent them to the national government. This line of reporting is influenced by the way the government is structured and in turn how it operates.[325] The pilot project was targeting rural communities. For example, Global Portable Radio Systems were able to connect with even where there was no network especially in rural areas. This has made communication easier. There is also Knowledge Information Management, which is a workgroup of GITOC responsible for knowledge transfer.[326] This workgroup encourages collaboration and sharing of information. The government has also formed a partnership with the private sector, which is encouraged to be involved in projects like skills development, job creation and skills transfer. In addition, free trade policies and tax

[323] 'Progress towards ICT integration in South Africa: a survey of government initiatives', June 2002. Available at <http://www.bridges.org/policy/sa/articles/ICTsurvey_June2002.pdf>. Accessed 7 February 2003.

[324] Response to Questionnaire A on ICT issues and government policy on ICT, completed by Deputy Director: KIM, DoC, Pretoria, South Africa, September 2003.

[325] According to the constitution of South Africa, government is constituted as national, provincial and local. The national government makes the national territory of South Africa. The provincial government is responsible for the nine provinces that make up South Africa and they are able to make provincial laws. At the lower level is the local government, which acts as an instrument of delivery in municipalities in each of the provinces. These three are distinctive, interdependent and interrelated.

[326] Response to Questionnaire A on ICT issues and government policy on ICT, completed by Deputy Director: KIM, DoC , Pretoria, South Africa, September 2003.

incentives have allowed more organisations to start assembling ICT hardware and network equipment locally. According to the respondent, there are tariff programmes applied to the shipping of small units and parts that encourage value-added assembly to take place in South Africa.[327] These efforts have positioned South Africa's imports and exports globally and generated foreign direct investment through international collaboration.

There were also ongoing initiatives to make facilities available to all areas and all citizens. These are clearly articulated in the country's Info.com 2025 Vision, a collective programme of ICT projects designed to establish a networked information community.[328] Future government plans for the ICT industry in the country included review of the ICT policy and further research in areas of telecommunications and digitisation.[329] In addition to this, the Presidential National Commission on Information Society and Development of February 2001, which advises the President on ICT and information society matters, was deeply involved and had been asked to prepare and submit a report to the President. Although this report was expected to be handed over by the end of October 2003, an interview conducted in 2004 revealed that by that date, work on this had not been completed and was still in progress.[330] The DoC was hoping to see South Africa provide all public services electronically. The report was expected to reflect on attempts to roll-out ICT facilities in rural areas and ensure black empowerment. However, one of the respondents at DoC was of the opinion that this appeared like a 'dream' for now, as issues of access to ICT facilities and services, computer illiteracy, education and training were still lagging behind.[331] These have to be addressed if this 'dream' is to be realised. Having discussed the initiatives and strategies for ICT development, it is important to know the extent of availability and access to these facilities and services.

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[327] Discussion on ICT development with the Deputy Director: KIM, DoC, on 3 September 2003 at the offices of DoC, Pretoria, South Africa.

[328] 'National ICT approaches: selected case studies, South Africa'. Available at< http://wwww.opt-init.org/framework/pages/appendix3Case6.html>. Accessed 26 October 2005, p 2.

[329] Interview with the General Manager: Telecommunications, DoC, on 3 August 2004, at the offices of DoC, Pretoria, South Africa.

[330] Interview with the General Manager: Telecommunications, DoC, on 3 August 2004, at the offices of DoC, Pretoria, South Africa.

[331] Discussion on ICT development with the Deputy Director: KIM, DoC, on 3 September 2003 at the offices of DoC, Pretoria, South Africa.

4.3. ICT infrastructure availability and access

This section focuses on the availability and access to ICT infrastructure and services enjoyed by members of the public in Botswana, Namibia and South Africa.

4.3.1. Botswana

All the respondents from Botswana reported the availability of facilities in all urban centres and some of the rural areas.[332] These facilities and services are concentrated in the towns along the rail line stretching from Lobatse (southern border town with South Africa) to Francistown (northern border town with Zimbabwe) and including the offshoots from the rail line of Selibe-Phikwe, Orapa and Jwaneng (the mining centres) and including the eastern border towns of Maun and Kasane (tourist centres). Among these facilities are Internet cafes and telecentres. The respondents indicated that an estimated 79%[333] of the population, which is primarily rural, was under-serviced. Although Botswana's teledensity is one of the highest in Africa, access to electronic information remains a challenge as ICT facilities and services remain relatively expensive and out of reach for most citizens. Given the opportunity, even those living in rural areas would be willing to spend the little they can afford from their income to use a telephone or other available facilities.[334] This is true of most villages in Botswana, for instance the Gantsi District, an area the writer knows very well. In this area, like many others in the country, there is no telecommunications infrastructure and the majority of people including the author of this thesis have the capacity and the need to communicate and want to use the most modern technology.[335] Further, the Government ICT Strategy Adviser revealed that where, for example, telephones were available in rural areas, they were unreliable.

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[332] Responses to Questionnaire A on ICT issues and government policy on ICT, completed by Director: Market Development and Analysis, Marketer, Senior Manager: Engineering (all from BTA), Government Chief Systems Analyst and Advisor IT Strategy (from DIT), Gaborone, Botswana, July 2003.

[333] 'Botswana: background'. Available at <http://uneca.org/aisi/nici/botswana/botsab.htm>. Accessed 29 December 2002, p 1.

[334] A Dymond, and S Oestmann, 'Information communication technologies (ICTs), poverty alleviation and universal access: review of the status and issues', March 2002. Available at <http://www.atpsnet.org/docs/Daymond.pdf>. Accessed 1 February 2004, p 2.

[335] This information is drawn from my own experience. I come from an area where there is currently no telecommunications infrastructure.

As part of future government development plans, one of the respondents pointed out that in rural areas where there were government computers, Internet connection would be made available.[336] Further, it was expected that by the end of the National Development Plan Nine covering 2003-2009 (NDP 9), all districts in the country would have access to basic telecommunications infrastructure.[337] The new ICT policy will ensure that there is at least one phone line for villages with over 500 inhabitants. [338] For the first time, there are plans to connect at least 147 villages to the Internet. The government had already committed approximately US$140 million to rehabilitate the national telecommunications networks.[339] Table 4-3 provides a summary of government investment in ICT.

Table 4-3 Summary of ICT investment in Botswana[340]

National Development Plan (NDP) Year	Total allocated for ICT
1992 -1997	approximately US$ 19 million
1997 – 2003	approximately US$ 105 million
2003 – 2009	approximately US$ 103 million

Furthermore, the government was at an advanced stage in establishing community ICT access facilities as part of the government electronic initiative. An interview with one of the respondents established that a study on universal service conducted in 2003 had already recommended the establishment of a Universal Service Fund to which all operators would make contributions to be used for rolling out facilities.[341] These initiatives have already been established in South Africa. These were expected to go a long way in ensuring that ICT facilities and services reached the disadvantaged communities, so that they had access to public services and that they

[336] Response to Questionnaire A on ICT issues and government policy on ICT, completed by the Government Chief Systems Analyst, DIT, MCST, Gaborone, Botswana, July 2003.

[337] Response to Questionnaire A on ICT issues and government policy on ICT, completed by the Government Chief Systems Analyst, DIT, MCST, Gaborone, Botswana, July 2003.

[338] A Bose, 'ICT for participation and citizen empowerment: Botswana's experience towards achieving e-governance', Unpublished paper presented during a conference organised by the International Federation for Information Processing, hosted by the Government of Lithuania, 27-29 August 2003, p 5.

[339] 'Meeting the global challenge', state of the nation address by His Excellency Mr Festus G. Mogae, President of the Republic of Botswana to the first meeting of the fifth session of the eight parliament, 10th November 2003, Gaborone, Botswana. Available at <http://www.gov.bw>. Accessed 10 January 2004, p 19.

[340] 'Meeting the global challenge', state of the nation address by His Excellency Mr Festus G. Mogae, President of the Republic of Botswana to the first meeting of the fifth session of the eight parliament, 10th November 2003, Gaborone, Botswana. Available at <http://www.gov.bw>. Accessed 10 January 2004, pp. 19-20.

[341] Interview with the Senior Market Analyst, BTA, on 10 September 2004, at the offices of BTA, Gaborone, Botswana.

were constantly in touch with their government. The other ongoing project which was aimed at increasing services in rural areas and expanding access lines estimated to have reached 160, 000 in 2001,[342] was the Rural Telecommunications Development. As part of this project, the Botswana Telecommunications Corporation was awarded a budget for rural telephoning. Generally, the responses have shown that availability of ICT facilities and services appeared to be at least satisfactory. In Botswana, it is clear that there is a structured development plan.

4.3.2. Namibia

Despite the lack of a clear defined development plan, Namibia has covered most of the rural areas with basic facilities such as telephones. As in Botswana, the ICT facilities in Namibia are heavily concentrated in urban centres. The data collected suggested that as from 1998 only a very few remote areas of the country were not covered by these facilities.[343] Although there was evidence to further suggest that Internet usage had grown substantially in the country since 1996, usage has remained concentrated where access was provided through institutions and organisations such as the University of Namibia, commercial banks, government ministries and departments, hotels and lodges.[344] All these are located in urban centres. Examples of areas still poorly linked to ICT infrastructure included Gobabis, Oshakati, Otjiwaronga and Omaruru. Unavailability of power supplies was reported as a limiting factor. Respondents felt strongly that the government needed to adopt a power supply strategy in rural areas to ensure access to all.[345]

However, the new Communications Bill which is planned for the country makes provision for a Universal Service Fund to subsidise provision of services to areas

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[342] 'Botswana: National Information and Communications Infrastructure (NICI) policy'. Available at <http://www.uneaca.org/aisi/nici/botswana/botspol.htm>. Accessed 29 October 2003, p 2.

[343] Discussion on ICT development with the Control Officer, NCC, on 5 August 2003 at the offices of NCC, Windhoek, Namibia.

[344] Discussion on ICT development with the Chief Engineering Technician, NCC, on 2 July 2003 at the offices of NCC, Windhoek, Namibia.

[345] Discussions on ICT development with the Chief Engineering Technician and Control Officer, NCC, on 2 July and 5 August 2003 at the offices of NCC, Windhoek, Namibia

that had been neglected in the past.[346] Promoting universal access to ICT services is one of the government priorities in ensuring that the country develops its national information and communications infrastructure and promotes ICT utilisation in economic and social development. The government's commitment will be tested in its ability to bring Namibia in line with the regional ICT capacity.

4.3.3. South Africa

Although South Africa has a highly developed telecommunications network in commercial zones, this contrasts with a low penetration in rural and remote areas. For example, Internet penetration in South Africa is by far the highest on the African continent with 1.8 million users, but this has focused mainly on urban areas and has been very low or non-existent in rural areas.[347] Most rural areas in South Africa still have no access to basic telecommunications. For example, in areas such as Mpumalanga and Sekhukhune, ICT infrastructure is poorly linked. However, according to one of the respondents, access was estimated to grow as the country rolled out availability of ICT facilities.[348]

Key government projects for ensuring wide availability of infrastructure included the establishment of multi-purpose community centres, establishment of the Universal Service Fund and community radio stations in most parts of the country especially in under-serviced areas. These are important for delivery of services and empowerment of millions of historically disadvantaged people. The government was confident that universal access to computers would contribute to access to information by the general public. In addition, the development and funding of community programming was to be carried out in collaboration with civil society and international development organisations. The other step which formed part of government's integrated rural development strategy was an accelerated roll-out of Public Information Terminals to provide easy and cost-effective access to

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[346] Discussion on ICT development with the Control Officer, NCC, on 5 August 2003 at the offices of NCC, Windhoek, Namibia.

[347] 'National ICT approaches: selected case studies, South Africa'. Available at <http://www.opt-init.org/framework/pages/appendix3Case6.html>. Accessed 29 December 2002, p 2.

[348] Response to Questionnaire A on ICT issues and government policy on ICT, completed by Deputy Director: KIM, DoC, Pretoria, South Africa, September 2003.

government information.[349] However, there were still challenges to be addressed. A further exploration of these challenges will help understand how governments in the three countries are dealing with them. This is important as it will highlight efforts made to ensure that ICT does not pose a hindrance to information access and to social and economic development. Some of these challenges are highlighted in the next section.

4.4. The challenges in ICT development and facing them

4.4.1. Botswana

On factors likely to restrict access to technology especially, in rural areas, the respondents noted a number of barriers. These included: computer illiteracy; low level of education; high cost of technology; lack of awareness by the public on the use of technology; lack of skills transfer; limited infrastructure and unavailability of power.[350] Lack of facilities in rural areas has denied the rural population opportunities to access government services like health care information. This study views these barriers as serious because some of them have contributed to the failures in ICT development.

The respondents were of the opinion that the above mentioned problems could be dealt with by introducing relevant policies. It was gratifying to note that this had already been planned for, as a new ICT policy was in the process of being implemented. Among other things, this policy will address the issue of access. At the time of data collection in 2004, the Department of Information Technology (formerly known as the Government Computer Bureau)[351] was trying to address the problem of access in rural communities mainly in government and district offices, through

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[349] 'South Africa'. Available at <http://www.comnet.mt/Unesco/Country%20profiles%20Project/south_africa.htm>. Accessed 1 April 2004.

[350] Responses to Questionnaire A on ICT issues and government policy on ICT, completed by Director, Market Development and Analysis, Marketer and Senior Manager-Engineering, all from BTA, Gaborone, Botswana, July 2003.

[351] It should be noted that the Department of Information and Technology was still known by the name Government Computer Bureau when the author made the first field visit in June 2003. During the second field visit in June 2004, the department had been transferred from the Ministry of Finance and Development Planning to the new Ministry of Communications, Science and Technology hence the new name.

running awareness programmes. Web portals were developed and successfully piloted in 2005.[352] Through the Universal Service and Access Policy, which started in 2002, the Botswana Telecommunications Authority (BTA) aims to bridge the gap in provision of ICT services between urban and rural areas, and between the rich and poor.[353] Further, the Botswana Telecommunications Corporation (BTC) was considering small aperture terminal satellites to increase rural connectivity. The government through subsidiaries was encouraging BTC to deploy networks in rural areas. As of 2004, a lot of progress had been made. For example, nodes had been expanded and bigger switches (64k-120k) had been put in place.[354] Licensed operators were also given community service obligations to roll-out facilities such as public phones.

The setting up of BTA as a regulatory authority has had a positive impact in this regard. As stipulated in the Telecommunications Act, the charges and all the tariffs are regulated by BTA and it demands that telephone charges be filed for approval before publication.[355] The government is constantly in communication with BTC, which is the main telecommunications service provider to ensure reasonable charges on services. This was thought to be necessary as it ensured that the reasonableness of such charges was assessed. The respondents also indicated that there was still a need to reduce the charges further to facilitate the uptake of ICT in Botswana.

Once implemented, the ICT policy will address the training component of ICT development.[356] At the time of data collection in 2004, local training was provided through the University of Botswana (UB), the Institute of Development Management (IDM) and various companies that offered awareness courses on ICT. IDM, for example, conducted courses on basic computer applications. UB offered Diploma and Degree courses in Computer Science. Although there was evidence suggesting

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[352] Response to Questionnaire A on ICT issues and government policy on ICT, completed by Chief Systems Analyst, DIT, MCST, Gaborone, Botswana, July 2003.

[353] C M Lekaukau, 'Chairman's statement' in *BTA Annual Report*, 2001/2002. Gaborone, p 9.

[354] Interview with the Chief Systems Analyst, DIT, MCST, on 23 September 2004, at the offices of DIT, Gaborone, Botswana.

[355] Response to Questionnaire A on ICT issues and government policy on ICT, completed by Senior Manager: Engineering, BTA, Gaborone, Botswana, July 2003.

[356] Response to Questionnaire A on ICT issues and government policy on ICT, completed by Director: Market Development and Analysis, BTA, Gaborone, Botswana, July 2003.

that the various companies provided training on systems applications, at that time, specialist training in telecommunications in the country was still limited.

Even if the country was able to train and produce ICT skilled workers, it still faces the challenge of retaining them. The need to tackle this has already been recognised by the government. The respondents were, however, of the view that the skilled workers would only be retained if they were paid market salaries.[357] ICT workers were also to be encouraged to venture into the private sector through consultancies and setting up of their own enterprises to help in the growth the ICT industry.[358] A contrasting opinion raised by one of the respondents was that there were many business opportunities locally, such that the workers would not want to leave the country. An explanation being that first, they were paid relatively well and second, Batswana liked staying at home and it was unlikely that they would want to leave the country in search of work opportunities elsewhere.[359] However, once implemented, the ICT policy will clarify and enhance the role of skilled ICT workers. It will also seek to advise that skilled ICT workers be compensated at regional and international market rates to ensure staff retention. Although the respondents were hoping that these efforts would ensure citizens had access to efficient, effective and affordable telecommunications services without discrimination, this will be determined by availability of both financial and human resources. The challenges that Botswana faces are similar to those in Namibia.

4.4.2. Namibia

While acknowledging that ICT was growing fast in Namibia, the responses revealed that there were still a number of challenges that had to be overcome to enable the building of modern networks, attraction of foreign investment and provision of more efficient telecommunications infrastructure. The barriers raised by respondents in Namibia were similar to those in Botswana: computer illiteracy; low level of

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[357] Responses to Questionnaire A on ICT issues and government policy on ICT, completed by Director: Market Development and Analysis, Senior Manager: Engineering and Senior Market Analyst, all from BTA, Gaborone, Botswana, July 2003.

[358] Response to Questionnaire A on ICT issues and government policy on ICT, completed by Director: Market Development and Analysis, BTA, Gaborone, Botswana, July 2003.

[359] Response to Questionnaire A on ICT issues and government policy on ICT, completed by Advisor IT Strategy, DIT, MCST, Gaborone, Botswana, September 2003.

education; high cost of technology; lack of awareness by the public on the use of technology; lack of skills transfer; limited infrastructure and unavailability of power.[360] These barriers were thought to be restricting access to technology in rural areas. The respondents wanted the government to address these issues to ensure that they did not hinder progress in the provision of telecommunications infrastructure in rural areas. One of the respondents felt that the issue of prices had to be seriously looked into, because high subscription costs, connection fees and telephone charges for dial-up were making Internet access beyond the reach of the average citizen.[361] Tax regimes also made computers more expensive and less obtainable by the poor majority.

In an effort to address these problems, the Chief Engineering Technician at NCC reported that SchoolNet was actively deploying computer laboratories to all secondary schools. Through SchoolNet, the Internet had been connected to about 100 disadvantaged schools in Namibia.[362] Further, over the last years beginning in 1996, Telecom Namibia had aggressively deployed rural wireless access technologies and had been engaged in social responsibility projects.[363] It was also noted from the responses that the Mobile Telecommunication Corporation had already covered about 75% of the population.[364] In addition, there were initiatives to establish telecentres, notwithstanding the fact that this had not been done on a large scale. The new Communications Bill clearly refers to the need for Universal Access policy and establishment of a Universal Service Fund to ensure that ICT services become universally available. Although the government had aimed that by 2004, 80-90% of the population would have access to a telephone and Internet, either in their homes or in community telecentres, this had not been fully achieved at the time of

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[360] Responses to Questionnaire A on ICT issues and government policy on ICT, completed by Personal Assistant, Control Officer (both from NCC) and Manager: Applications, Telecom Namibia, Windhoek, Namibia, July 2003.

[361] Discussion on ICT development with the Chief Engineering Technician, NCC, on 2 July 2003 at the offices of NCC, Windhoek, Namibia.

[362] Discussion on ICT development with the Chief Engineering Technician, NCC, on 2 July 2003 at the offices of NCC, Windhoek, Namibia.

[363] Response to Questionnaire A on ICT issues and government policy on ICT, completed by Communications Consultant, Windhoek, Namibia, August 2003.

[364] Discussion on ICT development with the Chief Engineering Technician, NCC, on 2 July 2003 at the offices of NCC, Windhoek, Namibia.

data collection in August 2004.[365] At that time, work to ensure this was still in progress. The ICT Alliance had also been created and was representative of all major players in the ICT sector including government.[366] This Alliance had been running workshops to discuss technical issues and suggest solutions to enhance rural development.

In regard to high dial-up and telephone charges, it was revealed that the Ministry of Works, Transport and Communications was seeking a performance agreement with the main telecommunications operator with a view to reducing these costs.[367] Further, the ICT Alliance in tandem with the independent regulator was planning to address dial-up and telephone charges once the draft Communications Bill was on the statute. This would require filing of tariffs for approval by the Ministry. There were several provisions earmarked for change or rejection of charges by the new independent regulator. In one of the discussions with respondents, it emerged that there was a need for the pricing structure to be reviewed to ensure affordability.[368] The facilities were found to be costly because of monopolistic tendencies. Notwithstanding this, it emerged that Telecom Namibia was doing almost everything possible to keep the rates low. In fact, Namibia is one of the countries with the lowest charges in sub-Saharan Africa.[369]

Evidence that Telecom Namibia has a well-established training infrastructure for its employees bolds well for ICT development.[370] Part of future plans for Telecom Namibia included providing a user-friendly database of products and services.[371] Tertiary institutions which offered training in specific computer programmes

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[365] Interview with the Chief Engineering Technician, NCC, on 17 August 2004, at the offices of NCC, Windhoek, Namibia.

[366] Discussion on ICT development with the Control Officer, on 2 July 2003 at the offices of NCC, Windhoek, Namibia.

[367] Response to Questionnaire A on ICT issues and government policy on ICT, completed by Communications Consultant, Windhoek, Namibia, August 2003.

[368] Discussion on ICT development with the Chief Engineering Technician, NCC, on 2 July 2003 at the offices of NCC, Windhoek, Namibia.

[369] Response to Questionnaire A on ICT issues and government policy on ICT, completed by Manager: Applications, Telecom Namibia, Windhoek, Namibia, July 2003

[370] Response to Questionnaire A on ICT issues and government policy on ICT, completed by Manager: Applications, Telecom Namibia, Windhoek, Namibia, July 2003.

[371] Response to Questionnaire A on ICT issues and government policy on ICT, completed by Manager: Applications, Telecom Namibia, Windhoek, Namibia, July 2003.

included: the Polytechnic of Namibia and the University of Namibia. Programming was, however, not offered at a high level of sophistication.[372] The Department of Information and Communications Studies at the University of Namibia provided training for information workers involved in all aspects of information handling. In addition, various specific programmes and courses were available and the country was sending people to neighbouring countries to gain more knowledge. Notwithstanding this, there was a concern about "brain drain" and retention of skilled ICT workers. The respondents indicated that more had to done to keep such workers and to promote local entrepreneurs.

4.4.3. South Africa

Like Botswana and Namibia, South Africa faces the same plethora of impediments and barriers, computer illiteracy; low level of education; high cost of technology; lack of awareness by the public on the use of technology; lack of skills transfer; limited infrastructure and unavailability of power.[373] Nonetheless, that is where the similarities end, as South Africa has a first world urbanised ICT industry. The main respondent was of the opinion that, ideally, it would be expected that those who had skills would share or transfer them to others to enhance productivity.[374] Contrary to this, however, most people were reluctant to transfer skills after acquiring them.

In an effort to address the problems, South Africa like other countries in the region was trying to roll-out facilities to areas where they were not available. Consequently, government had identified thirteen (13) rural areas as priority areas for development through the sustainable rural development programme. Some of these areas included: Pietersburgh, Mpumalanga and Sekhukhune. [375]

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[372] Discussion on ICT development with the Chief Engineering Technician, NCC, on 2 July 2003 at the offices of NCC, Windhoek, Namibia.

[373] Discussion on ICT development, with the Deputy Director: KIM, DoC on 3 September 2003 at the offices of DoC, Pretoria, South Africa. After the discussions I was handed an annual report for further reference.

[374] Discussion on ICT development, with the Deputy Director: KIM, DoC on 3 September 2003 at the offices of DoC, Pretoria, South Africa.

[375] Discussion on ICT development, with the Deputy Director: KIM, DoC on 3 September 2003 at the offices of DoC, Pretoria, South Africa.

Further, the Universal Service Agency had been established with the primary responsibility of providing universal services and access to information throughout South Africa. With support from DoC, the Universal Service Agency was expected to extend access to telecommunications networks to rural and disadvantaged areas. According to the respondent, the Presidential Task Force on Information Society and Development was established in 2001 to assist the South African government in narrowing the digital divide with the rest of the world. In doing so, the task force focused on global ICT markets, provision of skills and other developmental issues in ICT. Furthermore, advisory councils established under the leadership of President Thabo Mbeki had been a positive development for harnessing the power of ICT.[376] These councils were important because they included both national and international ICT experts who were in a position to inform governments' decision-making in this area.

South Africa boasts a sound training base for ICT. The Telecommunications Act of 1996 was aimed at promoting the provision of adequately skilled ICT professionals at all levels of the telecommunications industry. The Act seeks to channel donations and contributions to the Universal Access Fund, telecommunications education, training and research, undergraduate and postgraduate study, and overall support for science and technology in schools.[377] The government has also ensured that employees attend ICT training programmes. According to the plan, at least half of the staff were identified and taken through the training which was monitored. These employees had already done basic computing (Microsoft Excel, Microsoft Word, Power Point and operating systems), personal computer (PC) engineering and networking. Other training opportunities availed by the ICT industry were being explored. Further, the 1996 White Paper on Telecommunications Policy emphasised government commitment to building skills among disadvantaged populations in the telecommunications sector.

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[376] 'Progress towards ICT integration in South Africa: a survey of government Initiatives', 2002. Available at <http://www.alentejodigital.pt/rosadopereira/egov/Africa_do_Sul/ICTsurvey_June2002.pdf>. Accessed 7 February 2003.

[377] 'South Africa: National Information and Communications Infrastructure (NICI), infrastructure'. Available at <http://www.uneca.org/aisi/nici/South%20africa/southinfra.htm>. Accessed 29 December 2002, p 3

The respondent was of the opinion that the government will have to do a lot to retain ICT skilled workers.[378] In trying to address the question of dial-up and telephone charges that posed a hindrance to ICT development, South Africa was reviewing its polices in consultation with the Reserve Bank. This was the responsibility of the Independent Communications Authority of South Africa advised by DoC. The independent authority had already passed directives on tariff rate to ensure more general affordability. The problem of dial up and telephone charges is common to Botswana, Namibia and South Africa.

4.5. ICT industry and knowledge of electronic recordkeeping

4.5.1. Botswana

A question to find out if the ICT professionals knew anything about electronic recordkeeping and recordkeeping in general revealed that most had general knowledge on information and records management. An interview with respondents from the BTA revealed that even though their organisation was concentrating more on telecommunications and broadcasting responsibilities, staff were aware of the role played by the Botswana National Archives and Records Service (BNARS) as a custodian of government records.[379] The manager in charge of Broadcasting and Regulation at BTA indicated that his organisation generated records and, therefore, had a management responsibility for them. As such, BTA had appointed a full time records manager to take care of this responsibility.[380] Further, it was revealed that the Botswana Telecommunications Corporation had also appointed a senior records manager which showed the seriousness with which it regards recordkeeping functions.

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[378] Discussion on ICT development, with the Deputy Director: KIM, DoC on 3 September 2003 at the offices of DoC, Pretoria, South Africa.

[379] Interview with the Senior Market Analyst and Manager: Broadcasting and Regulation, all from BTA, on 10 September 2004, at the offices of the BTA, Gaborone, Botswana.

[380] Interview with the Manager: Broadcasting and Regulation, all from BTA, on 10 September 2004, at the offices of BTA, Gaborone, Botswana.

4.5.2. Namibia

As in Botswana, it was found that the ICT industry in Namibia had general knowledge of information and records management. A respondent from the Namibia Communications Commission indicated that the management of electronic records was a very important aspect, and that was why the government established the National Archives of Namibia on independence.[381] According to the respondent, this was an indication of government commitment to recordkeeping.

At the NCC itself, there was evidence of recordkeeping activities, as records dating as far back as the establishment of the commission were preserved and made accessible. In general, however, it was felt that the issue of electronic recordkeeping should be seriously addressed in government institutions. The respondents were, however, worried that people were reluctant to take up recordkeeping as a profession because of lack of training in the area and lower salary scales pegged to the posts.[382]

4.5.3. South Africa

Although there was evidence to show that South Africa had developed programmes for the management of electronic records, it still appeared that the ICT industry in the country knew little about the importance of electronic recordkeeping. An interview with one of the information technology experts at the State Information Technology Agency revealed that very few people in the organisation knew about the importance of electronic recordkeeping.[383] The respondent, however, indicated that he was involved in creating awareness on the importance of document and records management within the ICT industry. According to the respondent, presentations had already been made to educate them on records and document management aspects.

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[381] Interview with the Chief Engineering Technician, NCC, on 17 August 2004, at the offices of NCC, Windhoek, Namibia.

[382] Interview with the Chief Engineering Technician, NCC, on 17 August 2004, at the offices of NCC, and the Deputy Director, PSITM, on 20 August 2004, at the offices of PSITM, Windhoek, Namibia.

[383] Interview with the Information Technology Expert, SITA, on 8 October 2004, at the offices of SITA, Pretoria South Africa, Namibia.

While it has emerged from the three countries that ICT development differed in many ways, generally the respondents felt that there was a need to balance the development of the telecommunications infrastructure in both rural and urban areas. The respondents also felt that it was important for the ICT industry to be aware of electronic recordkeeping responsibilities. Clearly, Botswana, Namibia and South Africa share common historic, economic and cultural problems and linkages. It has, moreover, emerged that human and technical capacity building to handle the telecommunications restructuring and ensure access to electronic information remain the main priorities for the three countries. Overview of ICT issues as offered in this section has provided an important background and context within which management of electronic records will now be presented.

4.6. Analysis of findings relating to ICT development in Botswana, Namibia and South Africa

Sections 4.2 to 4.5 presented the data collected on background to ICT development in Botswana, Namibia and South Africa. This section will present an analysis of the implications of the data in sections 4.2 to 4.5 on ICT development in the three countries.

4.6.1. Coordination and implementation of ICT initiatives

The results presented in section 4.2 on coordination and implementation of ICT initiatives in Botswana, Namibia and South Africa suggest that governments in the three countries are managing well with their limited resources to improve ICT infrastructure and elevate their technological development. Indeed, as the results demonstrate, ICT development in these countries, particularly in Botswana and South Africa, as reported in sections 4.2.1 and 4.2.3, are progressing well in terms of their set objectives. Namibia has emerged as the weakest in ICT development and it is expected that she can learn from the experiences of Botswana and South Africa. ICT is seen as vital in providing access to information and this is clearly articulated in ICT policies and developmental frameworks. The responses have indicated that each of the governments in the three countries has invested financial resources,

through national budgets, in the development of ICT. Examples of these investments are summarised in Tables 4-2 and 4-3.

There is no doubt that ICT development has been towards the top of each country's agenda. As demonstrated in section 4.2, the three countries' development agenda seems to be in line with that of SADC which aims to make ICT a development priority, hence turning the region into an information-based economy.[384] SADC has devoted attention to development of policies and strategies relating to broader ICT issues, including areas of action for bridging the digital divide in the region. Each of the three countries is working at national level to adopt this policy. SADC's efforts have been realised through sectors' coordinating units and commissions involved with ICT related activities. For example, the SADC protocol on Transport, Communications and Meteorology of 1998 focuses on the need for harmonised regional telecommunications policies, guidelines on universal access, regional cooperation, regulatory framework and human resource development.[385] Coordination and implementation of ICT initiatives will be looked at in terms of ICT policies, liberalisation of ICT market, development "visions", role of political leadership, role of the private sector and importance of regional cooperation.

(a) ICT policies

Development of ICT policies in Botswana, Namibia and South Africa has been important, as it is upon them that the supporting infrastructure for use of ICT is based. Policies provide a strategic framework for directing and shaping use of ICTs as they include decisions, guidelines, laws, regulations and other mechanisms.[386] Evidence from the results as presented in section 4.2, shows that the three countries have embarked on formulation and implementation of ICT policies although these are at different levels. While this tends to vary from country to country, policy reforms in each of the three countries seems to be advanced. In Botswana, for

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[384] SADC e-readiness review and strategy: recommendations of the SADC e-readiness task force, June 2002. Available at <http://www.schoolnetafrica.net/fileadmin/resources/SADC_report.pdf>. Accessed 14 April 2005, p 9.

[385] 'An overview of information policy initiatives in southern Africa'. Available at http://www.apc.org/books/ictpolsa/ch2/ch2-1.htm. Accessed 10 February 2003, pp. 3-4.

[386] 'Developing National Information and Communications Infrastructure (NICI), policies, plans and strategies: the why and how'. Available at <http://www.uneca.org/aisi/codipap2.htm>. Accessed 5 February 2003, p 8.

example, the data suggests that, though a telecommunications policy was put in place as far back as 1995, it was not until 2004 that the country drafted a new ICT policy advocating for further liberalisation of the ICT industry. This still has to be implemented.

Although it has emerged from the results in section 4.2.2 that Namibia has no clear national ICT policy, plans appear to be at an advanced stage to draft such a policy for the country. The drafting of the Communications Bill is an encouraging development in the right direction to achieving an ICT policy for Namibia. On the other hand, South Africa can be cited as a good example of a country in the region that has made tremendous efforts in developing ICT policy and strategies. The country, as reported in section 4.2.3, has a clear national ICT policy, although at the moment, policy frameworks and implementation are being re-evaluated and reviewed in the light of technological advancements and in preparation for the institution of new policy frameworks. It is important to note that the process of policy strategy development and implementation in both Botswana and Namibia is still in progress and as such requires concerted efforts from all stakeholders concerned. Botswana appears to have done well with liberalisation of the ICT market. It is hoped that Namibia will learn from this good experience. For example, as reported in section 4.2.1, Botswana has a new ministry through which it is planning to end the monopoly in telecommunications.

Overall, governments in each of the three countries expect that the ICT policies will promote access of citizens to government services, and will enable electronic governance. Further, the policies are expected to contribute significantly in preparing the three countries for the Information Age. More information on development of policies will be available in the future, as each of the countries is presently developing a new ICT policy or improving the existing ones. Once fully established, the policies will be able to sustain each of the country's vision and goals. This, however, will be achieved through broad-based participatory process involving different stakeholders. These stakeholders will include government as the facilitator, the private sector as the key supplier of finance and technical services and regulators as implementers of policy directives. In addition, the telecommunications sector,

non-governmental organisations and other professional bodies may also provide an input.

(b) Liberalisation of the ICT market

In realising that open competition is the best strategy for achieving universal service goals, the three countries have liberalised the ICT market and established independent regulators. The results presented in sections 4.2.1, 4.2.2 and 4.2.3 show that the independent regulators are doing well in promoting equitable participation in the ICT industry. This has opened the market for mobile phone operators. In spite of the contribution of these mobile phone operators in the development of the ICT industry, some providers of fixed network services like BTC in Botswana view this as a regrettable development.[387] This could be explained by the fact that BTC is used to being a monopoly and does not appear ready for any competition in the ICT field. Despite this, discussions with respondents have established that BTA, which is the independent regulator, is planning to undertake further liberalisation, as the market has been opened for full competition. As such, all the telecommunications providers in the country, and elsewhere in the region, will have to deal with this development in liberalisation of ICT markets. Overall, liberalisation has worked well in allowing competition in the industry, as it has enabled the operators to establish 'small regional networks', that are able to survive in a multi operator environment. Namibia, however, still needs to catch up on this, as it is still waiting to have a new single regulator, who will ensure both the main provider of telecommunications services (Telecom Namibia) and MTC fall under a single jurisdiction.

(c) Development "visions"

Other significant developments that have supported ICT development in each of the three countries as shown in section 4.2 relate to: development "visions", the role of political leadership and contribution of the private sector and other stakeholders. In Botswana, for example, the country's long-term strategy, Vision 2016, focuses on the development of the ICT infrastructure and is expected to support different

[387] J Konopo, 'Mobile phones a regrettable introduction for BTC'. Available at <http://www.mmegi/bw/2005/February/Wednesday2/9999151561696.htm>. Accessed 10 February 2005, pp. 1-2.

sectors, including education, research, communication and the economy. While the vision envisages that all Batswana will have access to telephones, radio, television and computer equipment by 2016 and that information about operations of government and other organisations will be freely available to all citizens, many Batswana still doubt if this will really be achieved. This is because at the moment, as the responses in section 4.2.1 have indicated, the "vision" appears to be making little impact on the lives of Batswana, not only in terms of ICT development but in all other areas. In fact, most Batswana, from personal experience, appear not to take the "vision" seriously, because to them it has failed, in its nine years of existence, to achieve citizen economic empowerment. So the goals expressed in the "vision" appear ambitious and remain hopes and aspirations. Achieving the goals of the vision remains one of the challenges the government faces. On the other hand, the results in sections 4.2.2 and 4.2.3 show that development "visions" in Namibia and South Africa have focused on accelerated growth in ICT. These are helping in addressing issues of policy, infrastructure and human capacity growth within the ICT industries in Namibia and South Africa.

(d) Role of political leadership

The results of this study as presented in section 4.2.1 and 4.2.3 suggest that commitment from political leadership is a critical success factor in overall ICT development. The leaders in each of the three countries appear convinced that ICT use can be an engine for growth and development and are supporting the necessary changes to further ICT development. For example, in Botswana, the President has been playing a leading role in encouraging ICT development and in committing additional resources. In South Africa, the Presidential National Commission on Information Society and Development advises the President on ICT and information society. Although the data presented on Namibia in section 4.2.2 does not directly reveal that the Prime Minister is supporting ICT development, the fact that the government of Namibia has invested resources in its development is a clear indication that there is support from the political leadership. It would, however, appear that ICT development in Namibia will to a large extent, depend on support from the Office of the Prime Minister, as this Office appears to be in charge of all decisions relating to national development plans. This is expected, as in the region

most decisions are influenced by central government. This will hopefully provide a bright future for ICT development in Namibia and ensure that, like Botswana and South Africa, the country prepares its citizens for the Information Age. Overall, governments of the three countries have shown great commitment to ICT development and this has led to growth in the ICT industry.

(e) Role of the private sector

As mentioned earlier[388], if both the government and the private sector work together, this partnership will help in addressing the technological challenges. As the responses in section 4.2 have suggested, the private sector has been involved in ICT development and has facilitated use of the Internet in each of the three countries. In fact, governments in each of the countries have been doing well in encouraging and supporting private sector involvement. For example, in Namibia, an ICT coalition already mentioned in section 4.2.2 of the results, has been created to help bring together stakeholders, especially from the private sector. This has helped with discussion and determination of technological issues and has contributed to the provision of policies to enhance rural development. It is important to note that stakeholders have been fully involved in drafting of policies in all the three countries. This suggests a unified approach to the problems facing ICT development. For example, the involvement in private sector partnerships has afforded the countries the opportunity to address the access gap (see section 4.4). As is the case in South Africa, the private sector has been involved in projects like skills development, job creation and donations of hardware and software.

(f) Regional cooperation

At the regional level the three countries have been supportive of each other and are doing well in promoting regional telecommunications cooperation amongst themselves and in SADC. As shown in Chapter 1, section 1.2 the countries are tied by common traditional, cultural and historical links that encourage such cooperation. The three countries are members of the Telecommunications Regulators Association

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[388] See page 195.

of Southern Africa (TRASA)[389] and the Southern African Telecommunication Association (SATA)[390]. TRASA coordinates regulatory matters and facilitates a uniform level of understanding in these matters. The Association provides guidelines on universal access and services, licensing policy and implementation strategy in SADC. SATA, on the other hand, handles standards, tariffs and cross-boarder investment in satellite technology.[391] This has encouraged each of the countries to place emphasis on developing the ICT industry to match expectations in the region. A number of regional policy-making efforts are being launched and are underway or have been completed with the aim of creating a harmonised and coordinated approach to ICT policy reform. Each of the three countries will have to implement these at the national level. While the results presented in section 4.2 show tremendous developments in the ICT industry in the three countries, it is evident that South Africa has done more and is far more technologically advanced than the other two countries. Botswana and Namibia, however, have the potential to effectively advance their technological development and working with South Africa in this area will help.

4.6.2. ICT infrastructure availability and access

(a) ICT infrastructure availability

Responses from Botswana, Namibia and South Africa as presented in section 4.3 have reported the availability of facilities in all urban centres. For example, Internet usage is provided through institutions and organisations and as might be expected, these are located in urban centres. In this context, it is not surprising that responses from Namibia, as reported in section 4.3.2, have suggested that Internet usage has remained concentrated in some urban areas where access is provided through the university, commercial banks, government ministries and departments, hotels and lodges. The same trend is reported in Botswana and South Africa, as shown in sections 4.3.1 and 4.3.3. What this means is that availability of ICT facilities,

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[389] TRASA is a group of national telecommunications regulatory authorities from the SADC region.

[390] SATA is an association of government owned public telecommunications operators.

[391] 'Overview of information policy initiatives in southern Africa'. Available at <http://www.apc.org/books/ictpolsa/ch2/ch2-1.htm>. Accessed 19 October 2004, p 2.

including use of the Internet and e-mail is limited, or in some cases, unavailable in rural areas. This seems to suggest that those who have no access to these institutions and organisations have no access to Internet and computer usage.

While the results presented in section 4.2 suggest that the three countries have done well in putting up the necessary infrastructure in the form of liberal polices and that they have increased telephone lines and Internet connectivity and usage, this has remained confined to urban areas. The disparity in terms of penetration in rural areas still remains a major concern. In rural areas these facilities are still unavailable and the majority of villages are still far from telephone facilities. As a consequence, the rural population, accounting for 70-80% of the population in each of the three countries, remains marginalised. As the results in section 4.3 have confirmed, many in rural areas wish to use the technology but cannot do so because it is simply not available in their areas.

It is disheartening that some telecommunications providers like the BTC, do not connect facilities in rural areas due to low profit margins. Participants at a forum on "Further Liberalisation of the Telecommunications Market" held in February 2005 in Gaborone, Botswana, criticised BTC for neglecting remote areas.[392] They want BTC to shift from only being a service provider to facilitating connectivity. As one of the participants suggested, maybe BTC should be privatised. The reason would be that if BTC is privatised, it will be able to compete at the same level with other private operators and this would in turn improve on service delivery. As it is now, the mobile operators have to depend on BTC for most services, including frequencies. This has made it difficult and expensive for them to cover rural areas as they cannot put up their own facilities. This tends to limit the contribution these operators can make in rolling out facilities to the rural and remote areas. In South Africa, Telkom which, like BTC, is also responsible for providing basic telecommunications services in the country has been privatised and this has levelled the playing field and introduced fair competition with other private service providers. This appears to be working well for the country. If the same is done for Botswana, it may help with aggressive roll-out of facilities.

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[392] J Konopo, 'Mobile phones a regrettable introduction for BTC'. Available at <http://www.mmegi/bw/2005/February/Wednesday2/9999151561696.htm>. Accessed 10 February 2005, p 2.

(b) Access to ICT facilities

Even if the private sector is helping to promote ICT use and accessibility, availability is also still restricted because of the high costs of ICT facilities. The issue of affordability is, therefore, of serious concern. While the pattern of ICT infrastructure availability and access in both urban and rural areas appear similar in the three countries, reasons for such a pattern cannot be generalised across the countries. This is because the existing ICT infrastructure distribution, particularly in Namibia and South Africa, has been shaped by colonialism which led to inequitable distribution of access and opportunity for the rural population. Namibia and South Africa appear to have been more disadvantaged than Botswana because in the two countries, the apartheid policies excluded the majority of the black people who today form the majority of the rural population. Botswana is the only country amongst the three whose infrastructure was built from a zero base at independence because of its unique history.[393] As it has emerged from the historical background to Namibia and South Africa provided in Chapter 1, many areas where the black population lived were not developed during the apartheid periods and it might appear that the colonial legacy has left tremendous isolation among the rural population.

Although South Africa has advanced ICT infrastructure, this is unevenly distributed. The country, compared to the other two countries, has much older systems, substantial physical facilities in the form of roads, buildings and telecommunications, which hitherto remain highly differentiated. This, as has been stated earlier, is because during the apartheid era, areas designated for whites were developed with good infrastructure, whereas the black population which forms the majority remained in poor rural areas and had no access to the advantages of the developed areas. Contrary to the assumption that South Africa is wealthy and developed, many people still have no access to basic facilities including ICT. More technological infrastructure has to be put in place to compensate for limited access to many of those people in rural areas. In fact, the neglect and trauma suffered over the apartheid era has left many people in remote and rural areas underdeveloped and has posed questions on how best to rebuild and meet the challenges. One would,

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[393] This history is discussed in Chapter 1, section 1.2.1.

therefore, be right to argue that Botswana is doing better because unlike the other two countries, at Independence it had no infrastructure in place and had to start development from scratch. In spite of this, it now has sophisticated networks.

While the data in this chapter suggests that South Africa is leading and has emerged technologically stronger than Botswana and Namibia, it is slipping in terms of digital capacity and has not yet been able to bridge the digital divide between urban and rural areas (see section 4.3.3). In contrast, Namibia appears to be doing much better than the two countries with its strategy to cover most of its rural areas. In spite of this, Namibia and South Africa still need serious transformation aimed at addressing the legacy of inequity in the two countries.

4.6.3. The challenges in ICT development and facing them

(a) The challenges in ICT development

Although ICT appears to be developing well in Botswana, Namibia and South Africa, there are still issues of high access charges, ICT training and human capacity development as well as staff retention to be addressed, so as to ensure sustainability and accessibility by all. Other issues raised by the respondents as presented in section 4.4 were related to: computer illiteracy; low level of education; lack of awareness by the public on the use of technology; lack of skills transfer; limited infrastructure and unavailability of power. These issues are indicative of the problems and challenges facing ICT and other sectors of the economies in the three countries. The problems are confirmed elsewhere in the literature. A study by A Dymond and S Oestmann in 2002 emphasises the fact that not all ICTs are easily available in poor or remote areas for both technical and operational reasons.[394] The authors cited examples of power availability, high cost of technology and lack of skills as some of the limiting factors.

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[394] A Dymond and S Oestmann, 'Information and Communication Technologies (ICTs): poverty alleviation and universal access policies, a review of the current status and issues', March 2002. Available at <http://www.atpsnet.org/content/files/documents/Daymond.pdf>. Accessed 2 September 2005, p 2.

High access charges

Studies carried out in Botswana[395], Namibia[396] and South Africa[397] have shown that charges related to high subscription costs, connection fees and telephone for dial-up access are still very high and most people cannot afford them. From these studies, it seems true that the charges are unreasonable. However, tariffs in these countries are being revised as part of tariff rebalancing processes. Even though efforts are continuously being made to expand access, this is still relatively expensive. This explains why connectivity is still limited even in urban areas.

It is, however, interesting to note that although Namibia appears slightly behind Botswana and South Africa in terms of ICT developmental plans as shown in Chapter 4, the country is doing everything possible to keep the rates low. In fact, the results of this study presented in section 4.4.2 show that Namibia is one of the countries with the lowest charges in sub-Saharan Africa. Even though in Botswana the government is constantly in communication with BTC, which is the main communication service provider, to ensure reasonable charges on services, this has not worked. More has to be done to convince BTC to cut down on the charges.

ICT training and human capacity development

As the results presented in section 4.4 have shown, there are also very few technical experts to install and maintain electronic networks and computer equipment. These experts are generally overloaded with work and cannot meet the demands and needs of Internet and computer usage. The three countries depend on foreign experts from outside the continent. ICT training and human capacity development needs to be addressed to ensure effective deployment of ICT infrastructure. An ICT policy workshop held in Botswana in September 2004 revealed that illiteracy levels in

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[395] S Sebusang, S Masupe and J Chumai, 'Towards an Africa e-index: ICT access and usage 2005'. Available at <http://link.wits.ac.za/papers/e-index-botswana.pdf>. Accessed 25 January 2006, pp. 33-35.

[396] C Stork, Towards an Africa e-index: ICT access and usage 2005'. Available at <http://link.wits.ac.za/papers/e-index-namibia.pdf>. Accessed 25 January 2006, pp. 110 and 117.

[397] A Gillwald, S Esselaar, P Burton and Astavrou, Towards an Africa e-index: ICT access and usage 2005'. Available at <http://link.wits.ac.za/papers/e-index-south-africa.pdf>. Accessed 25 January 2006, p 134.

Botswana are still high.[398] The results of this study, however, seem to suggest that this was the same problem in Namibia and South Africa. At the same time, the results as presented in section 4.4 have indicated that there is only limited ICT training to produce these skills and expertise, suggesting a need for expanded education and training in ICT. As the results of the research seem to be suggesting, training in local institutions appear not to be having much impact. For example, in the case of Botswana, training at the University of Botswana, the Institute of Development Management and various companies is insufficient, as it is only meant to raise awareness by conducting courses on basic computer applications. In Namibia, the Polytechnic of Namibia and the University of Namibia offer courses but not at a high level of sophistication.

In comparison, South Africa boasts a sound training base for ICT with a number of local universities offering extensive ICT programmes. Results presented in section 4.4.3, however, show that the resultant professional expertise from the available training has not been able to effectively sustain demand by the new computerised systems. However, the newly established postgraduate course in ICT policy and regulation at the Graduate School of Public and Development Management, University of Witwatersrand, is expected to meet the needs of policy makers, regulators and operators, communications managers involved in ICT policy and regulation.[399] The training, which commenced in August 2004, is also expected to ensure ICT capacity building in the SADC region. Botswana and Namibia should take advantage of this training opportunity to enhance their own ICT policy analysis, policy design, management of regulatory environment and policy research. While private sector partnerships are critical for financing training in ICT, governments also have to invest more in the training of people to meet skills requirements in government.

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[398] 'Overview of Maitlamo Project' presented by ICT consultants during an ICT policy workshop held in September 2004, Gaborone, Botswana.

[399] Notes taken by the author of this thesis while attending the launching of the Masters of Management in ICT policy and regulation at the Graduate School of Public and Development, University of Witwatersrand, 27 July 2004, Johannesburg, South Africa

Staff retention

The results presented in section 4.4 suggest that retaining staff with IT skills is a frustrating exercise. Further, the cost of training and recruiting technical expertise are already high and appear to be growing. Unfortunately, those already trained can command jobs in the private sector with salaries many times more than earned in the public service. As a result of this, the three countries face the problem of retaining the available skilled workforce especially in government agencies. Others go into highly paid jobs in international agencies either operating locally or elsewhere. Still others join the "brain drain" to other countries. In South Africa for example, it is estimated that 200-300 ICT skilled workers leave the country each month due to demand for their skills elsewhere.[400] This means that governments have lost and are still losing the expertise, leading to shortage. The few available staff are often overstretched and overworked. It should be noted that Botswana at the moment does not have a serious "brain drain" problem unlike Namibia and South Africa. This, however, does not mean that this will not be a problem in the future.

The situation appears to have been worsened by countries like the UK, which have immigration-friendly policies that allow easy movement of skilled professionals, including those with IT skills, to address their own labour needs.[401] The result has been an accelerated "brain drain" and increased African diaspora to many western countries. Despite being affected by this, South Africa is also becoming a potential cause of "brain drain" in southern Africa, as it is getting foreign ICT skills from the region. This means that Botswana and Namibia will have to do more to invest in their domestic ICT workforce so that these do not migrate to South Africa.

The migration of skilled workforce needs to be seriously tackled. For Botswana, retaining this workforce will be important as it will be an advantage for government efforts in implementation of the planned electronic records management project.[402] It will also be important to South Africa for sustaining electronic recordkeeping

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[400] 'National ICT approaches: selected case studies, South Africa'. Available at <http://www.opt-init.org/framework/pages/appendix3Case6.html>. Accessed 29 December 2003, p 3.

[401] 'Information policy in context'. Available at <http://www.apc.org/books/ictpolsa.ch1/ch1-2.htm>. Accessed 10 February 2003, p 11.

[402] This project is discussed in detail in section 6.2.1.

systems that have already been introduced and for the future of management of electronic records in Namibia. The expertise of these professionals will be needed by archivists and records managers in all three countries. While the results suggested that the solution to this could be in paying market-rate salaries, it would be impossible to increase salaries in the civil service to match those in the private sector. This is partly because the private sector, as compared to government, tends to emphasise more on quality and as such, is prepared to pay for this quality. Government, on the other hand, tends to practice a laissez-faire attitude which in turn compromises quality. More employment opportunities and better remuneration can only be part of the answer to the problem. The results seem to be suggesting that governments in the three countries have to make staff retention their priority.

(b) Addressing the challenges

Governments in the three countries should be commended because they are undertaking initiatives to minimise the problems they are faced with in ICT development. As reported in sections 4.4.1, 4.4.2 and 4.4.3 these initiatives have been presented in each of the country's future development plan. For example, as mentioned in section 4.4.1, the Rural Telecommunications Development project by BTC in Botswana is expected to increase the number of telephones in rural areas. However, one wonders how much it will achieve, as the Chief Executive Officer of the Corporation is reported to have said that remote areas cannot be covered as they are unprofitable. He is quoted as saying:

> *"Government requires that we operate where we will make returns. If we can't make money in Ncojane, we can't go there".*[403]

According to BTC's argument, this would not be commercially viable. So the government needs to continue financing the projects. Even if Botswana has pledged that all districts would have access by 2009 one doubts if this would be possible based on the negative comments made by telecommunications companies like BTC.

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[403] J Konopo, 'Mobile phones a regrettable introduction for BTC'. Available at
<http://www.mmegi/bw/2005/February/Wednesday2/9999151561696.htm>. Accessed 10 February 2005, p 2.

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In Namibia and South Africa future government plans for the ICT industry as reported in sections 4.4.2 and 4.4.3 include: review and development of ICT policies and further research in areas of telecommunications and digitisation, rolling out ICT facilities in rural areas and ensuring black empowerment, setting up Internet cafes in former township areas and conducting computer literacy programmes. However, access to ICT facilities and services, computer illiteracy, education and training are still lagging behind and have to be addressed.

Universal access

It is worthwhile to mention that plans to establish community ICT access and Universal Service Fund facilities as part of electronic government initiatives in Botswana and Namibia are an encouraging development. Establishing community ICT centres will be important, as this means that priority will be on public access rather than individual access. The idea of establishing a Fund is good, as it will encourage operators to make contributions to be used for rolling out facilities. Botswana and Namibia could learn from South Africa, where such facilities have been established and are having a positive impact. In South Africa, as reported in section 4.4.3, there are already provisions for the Universal Service Fund to subsidise provision of services to areas that have been neglected in the past. This fund has subsidised companies providing specified universal access services through issuing special licenses to companies willing to serve the population in rural areas by providing access systems. In some cases incentives and rewards to such companies may work wonders.

There is evidence in the available literature on ICT to suggest that the concept of supporting universal access through a special fund as a complement to liberalisation has been tried and has worked in some countries. For example, in Chile and Venezuela (Latin America), Malaysia (Asia), Uganda and Cote d'Ivoire (Africa) leading technology companies and service providers are encouraged to contribute significant effort and resources into projects to benefit poorer and rural

communities.[404] This has been done by giving incentives to new telecommunications operators willing to accept to support rural obligations. It was interesting to find that this has also been tried in South Africa and was found to be working.

SchoolNet projects

Efforts by both Namibia and South Africa on SchoolNet projects are commendable. Both countries are actively deploying computer laboratories to schools, mostly to those disadvantaged. SchoolNet projects have been established in a number of African countries to facilitate teacher training in ICT, education content development on-line and partnership development between governments and the private sector.[405] This has so far been able to contribute to Internet connectivity in schools. Without this effort, these schools would not have had an opportunity to access the new technology. Botswana, on the other hand, is at the planning stage in initiating the SchoolNet project. While this has been driven by non-governmental organisations with strong government and private sector partners in both Namibia and South Africa, in Botswana, this will be government led. This again is indicative of the seriousness with which the government of Botswana regards ICT development in the country.

Efforts made to address the challenges in ICT development by each of the three countries, however, still fall short of what is really needed by the majority in rural areas. For example, more support from the private sector and other institutions especially in provision of training opportunities and participation in social programmes is needed. Whatever efforts are being made, each of the countries still has to work hard to accelerate the rate of ICT penetration particularly in rural areas, as this remains a big challenge.

If governments take up the necessary measures, accessibility of the facilities in rural areas will grow as the respondents expect. These would be significant developments

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[404] A Dymond and S Oestmann, 'Information and Communication Technologies (ICTs): poverty alleviation and universal access policies, a review of the current status and issues', March 2002. Available at <http://www.atpsnet.org/content/files/documents/Daymond.pdf>. Accessed 2 September 2005, p 9.

[405] G Grant (ed.), 'A regional initiative for informatics strategies', report on a workshop on sectoral planning for information technology, 12-14 June 2001, Johannesburg, South Africa, July 2001. Available at <http://www.comnet-it.org/strategies/criis2001/sa2001-w.pdf>. Accessed 30 January 2006, pp. 25-27.

as it is likely to eradicate the existence of disparities in access to information and opportunities between different sectors of the society especially between rural and urban areas. No doubt more efforts will be made in the future to increase connectivity in many rural areas. Nevertheless, there is still a long way to go and what is urgently needed is an investigation on how to conquer the digital divide. Governments in the three countries, the private sector and civil society must work together. This is still one of the significant challenges awaiting in the future.

The lack of widespread awareness of ICT issues is likely to inhibit understanding that records are not just paper-based. The lack of opportunity to obtain ICT skills may make it more difficult to recruit archivists and records managers who are comfortable with ICT related issues. Paper-based records may remain the norm in certain parts of countries and citizens' rights to access national archives will be inhibited if archives are electronic but citizens are not computer literate.

4.6.4. ICT industry and knowledge of electronic recordkeeping

Most respondents in the ICT industry in the three countries were found to have good general knowledge of information and records management. As reported in the data in section 4.5, professionals in the ICT industry were aware of the role played by the national archives in each of their countries as a custodian of government records. Some even have their own records managers, which is an indication of the seriousness they put in recordkeeping functions. There is, however, still a need to raise awareness in the industry of the importance of recordkeeping. While the specific needs of ICT professionals are different from those of archivists and records managers, ICT professionals need some appreciation of records and archives principles as their expertise are needed in addressing the challenges of managing electronic records. These ICT professionals need to recognise recordkeeping as a corporate function and work closely with records professionals. The two professions have a lot in common and will benefit from mutual collaboration.

As shown in Chapter 3, section 3.2.1 (a), the DLM Forum has demonstrated the importance and need of the relationship between the ICT industry and the

recordkeeping profession through cooperation and networking to address the challenges of managing electronic records. In Europe, the ICT industry has been an active participant in decision and policy-making processes in the area of recordkeeping. If ICT professionals understand recordkeeping, they can help archivists and records managers especially in advising on software requirements and designing of appropriate systems. Archivists and records managers will be able to issue and promote standards to support electronic records standards, leading to development of ICT tools which incorporate functional requirements for recordkeeping systems. This will enable the industry to supply adequate and efficient solutions which are user-friendly, affordable and standardised.[406] It will also help them to get useful and updated information on software and hardware supplies Simultaneously, this will open business opportunities for the ICT industry as they will benefit from electronic recordkeeping tools that are beginning to emerge by creating a market for their products. In fact, the ICT industry in Europe has stated that the public sector is one of the largest and important markets for document related technologies.[407]

4.7. Summary

This chapter has presented and analysed the findings of the data collected on background to ICT development in Botswana, Namibia and South Africa. The need to develop ICT infrastructure has influenced governments in the three countries to invest resources and also to put in place frameworks necessary to enable growth of the ICT industry. In particular, policies, visions and the role of the private sector have been noted as encouraging. Unfortunately, Botswana and Namibia lack the advanced infrastructure that exists in South Africa. More investment from individual governments is needed. The respondents, however, agreed that the digital divide between rural and urban areas, computer illiteracy and high cost of technology will be solved only if governments, the private sector and other stakeholders work

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[406] H Hofman, 'Presentation of the goals and achievements of the DLM-Forum'. Available at <http://www.narc.fi/dlm/4.htm>. Accessed 13 February 2006, p 2.

[407] 'ICT industry's answer to the DLM-Forum message on electronic document and records management'. Available at <http://europe.eu.int/comm/secretariat_general/edoc_management/dlm_forum/doc/ictindustryresponse-en.pdf>. Accessed 29 March 2006, p 1.

together, as this is a costly endeavor. Unless governments are prepared to deal seriously with the problems, these will continue to hinder access to government services and information by the majority. Despite the fact that Botswana and Namibia are lagging behind as compared to South Africa, all the three countries have to make more efforts in ICT development. Priorities should be focused on technical and human capacity development to handle the telecommunications industry. Further, the need for the ICT industry to be aware of the importance of recordkeeping practices is important as their expertise will be essential in designing systems for the management of electronic records.

The chapter has revealed that ICT developments are at different levels in each of the three countries, with South Africa more advanced than Botswana and Namibia. However, Botswana and Namibia are steadily developing in this area. With regard to the development of ICT policies, an urgent need for these was reported in Botswana and Namibia. The two countries should speed up their plans for the development and implementation of such policies. Problems facing ICT development, as shown in the data, are similar in each of the three countries. This suggests that similar approaches are necessary to address the problems. Each of the three countries should put in place deliberate programmes for bridging the digital divide between rural and urban areas, and human capacity development, and should strengthen partnerships between government, the private sector and other stakeholders. Unless this is done, the digital divide will only widen.

CHAPTER 5

IMPACT OF ICT DEVELOPMENT IN RECORDKEEPING PRACTICES IN BOTSWANA, NAMIBIA AND SOUTH AFRICA

5.1. Introduction

The previous chapter has provided background information on ICT development in Botswana, Namibia and South Africa. The developments in ICT, including availability of basic and relevant infrastructure and the ability to tackle associated challenges, are all important factors in ensuring that ICT is used effectively to increase government efficiency and improve recordkeeping practices. The use of ICT has affected government operations and in the process changed the format of records and the way records managers and archivists work. The data collected on the impact of ICT on recordkeeping practices is presented and analysed in this chapter.

Chapter 5 presents and analyses the data on the impact that ICT has had on recordkeeping practices. This information was collected using Questionnaire B (attached as appendix B) supplemented by interviews (attached as appendix D). The questions asked mainly focused on the use and impact of ICT in government agencies, current electronic recordkeeping practices, policies and procedures for the management of electronic records, involvement of national archives of each of the three countries in the recordkeeping practices, staffing levels in relation to the management of electronic records and availability of professional training. The questionnaire was circulated and the interview questions were administered to directors, records users, records officers, and information technology (IT) specialists in government agencies. Details of information about the respondents to this questionnaire and interviews are presented in Tables 1-3 and 1-4, section 1.6 on research methodology. In total 29 respondents from the three countries provided the data presented in this chapter. A summary of the findings of Questionnaire B and interview responses is given in Table 5-1. Sections 5.2 to 5.6 give in detail the

findings of the questionnaire and interview responses. Each of the sections reports on current positions and future development plans. Section 5.7 discusses the implications of the data presented in sections 5.2 to 5.6 on recordkeeping practices in each of the three countries. Section 5.8 provides a summary of the chapter.

Table 5-1 Summary of the findings for Questionnaire B and interview responses (Impact of ICT on recordkeeping)

THEME	BOTSWANA	NAMIBIA	SOUTH AFRICA
5.2 Use and impact of ICT in government agencies	- DIT coordinates ICT in government. - most government agencies computerised and ministerial IT units established. - used to facilitate information storage and retrieval. Retrieval time reduced and file tracking expedite. - used for database design and e-mail communication. - impact of ICT will be realised when new BNARS system is up and running.	- PSIMT coordinates ICT in government. - some government agencies have computerised their services but manual systems still in use. - used to facilitate information storage and retrieval. - government appears fragmented in approach. - government web-site useful source of information.	- DoC and SITA coordinate ICT in government. - most government agencies computerised and services delivered electronically. - databases created to facilitate records storage. - speeded up administration activities. - classification and indexing schemes available. - PNC established to advise the President on ICT issues. - provide access to file plans - folder structures established.
5.3. Current electronic recordkeeping practices	- most/all business processes producing electronic records. - mostly use Microsoft applications. - no e-mail management policy - no system for managing paper and electronic records side by side. - have back-up procedures. - have different levels of access.	- most/all business processes producing electronic records. - mostly use Microsoft applications. - some have e-mail management policy. - no system for managing paper and electronic records side by side. - have back-up procedures. - have different levels of access.	- most/all business processes producing electronic records. - mostly use Microsoft applications. - have e-mail management policy. - have hybrid system for managing both paper and electronic records. - have back-up procedures. - have different levels of access.
5.4 Policies and procedures for management of electronic records	- no policies and procedures in place for management of electronic records. - effort underway to develop them through the planned ERM computerisation strategy. - will be catered for in proposed national archive ERM strategy document. - need to amend legislation recognised.	- no policies and procedures in place for management of electronic records. - nothing has been planned. - no guidelines issued to government agencies. - want situation to improve but have limited resources.	- policies and procedures are available for management of electronic records. - the Electronic Communications and Transaction Act has improved the legal status of electronic records.
5.5 Involvement of national archives in the recordkeeping practices	- archives fully involved, offers advice and coordinates activities. - records managers not fully committed in records management responsibilities. - should be proactive, spearhead and play a leading role. - liaise with other institutions e.g. DIT and also with neighbouring countries.	- currently national archives has serious staff problems and not fully involved. - some agencies using archives guidelines like act and code of practice. - hoping that with 2 posts filled, will have capacity to be involved.	- archives fully involved, offers advice and coordinates activities. - government agencies encouraged to have own records managers. - should play more of an oversight/audit role.
5.6 Staffing levels and availability of professional training for management of electronic records.	- insufficient staffing levels and professional training available for management of electronic records. - only provided for basic computer literacy by departmental IT section liaising with training institutions. - this will be catered for once new records management computerisation project starts.	- insufficient staffing levels and no professional training in management of electronic records. - hoping to get resources but not very confident.	- insufficient staffing levels and no professional training in management of electronic records. - few staff self-trained. - in-house workshops organised. - hope resources will be made available.

5.2. Use and impact of ICT in government agencies: presentation of findings of Questionnaire B and interview responses (Table 5-1)

This section focuses on how ICT is impacting on delivery of quality public services.

5.2.1. Botswana

Responses to the question on the use and impact of ICT in government agencies indicated that ICT was used in different institutions, both private and public, to support delivery of quality public services. It also emerged that in the public sector, the Department of Information Technology (DIT) had been mandated with the responsibility of ensuring access, use and implementation of ICT requirements in the whole of the government.[408] Through this initiative, it had developed a Government Data Network that linked several ministries and departments. DIT concentrated on the development of government-wide IT plans, policies and infrastructure that ensured effective implementation of IT systems in accounting, personnel, projects, connectivity to the Internet and e-mail. Further, implementation of a cadre of IT staff and outsourcing of services to the private sector was provided.[409] Standard operating systems, office suites and anti-virus software were available on a nation-wide licence. Government ministries, other than DIT, had established their own IT units which were helping the ministries plan, direct and control their own ICT facilities relevant to their environments.[410] Records officers were asked about their relationship with IT units and they indicated that IT technicians were very helpful. One of them had this to say about IT staff in their department:

[408] Response to Questionnaire A on ICT issues and government policy on ICT, completed by the Government Chief Systems Analyst, DIT, MCST, Gaborone, Botswana, July 2003.

[409] Response to Questionnaire A on ICT issues and government policy on ICT, completed by the Government Chief Systems Analyst, DIT, MCST, Gaborone, Botswana, July 2003.

[410] Response to Questionnaire A on ICT issues and government policy on ICT, completed by the Government Chief Systems Analyst, DIT, MCST, Gaborone, Botswana, July 2003.

> *"the relationship is good in that whenever we have problems we contact them and they rescue us as soon as possible. Currently they have sent temporary staff to help us with data entry for all personal files..."* [411]

Similar sentiments were expressed in all government agencies visited during the interviews.

With adoption of ICT in government and with the realisation that ICT plays a key role in administration efficiency, computerisation of most services has been a priority. The Government Chief Systems Analyst reported on areas of computerisation in the following government services: Vehicle Registration and Licensing, Water Affairs billing, Value Added Tax (VAT), Central Medical Stores, Old Age Pensions, Civil and National Registration. Even though it was revealed that the rolling out process had been slow due to lack of infrastructure in some areas, on the whole, computerisation had improved functions such as issuing of national identity cards and registration of births and deaths. A computerised system for drivers' licenses had, for example, enabled the issuing of credit card-size licences. Further, the system for State Land Allocation had been implemented. Computerisation of Immigration and Passports [412], file tracking and retrieval system at the Ministry of Finance and Development Planning [413] were at advanced stages. An integrated computerised government accounting and budgeting system had been developed for ministries to help monitor and manage finances which would result in reduction in payment delays. [414] Further, the system was expected to provide relevant, timely, accurate and on-line information to all stakeholders across all government ministries and departments. An Integrated Patients Management System (IPMS) had also been implemented for the Ministry of Health. [415] More ongoing computerisation projects were reported in many government agencies and the picture painted above

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[411] Interview with the Principal Records Officer, DPSM, on 15 July 2004, at the offices of DPSM, Gaborone, Botswana.

[412] Response to Questionnaire A on ICT issues and government policy on ICT, completed by the Government Chief Systems Analyst, DIT, MCST, Gaborone, Botswana, July 2003.

[413] Republic of Botswana, 'Development of Ministry of Finance and Development Planning Records Management System' Tender No: TB 3/1/1/2001-2002, issued 23rd February 2004.

[414] Interview with the Accountant General, on 28 September 2004, at the offices of the Accountant General, Ministry of Finance, Gaborone, Botswana.

[415] Interview with IT officers, Ministry of Health, on 16 July 2004, at the offices of the Ministry of Health, Gaborone, Botswana.

suggests that only a few government agencies had not utilised ICT in delivery of their services. However, the government hoped that those agencies not yet computerised would eventually be. One respondent from the office of the Attorney General expressed concern when he said that although the general trend in government was to computerise, many still did not have access to use of computers.[416]

It also emerged from the responses that most government agencies had already developed web-sites and that they were using them to deliver information to the public. One of the respondents indicated that for those organisations that had developed web-sites, useful information about their operations, including government reports and other publications were freely available to all citizens.[417]

Records officers were also asked how ICT had impacted on the way they operated. Two of the records managers from Teaching Service Management (TSM) department indicated that ICT infrastructure, particularly use of computer technology, has had a positive impact on the operations of their department. The respondents stated that:

> *"ICT has immensely improved records and information in the sense that there is a file tracking system which has brought about effective and efficient retrieval of records in the department".* [418]

Clearly, the above statement shows that computerisation has changed and improved traditional recordkeeping practices of paper records storage and retrieval. This sentiment was found to be true to most of government departments. Responding to the same question, one of the respondents from the office of the Attorney General reported that computerisation of the filing system for court records in his division had enabled registration of cases (which meant that staff would know all the cases to be attended to), allocation of cases (which meant that the system was been able to

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[416] Interview with the Deputy Attorney General: Civil and Prosecution, on 29 September 2004, at the offices of the Attorney General, Gaborone, Botswana.

[417] Response to Questionnaire A on ICT issues and government policy on ICT, completed by Director, Market Development and Analysis, BTA, Gaborone, Botswana, July 2003.

[418] Responses to Questionnaire B on the impact of ICT on recordkeeping, completed by Records Managers, Teaching Service Management, Gaborone, Botswana, July 2003.

tell who was working on a particular file, for how long and action taken) and monitoring of court cases.[419] According to the respondent, the system was able to identify clashes in scheduling of cases with clients and even reminded officers of their scheduled trial dates. This had ensured efficiency, as it has reduced backlog of cases. It had also helped with management of work, measuring of its quality and enabled effective supervision. The respondent, however, felt that the system would only be good if the users/operators were good. Since there were many instances where paper files could not be located, the respondents revealed that the use of computerised systems had ensured that the movement of files was traceable.[420] A computerised record of files passed on from one action officer to another was kept and updated as required. This helped in easy tracking of these files and in turn reduced retrieval time which would otherwise be used looking for files. At DPSM it was revealed that the department had put in place a computerised file tracking system which was capable of registering files, checking files out to action officers, viewing a summarised list of the files and checking them in when returned to the records management unit (formerly referred to as the registry)[421]. The respondents, however, pointed out that not all aspects of recordkeeping had been affected by use of ICT as some like file distribution were still manual.

Still on the same question, records managers from the Attorney General's Chambers and Secondary Education did not seem to share the same sentiments as other respondents. They reported that they were using computers in their departments but for purposes other than those related to electronic recordkeeping. For example, one of the records managers said:

> "no, except for personal e-mail communication and Internet access".[422]

This was confirmed by one of the respondents who declared:

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[419] Interview with the Deputy Attorney General: Civil and Prosecution, on 29 September 2004, at the offices of the Attorney General, Gaborone, Botswana.

[420] Responses to Questionnaire B on the impact of ICT on recordkeeping, completed by Records Managers, Teaching Service Management, Gaborone, Botswana, July 2003.

[421] Interview with the Principal Records Officer, DPSM, 15 July 2004, at the offices of DPSM, Gaborone, Botswana.

[422] Response to Questionnaire B on the impact of ICT on recordkeeping, completed by Records Manager, Attorney General's Chambers, Gaborone, Botswana, July 2003.

'use of computers in the public service in limited to e-mail'[423]

On the other hand, records officers from the Ministry of Health revealed that in fact their records management unit (RMU)[424] had no computers and that they were using a purely manual system.[425] This made it difficult for them to answer most questions on the management of electronic records. The responses clearly indicate that ICT use and impact varies significantly in government agencies. For example, while some respondents indicated that computers were now used to design personnel databases to manage personnel records and had improved filing and retrieval in different government departments, others said that it had not improved records and information management in their organisations.

The responses have suggested that government agencies wanted a lot to be done in the area of ICT. Some respondents were of the opinion that government agencies should all be computerised at the same time, to ensure consistency and compatibility in the management of electronic records.[426] This to them would be a better strategy for ensuring standardisation. One respondent said that it was necessary to put in place relevant infrastructure that would ensure storage, access and the long-term preservation of electronic records.[427] This was because computerisation had not only facilitated storage and retrieval but it had also changed the format of records. Management of this new storage media has created a challenge for records managers and archivists.

The government's future plan is to see implementation of quality ICT services supported by a trained work-force, with more emphasis placed on electronic storage

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[423] Response to Questionnaire A on ICT issues and government policy on ICT, completed by Director: Market Development and Analysis, BTA, Gaborone, Botswana, July 2003.

[424] The records management units were, until integration of records management activities into the Botswana National Archives and Records Service, known as registries. The records management units are based in government agencies and with guidance from the national archives, they offer records creators services relating to all aspects of records management.

[425] Interview with the Records Officers, Ministry of Health, on 14 July 2004, at the offices of the Ministry of Health, Gaborone, Botswana.

[426] Responses to Questionnaire B on the impact of ICT on recordkeeping, completed by Records Managers, Teaching Service Management, Gaborone, Botswana, July 2003.

[427] Responses to Questionnaire B on the impact of ICT on recordkeeping, completed by Senior Systems Analyst, BNARS, Gaborone, Botswana, July 2003.

of data and retrieval on computer networks. This would ensure that ICT is used to help achieve sustainable social and economic development, and to meet the present and future needs of the nation. The evidence gathered clearly indicates that the government is committed to reforms in the public sector that would ensure utilisation of ICT to good governance and delivery of effective public services to all citizens. Notwithstanding remarkable developments, Botswana still has a lot of ground to cover to ensure its optimal use of ICT in recordkeeping.

5.2.2. Namibia

A discussion on use and impact of ICT in government agencies with one of the respondents revealed that the government was making computerisation attempts in the public service through the Public Service Information Technology Management (PSITM) unit.[428] The PSIMT unit, formerly known as the Data Systems and Services (DSS) unit, was set up in 1994, as part of the Office of the Prime Minister, with the primary responsibility of coordinating systems development and national networking in the public service.[429] With the help of PSITM, most government ministries and departments had computerised their services while others were at advanced stages of computerisation. Some of the ministries and departments that had computerised services included: Parliament; Ministries of Environment and Tourism; Information and Broadcasting; Basic Education and Culture which encompasses the National Archives; Geological Survey; Defence; Finance; Health and Trade and Industry and many others. Most of these government institutions are linked to the information technology centre in the Office of the Prime Minister.

The data suggested that these ministries and departments had developed web-sites and had on-line information on services that they offered. This information was available to the public. For example, government reports, publications and other documents were available on-line and could be accessed by the public. The Ministry of Environment and Tourism had an extensive web-site with many documents and

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[428] Discussion on ICT development with the Chief Engineering Technician, NCC, on 2 July 2003 at the offices of NCC, Windhoek, Namibia.

[429] Interview with the Deputy Director: Systems Development, PSITM, on 20 August 2004, at the offices of PSITM, Windhoek, Namibia.

maps. It also had an on-line reservation system and confirmation through e-mail, which was accessible remotely.[430] The Ombudsman's department also had a web-site which was interactive and had complaint forms and other documents that could be downloaded by the public.[431] The web-site was used to inform people of the activities of the office and provided them with a channel for feedback.

Responding to the question on how use of computers had impacted on their operations, the respondents reported that ICT had made their work easier and more manageable. For example, implementation of the Human Resources Information System and the Integrated Financial Management System had enabled computerisation of salary records and facilitated easy storage and retrieval of information.[432] The computerisation of the Case Management System at the Office of the Ombudsman had facilitated the complaint-handling function in the office.[433] With this system, details of complaints such as date, complaint summary and final resolution were registered. This system served as an influential tool in terms of data collection, planning, reporting and monitoring. It was, however, found that incoming and outgoing registers were still manual.

Despite a rosy picture of computerised systems in government agencies, there appeared to be thorny problems in accessing, for example, the Internet and e-mail services. One of the respondents indicated that utilisation of the technology was frustrating as the Internet service was not readily available.[434] From my own experience in trying to access Namibian government web-sites and even trying to send e-mail messages, I concur with the respondent that access to the service could be frustrating. In spite of efforts made to utilise ICT through computerisation of public services in Namibia, the responses suggested that most government agencies, even those with computers in their offices, still continued to use manual processes,

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[430] 'AISI-Connect national ICT profile: Namibia (NA)'. Available at <http://www2.sn.apc.org/africa/countdet.CFM?countries_ISO_Code=NA>. Accessed 5 February 2003, p 4.

[431] Namibia: Office of the Ombudsman, Annual Report 2002, p 7.

[432] Interview with the Under Secretary: Administration and IT Management, OPM, on 18 August 2004, at the offices of the Prime Minister, Windhoek, Namibia.

[433] Interview with the Records Officer, Ombudsman, on 18 August 2004, at the offices of Ombudsman, Windhoek, Namibia.

[434] Response to Questionnaire A on ICT issues and government policy on ICT, completed by the Personal Assistant, NCC, Windhoek, Namibia, August 2003.

which to them appeared more reliable.[435] A visit to the Office of the Ombudsman proved this theory to be correct. In fact the manual systems seem prevalent in Botswana, Namibia and South Africa.

The Ministry of Information and Broadcasting which is also responsible for the government web-site, was able to convene a national workshop entitled 'National and Communications Infrastructure for Namibia' in 1998. The workshop was aimed at facilitating decisions that would improve the country's national information and communication infrastructure and also promote the use of ICT for socio-economic development. As an outcome of the workshop, it was recommended that the government, being the largest generator and processor of local information, should ensure accessibility to and dissemination of public information.[436] Despite the lack of a clearly defined policy, Namibia seems to have a road map of its destination and is clearly set to proceed on this road despite the difficulties. Like Botswana, Namibia lacks advanced computerised systems in government which obtain in South Africa.

5.2.3. South Africa

The situation in South Africa is much more advanced. In South Africa, like in many other countries in sub-Saharan Africa, the power of ICT has offered the potential to computerise government services that have been previously executed manually. The computerised systems in South Africa are slowly replacing most of the routine transactions like personnel, payroll, accounting, auditing systems and electoral processes that used to be done manually. It is clearly evident from this that ICT is seen as playing a dominant role in delivery and dissemination of information. ICT has also provided for electronic filing and issuing of documents, including licences, permits and payments.[437] Utilisation of ICT in government agencies has improved efficient

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[435] Discussion on ICT development with the Chief Engineering Technician, NCC, on 2 July 2003 at the offices of NCC, Windhoek, Namibia.

[436] B Amathila, 'Country report on the development of a national information and communication infrastructure for Namibia', Unpublished paper presented to the African Development Forum, Addis Ababa, 24-28 October 1999, p 2.

[437] 'Electronic government, the digital future: A public service IT policy framework', February 2001. Available at <http://www.gov.za/reports/2001.pdf>. Accessed 5 February 2003, p 4.

delivery of public services. For example, databases had been established to manage hardcopy records and to develop and provide access to file plans.[438]

The government of South Africa has embarked on a number of measures to ensure that services are delivered electronically and that ICT plays a vital role in society. It is the government's aim to provide 24 hours a day, 7 days a week government service delivery to citizens irrespective of geographic location. As of 2000, it was estimated that the government of South Africa spent US$ 1.2 million a year on information technology systems.[439] The government has through DoC established ICT policies and programmes to demonstrate its commitment to developing legislation that will strengthen the country's telecommunications and further ensure its utilisation in delivery of public services.[440] On the other hand, SITA had ensured IT coordination in different government departments and that departments procured the right systems which it then implemented on their behalf. One respondent said that although SITA had to do a business analysis and recommend systems, the final decision remained with the agencies.[441] This, as he argued, had in the past caused conflicts where some agencies had blamed SITA for imposing systems on them, something that SITA itself denied. In spite of this, SITA has done well in maintaining a good working relationship with all government agencies.

As part of government commitment to the development of ICT in the public sector, a number of government ministries and departments were able to computerise their services. Some of the government agencies that had computerised their services included: the DoC, Department of Public Service and Administration (DPSA), The Department of Arts, Culture, Science and Technology (DACS), Department of Trade and Industry (DTI), the Home Affairs Department, Department of Justice (DoJ), Department of Public Enterprise (DPE) and many more. All these organisations aim to provide services efficiently and equitably. The South African cabinet had also gone through drastic changes to embrace efficient government by creating computer

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[438] Responses to Questionnaire B on the impact of ICT on recordkeeping, completed by the Information Analyst, Nelson Mandela Foundation, Johannesburg, South Africa, September 2003.

[439] 'National ICT profiles: South Africa (ZA)'. Available at <http://www2.sn.apc.org/africa/countdet.CFM?countries_ISO_Code=ZA>. Accessed 5 February 2003, p 4.

[440] Discussion on ICT development, with the Deputy Director: KIM, DoC, on 3 September 2003 at the offices of DoC, Pretoria, South Africa.

[441] Interview with the Systems Analyst, SITA, on 8 October 2004, at the offices of SITA, Pretoria, South Africa.

clusters that integrated the work of the cabinet. These focused on efficient governance, human resource development and poverty eradication.[442]

The Home Affairs Department was able to develop the Home Affairs Identification System (HANIS). In the first phase of the project, 40 million paper records were converted to digital form. The second phase included the shift from paper-based citizen identity cards to an electronic version through the issuing of "Smart Cards".[443]

The project has been able to improve government effectiveness in the delivery of services. This helped citizens by ensuring that they benefited from faster processing of their pension and welfare payments, ending long queues at the Department's offices. On the other hand, the computerised systems for the Departments of Public Enterprise (DPE) and Arts and Culture were not properly implemented as processes were not properly designed. Apart from the fact that investigations on the network requirements were not done prior to implementation, the people who were supposed to use the systems were ignorant of usability.[444] It also appeared that nobody was interested in using the system because of resistance to change. However, the departments have since implemented new systems which have proved successful.

From the responses, it has clearly emerged that the use of ICT has without doubt facilitated central storage of data and improved record access. It has speeded up administrative activities in relation to traditional recordkeeping processes. It has encouraged data sharing between departments, and policy-makers can have quick access to information for decision-making. Even though South Africa has advanced computerised systems in government and continues to generate more and more electronic records, the bulk of the information, as in Botswana and Namibia, is still in paper format. As such the data collected suggested that an integrated records management system had to be developed to manage the records in both paper and

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[442]'National ICT approaches: selected case studies, South Africa'. Available at <http://www.opt-init.org/framework/pages/appendix3Case6.html>. Accessed 29 December 2002, p 4.

[443] 'Government efficiency vs. citizens' rights: the debate about electronic public records comes to developing countries', Press Release, February 2002. Available at <http://www.bridges.org/media/pressrelease/02 February 26.html>. Accessed 29 December 2002.

[444] Discussions on national archives' strategies and role of legislation in managing electronic records, with Deputy Directors, NARS, on 17 July 2003 at the offices of NARS, Pretoria, South Africa.

electronic environments.[445] In fact, the current electronic recordkeeping practices as presented next show that a lot still has to be done.

5.3. Current electronic recordkeeping practices

This section focuses on current electronic recordkeeping practices in Botswana, Namibia and South Africa.

5.3.1. Botswana

Respondents were asked a number of questions related to current electronic recordkeeping practices. These focused on business processes that produced electronic records, software used, organisational policy on e-mail management, electronic records that existed in old electronic systems (referred to as legacy systems[446]), the management of paper and electronic systems, back-up procedures, the long-term preservation of electronic records, issues of access and coping with change from manual to computerised systems.

(a) Business processes producing electronic records and software used

On the question of business processes that produced electronic records and the software used, respondents reported that almost all business processes in their units produced electronic records. Examples included processes dealing with accounting, finance, human resources and health care. On the question of the type of software used, respondents from the IT unit of the Ministry of Health said that they were using different software depending on the functions to be computerised. Generally, it was found that most agencies were running on Microsoft applications. The Ministry of Health itself was using MEDITECH (Medical Information Technology), Oracle and Access for the management of different types of medical records.[447]

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[445] Discussions on role of the national archives in managing electronic records, with Deputy Directors, NARS, on 17 July 2003 at the offices of NARS, Pretoria, South Africa.

[446] Refer to footnote 82 on page 35 for the definition of a legacy system.

[447] Interview with IT officers, Ministry of Health, on 16 July 2004, at the offices of the Ministry of Health, Gaborone, Botswana.

MEDITECH and Oracle were, for example, used by the Central Medical Stores and Family Health divisions while Access was used by the National Nutrition Surveillance division. The office of the Accountant General reported that it was using Oracle for finance management. DPSM was found using Lotus Notes and Infinium for file tracking.

(b) Management of electronic mail (e-mail)

Respondents were asked if they had any policy for the management of official e-mail communication in their agencies. Some of the respondents felt that the question was an interesting one and that they had never really thought about it. Responses indicated that while use of e-mail was a common and easy way of communicating with other departments and stakeholders, there was no organisational policy on its management. Although the respondents said that all staff had to use official e-mail accounts for official communication, on visiting the offices, it was found that some had private accounts which they were using for official communication. When asked about the storage and management of the official e-mails received through those private accounts, they indicated that there was no policy regulating this. Users were left with the responsibility for managing the e-mails they created. However, the respondents said that in most cases the procedure was that official e-mails with attachments would be printed, filed under relevant subjects and managed like other paper records.[448] Where attachments were not printed, cross references to paper records of related subjects would be made. Some responses indicated that management of e-mail communication was the responsibility of the Department of Information Technology. On the whole, however, respondents felt that the issue of e-mails would be addressed once policies and procedures for the management of electronic records are in place.[449]

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[448] Interview with IT officers, Ministry of Health, on 16 July 2004, at the offices of the Ministry of Health, Gaborone, Botswana.

[449] Data on availability of these policies and procedures is presented in section 5.4.

(c) Electronic records in legacy systems

On the question of electronic records that existed in old electronic systems (referred to as legacy systems), the responses indicated that most agencies, except the Ministry of Finance, had no electronic records in the legacy system. The explanation was that this ministry had a long history of computerised systems, while others had until recently operated on manual systems.[450] This was confirmed by a respondent from the office of the Accountant General, who even said that they were in the process of migrating old accounting and budgeting electronic records to new systems.[451] For example, the old payroll system which was created using OPAC was to be migrated to a new system operating on Oracle. Asked if they were not worried about data loss during migration, the respondent appeared confident with the new system and informed that a team of experts had been formed to validate the data to be migrated. In fact, respondents from one of the IT units revealed that there was no fear of loss of information during migration because of the use of verification.[452] The department will, however, have to be very careful about the whole process.

(d) Paper vs. electronic systems

Since paper and electronic systems were found existing side by side in all offices visited, respondents were asked how they were handling the two. All the responses indicated that, regardless of the system used, the records had to be managed in the same way. A response from the Accountant General indicated that, even though transactions in the new system were received electronically, records were still kept in manual systems for legal purposes.[453] Other respondents from RMUs said that they were only recording the existence of files, file requests and tracking electronically while the rest of work was still done manually. As far as classification, appraisal and retention schedules were concerned, interviews showed that these were not yet

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[450] Interview with IT officers, Ministry of Health, on 16 July 2004, at the offices of the Ministry of Health, Gaborone, Botswana.

[451] Interview with the Accountant General, on 28 September 2004, at the offices of the Accountant General, Gaborone, Botswana.

[452] Interview with IT officers, Ministry of Health, on 16 July 2004, at the offices of the Ministry of Health, Gaborone, Botswana.

[453] Interview with the Accountant General, on 28 September 2004, at the offices of the Accountant General, Gaborone, Botswana.

applied in the electronic environment. Respondents were optimistic that in the future file plans based on functions would be developed and be consistent with existing classification schemes.

(e) Back-up strategies

On existence of back-up strategies that ensured information on computerised systems was not lost, respondents reported that this was done using tapes and videos. However, IT units in those agencies were found to have reliable back-up systems in place. For example, back-up was done daily, weekly, monthly and yearly. Further, the Department of Information Technology, which is responsible for IT in government offices, was said to have back-up offices. Even if power went off, the respondents revealed that computers could continue operating for 30 minutes during which time back-ups were made and work saved. Generators which were capable of taking over automatically in case of power failures were also available. On the long-term preservation of electronic records, agencies that were visited said they had no preservation plans.

(f) Physical and intellectual access to electronic records

The respondents were asked if there were any measures in place to protect unauthorised physical and intellectual access to electronic records. While this appeared to differ from agency to agency, generally, the responses suggested that such access to electronic records was determined by nature of employees' work.[454] For example, a respondent from the Attorney General said that they had the "super administrator", who was seen as authoritative and had complete access to all court files.[455] This administrator had the right to view what work had been done and by whom. Asked if they were not compromising the integrity of the records by allowing complete access, the respondent who appeared confident on this explained that such a person would be knowledgeable and as such was allowed to make modifications

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[454] Interview with IT officers, Ministry of Health, on 16 July 2004, at the offices of the Ministry of Health, Gaborone, Botswana.

[455] Interview with the Accountant General, on 28 September 2004, at the offices of the Accountant General, Ministry of Finance, Gaborone, Botswana.

and changes as might be necessary. The system would, however, keep track of the changes and each user would know about them. This practice, as the study will later argue, should not be allowed to compromise the authenticity and integrity of the records.

A slightly different picture was observed in other agencies. Respondents from the Ministry of Health and DPSM said that only users responsible for different types of records were allowed access to those records.[456] For example, data entry staff were said to have access only to the module for data entry and senior officials to modules that allowed them to prepare reports. In hospitals, doctors and nurses had access to patient records although nurses, unlike doctors, would have limited access to some of these records, depending on level of confidentiality. The respondents indicated that in case changes were made to the records, an audit trail was kept. Further, passwords were used to guard against unauthorised access. For departments that had IT units, electronic security cards were used to gain access to computer rooms. Further, respondents were asked to give examples of problems that affected access to electronic records. Problems identified included: viruses, power failures in some agencies, network problems and lack of training and awareness of use of computers.[457] It was, however, noted that staff from IT units were always available to solve the problems. Work on problems of a complicated nature was outsourced to private companies.

(g) Legal issues

As far as the legal issues were concerned, respondents were asked whether they had any experiences where electronic records were required for litigation or to solve disputes. Responses reported that the legal status of electronic records was not clear. The Accountant General expressed disappointment that current laws disregarded electronic records as evidence and did not see them as authentic.[458] This explains

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[456] Interviews with IT officers, Ministry of Health and Principal Records Officer, DPSM on 16 and 15 July, 2004 at the offices of the Ministry of Health and DPSM, Gaborone, Botswana.

[457] Interviews with IT officers and Records Officers, Ministry of Health, on 16 and 14 July 2004, at the offices of the Ministry of Health, Gaborone, Botswana.

[458] Interview with the Accountant General, on 28 September 2004, at the office of the Accountant General, Gaborone, Botswana.

why agencies continued to keep both paper and electronic records. However, respondents said that the only experience they had was where they were required to produce evidence in paper format.[459] In most cases they had no difficulties in producing the records. The records officers, however, expressed lack of confidence in making records available in the future, as they always had to chase for the files in offices and also took time to find some files because of congestion in RMUs.

5.3.2. Namibia

(a) Business processes producing electronic records and software used

Questions related to current electronic recordkeeping practices received different reactions from different respondents in different government agencies. Reacting to the question on business processes that produced electronic records, all respondents interviewed said that almost all business processes were generating electronic records. A respondent from the Ministry of Finance cited the following examples: funds control, general ledger and payments, adding that about 30 ministries were requesting payments through the system.[460] As in Botswana, it was found that most agencies in Namibia were using Microsoft applications including Word, Excel and Power Point. The Ministry of Finance was said to be using adabase for databases and InfoMax for general ledger and Oracle for management of other financial records.

(b) Management of electronic mail (e-mail)

While the use of e-mail was found to be common in most government agencies, different viewpoints were expressed on how its use was regulated and how resulting messages were managed. Some responses showed that there were no management systems for e-mails created.[461] However, respondents from the Office of the Prime Minister (OPM) and PSITM said that they had a policy on acceptable use of IT

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[459] Interviews with IT officers and Records Officers, Ministry of Health, on 16 and 14 July 2004, at the offices of the Ministry of Health, Gaborone, Botswana.

[460] Interview with the Analyst Programmer, Ministry of Finance, on 18 August 2004, at the offices of the Ministry of Finance, Windhoek, Namibia.

[461] Interview with the Analyst Programmer, Ministry of Finance, on 18 August 2004, at the offices of the Ministry of Finance, Windhoek, Namibia.

resources including use of e-mail.[462] Through this policy, staff were advised on proper use of e-mail for official communication. A respondent from OPM, however, expressed concern that when staffs were on official trips abroad the tendency was to use private e-mail accounts like yahoo and hotmail. This made management of official messages generated using these private e-mail accounts very difficult as it remained with individual users.

(c) Electronic records in legacy systems

Another issue covered was that of electronic records in legacy systems. As was the case in Botswana, the responses in Namibia showed that records in legacy systems were those related to financial records. Examples included records dealing with salaries, receipts and vouchers. While there was no evidence of any migration of these records to new systems, responses suggested that this would be done in the future. As the respondent from PSITM reported, the records created and maintained in the old financial system would be migrated to the new system in the near future.[463] Otherwise these records were just left on computer hard drives.

(d) Paper vs. electronic systems

On the management of records existing in both paper and electronic environments, the respondents indicated that there were systems in place for parallel management of the two formats of records. In most cases, however, information in computers was printed and managed in paper format. Only one respondent reported that her department had a functional file plan for electronic records,[464] but had prepared it without any guidance from the national archives which is generally believed to be responsible for issuing guidelines.

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[462] Interview with the Under Secretary: Administration and IT Management, OPM, and Deputy Director: Systems Development, PSITM on 18 August 2004 and 20 August 2004, at the offices of OPM and PSITM, Windhoek, Namibia.

[463] Interview with the Deputy Director: Systems Development, PSITM, on 20 August 2004, at the offices of PSITM, Windhoek, Namibia.

[464] Interview with the Records Manager, St Mary Hospital, on 19 August 2004, at St Mary Hospital, Rehoboth, Namibia.

(e) Back-up strategies

On availability of back-up systems, one respondent indicated that back-ups were made on compact discs and stored in a safe.[465] Another respondent said that although they were backing up information on tapes, these were kept in the same room as the computers. His feeling was that this was not serving any purpose, as everything would be destroyed in case of a disaster. The respondents said that although electricity was 90% reliable to keep computers running, they had generators which would automatically take over in case the electricity went off. But procedures were available for making back-ups daily, weekly, monthly and yearly. The respondents further stated that their agencies had no disaster preparedness and recovery plans. As was the case in Botswana, agencies visited in Namibia confirmed that the issue of long-term preservation of electronic records had not yet been addressed.

(f) Physical and intellectual access to electronic records

The respondents were also asked if they had any measures in place to protect unauthorised access to electronic records. A respondent from PSITM reported that there were procedures laid out on how physical and intellectual access was to be regulated in all government agencies.[466] For example, there was a document that classified security systems at four levels where level four would be classified as highly sensitive. Further, logging into computerised systems was recorded and audit trails of any changes made kept. PSITM was said to be responsible for determining usage according to employees' nature of work and giving passwords which were used to guard against unauthorised access. In other agencies, it was found that the different levels of access to records were determined by the different functions performed. One respondent gave this example:

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[465] Interview with the Records Manager, St Mary Hospital, on 19 August 2004, at St Mary Hospital, Rehoboth, Namibia.

[466] Interview with the Deputy Director: Systems Development, PSITM, on 20 August 2004, at the offices of PSITM, Windhoek, Namibia.

If level one access is responsible for putting in a purchase order, they cannot at the same time approve it. Someone at level two will approve it and request an invoice, but the same person cannot process the invoice. Someone at level three will then process the invoice and release it for payment.[467]

From this example, it clearly emerged that any changes or modifications to records could only be made by those responsible at the different levels of access. This protected the records from any unauthorised access. The same practice was observed in government agencies in Botswana. However, a slightly different situation was observed in one of the hospitals in Namibia, where they were not using passwords but relied on locking the doors to rooms in which computers were kept.[468] On problems that affected access to electronic records, respondents mentioned the same problems were raised in Botswana: viruses; power failures in some agencies; network problems and lack of training and awareness on use of computers. According to the respondents, the most serious of these was network failure.

(g) Legal issues

On the legal issues, respondents were asked about their experiences, if any, in dealing with situations where they were required to produce electronic records for litigation or to solve disputes. Some of the respondents said that they had no experience on this to share. One respondent said that the only experience she had was when in the year 2000 auditors wanted access to their electronic files to compare with paper ones.[469] The respondent said that they were able to provide access to the records. Further, she informed that they kept copies of paper printouts in case they were needed in court in place of electronic records.

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[467] Interview with the Analyst Programmer: Ministry of Finance, on 18 August 2004, at the offices of the Ministry of Finance, Windhoek, Namibia.

[468] Interview with the Records Manager, St Mary Hospital, on 19 August 2004, at St Mary Hospital, Rehoboth, Namibia.

[469] Interview with the Records Manager, St Mary Hospital, on 19 August 2004, at St Mary Hospital, Rehoboth, Namibia.

5.3.3. South Africa

(a) Business processes producing electronic records and software used

On questions related to current electronic recordkeeping practices, respondents from the Department of Justice (DoJ), Department of Public Enterprise (DPE) and the State Information Technology Agency (SITA) informed that all business processes in their respective departments were computerised and as such producing electronic records. DoJ's Information Systems Management division which was responsible for records management had been able to prepare a functional user requirement specification from which all business processes in the department were involved in records management.[470] At the time of data collection, the department was in the process of implementing the new Integrated Records/Document Management system (IDRMS)[471] recommended by the National Archives and Records Service of South Africa. This is expected to cater for the current and future electronic recordkeeping needs.

The respondents reported on different software used. This was in most cases determined by the business process. DOJ reported on use of Microsoft applications like SharePoint Portal. Although the respondent indicated that SharePoint Portal enabled collaboration among work groups, she personally did not like it, as it was not designed as a records management software.[472] DPE reported that it was using Hummingbird[473], as a records management software recommended by the National Archives and Records Service of South Africa for government agencies. Some agencies were found to be using TRIM.[474]

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[470] Interview with the Records Manager, DoJ, on 30 July 2004, at the offices of DoJ, Pretoria, South Africa.

[471] An Integrated Records/Document Management system is dealt with in depth under section 6.2.3.

[472] Interview with the Records Manager, DoJ, on 30 July 2004, at the offices of DoJ, Pretoria, South Africa.

[473] Hummingbird is records management software that provides a secure environment for managing the full life-cycle of records from creation to disposal.

[474] TRIM is an electronic recordkeeping system designed to provide templates for managing records from creation to disposal. These include formulating instructions for creating record types; building file plans; retrieving records; records transfer and disposition. TRIM is commonly used in Australia, USA (Department of Defense) and is complaint with the UK National Archives standard.

(b) Management of electronic mail (e-mail)

On the question related to use and management of official e-mail communication, all the respondents indicated that their agencies had official e-mail accounts for official communication. This was found to be a major way of communicating with stakeholders. DoJ and DPE pointed out that they were strict about use of e-mails and had come up with policies to help manage this. These policies were, however, not made available at the time of data collection as they were said to be in their draft stages. For DPE, the IT unit was responsible for management of all e-mails, which were kept in the server for a certain period of time and deleted as necessary.[475] A records manager from DoJ, however, emphasised that they treated e-mails as part of all records and as such were managed in the same way. With the new Electronic Communication and Transaction Act (ECT) in South Africa, the respondent reported that e-mail had become important and could now be legally accepted.[476]

(c) Electronic records in legacy systems

On the question related to legacy systems, it emerged that most records that existed in legacy systems were those dealing with financial business processes. Staff members at DoJ who had computers saved a lot of files in the main hard drive and stored copies in the servers. However, the old financial records and others created from different functions of the department were just kept in hard drives and these were the responsibility of the department's IT unit. Such records included: e-mail communication, policies and reports.[477] It was, however, revealed that once DoJ implemented its IDRMS, these old records would be migrated to new systems. A server acting as an archive would be created for such records to ensure their continued accessibility.

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[475] Interview with the Records Officer, DPE, on 3 August 2004, at the offices of DPE, Pretoria, South Africa.

[476] The ECT Act is discussed in detail in section 6.3.3.

[477] Interview with the Records Manager. DoJ, on 30 July 2004, at the offices of the DoJ, Pretoria, South Africa.

(d) Paper vs. electronic systems

Describing how people were dealing with management of paper and electronic records, the respondent from DoJ reported that there were those who kept paper and electronic records together while others kept only paper records.[478] However, the IDRMS to be implemented for the department would have a hybrid system which would integrate the two and ensure their management side by side. DPE reported that paper was still common in their department and as such had not put in place any system for the management of both paper and electronic records.

On file plans, it emerged that most departments had file plans and some like DoJ were in the process of developing them. DoJ, however, had an old file plan which was mainly used for the management of paper records. This was no longer in use as a new file plan was being prepared for the management of records in both paper and electronic environments. Instead, a hybrid system would be in place, so that the same file plan based on the functions of the organisation would be used for both records existing in the two different environments. At the time of data collection in 2004, DPE was working on a new file plan for the management of both paper and electronic records and this would have to be approved by the National Archives and Records Service of South Africa (NARS).

(e) Back-up procedures

All respondents revealed that their agencies had back-up procedures. The respondent from DPE said that they made copies of paper records which were kept off storage as back-ups. Otherwise power supplies were found reliable to keep computers running. In case of emergencies, emergency generators were always available. Further, it was found that DoJ had disaster preparedness and recovery plans in place. The long-term preservation of electronic records had not yet been addressed in government agencies.

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[478] Interview with the Records Manager, DoJ, on 30 July 2004, at the offices of DoJ, Pretoria, South Africa.

(f) Physical and intellectual access to electronic records

Respondents were also asked about physical and intellectual access to electronic records and security provisions for unauthorised access. The responses indicated that currently access to records in computerised systems was determined by the nature of employees' work, as in Botswana and Namibia. For example, all staff had access to records on policies and procedures. But for internal audit records, only compliance officers had access. Passwords were also used and the agencies were very strict about their use. Use of passwords appeared to be the most common security measure in the three countries.

Asked to give examples of problems that affected access to records, respondents mentioned the same problems as those experienced in Botswana and Namibia: viruses, lack of power back-ups and power failures in some agencies, network problems and lack of training and awareness on use of computers.[479] But network and power failure were said to be the most common in the offices visited. To deal with the problems, respondents said that they had to contact the IT units. But respondents stated that when publishing computerisation tenders, as part of the requirements the vendors had to take the responsibility for maintenance of the network. The tenders had strict requirements, for network availability and vendors were accountable to ensure at least 99.9% confidence.

(g) Legal issues

As far as the legal issues were concerned, respondents were asked about their experience in dealing with electronic records needed as evidence either in courts or to solve disputes. A respondent from DoJ said she had no such experience. But she reported that while still an employee at NARS, on one occasion electronic records were requested as evidence. She was able to retrieve the records and was confident that if she was still at the archives she would be able to do it again because of their good culture of filing.

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[479] Interviews with the Records Manager, DoJ, and Records Officer, DPE, on 30 July and 3 August 2004, at the offices of DoJ and DPE, Pretoria, South Africa.

5.4. Policies and procedures for the management of electronic records

This section focuses on policies and procedures used in the management of electronic records in government agencies in Botswana, Namibia and South Africa.

5.4.1. Botswana

While it cannot be disputed that the volume of electronic records will continue to grow with increased computerisation in government agencies, evidence shows that records officers in Botswana clearly have no tools to ensure their proper management. This has become ever more challenging as records officers now have to deal with records in two distinct environments, that is, in both the paper and electronic formats. A discussion with some of the respondents revealed that the use of computers in government offices had brought many challenges. The respondents indicated that while there was a need to manage electronic records, there was a lack of relevant policies and procedures to support the management of such records throughout their life-cycle.[480]

A follow-up interview conducted in 2004 on the progress made so far in terms of policies and procedures for the management of electronic records in different ministries and departments revealed that most agencies had not made any significant progress. The office of the Attorney General was the only department that had been able to prepare a records management policy.[481] The respondent stated that the policy was still in its draft stage and would cover issues such as legal admissibility of electronic records, their legal retention and management throughout their life-cycle. The data from the Ministry of Finance, however, suggested that the ministry was working on plans to prepare a records management policy for both paper and electronic records. From the responses, it was found that other agencies were aware

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[480] Responses to Questionnaire B on the impact of ICT on recordkeeping, completed by Records Managers, Teaching Service Management, BNARS, Attorney General Chambers and Secondary Education, Gaborone, Botswana, July 2003.

[481] Interview with the Deputy Attorney General: Civil and Prosecution, on 29 September 2004, at the offices of the Attorney General, Gaborone, Botswana.

of the need to have policies and procedures for the management of electronic records but were waiting for guidance from the national archives.

The responses have suggested that records officers need guidelines on how they should best capture, use, transfer and preserve electronic records. Further, records officers are not professionally trained in the management of electronic records and as such, have no specialised skills to deal with such records.[482]

Notwithstanding this, respondents from the Botswana National Archives and Records Service (BNARS) revealed that the department was in the process of establishing policies and procedures for the management of electronic records,[483] although these were still at a preliminary stage. The respondents were hopeful that clear policies and procedures would be formulated and guidelines issued on the capture, access, use and preservation of electronic records. This has come at the right time for records officers as they had already wished not only to be able to computerise but also to have the tools for the management of electronic records. In spite of a lack of relevant policies and procedures, the prospects in Botswana are bright because of government's commitment to ensuring modernisation of recordkeeping.

5.4.2. Namibia

Namibia's case appeared slightly different from developments in Botswana. Namibia had no policies and procedures in place for the management of electronic records, and had no clear future prospects for this development.[484] It was found that most departments were following guidelines from their parent ministries for the management of different classes of records. For example, for management of financial records, they were following Treasury Instructions issued by the Ministry

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[482] The issue of training is discussed in section 5.6.

[483] Response to Questionnaire B on the impact of ICT on recordkeeping, completed by Senior Systems Analyst, BNARS, Gaborone, Botswana, July 2003.

[484] Discussion on the role the national archives in managing electronic records, with Archivist: Research, on 6 August 2003 at the offices of NAN, Windhoek, Namibia.

of Finance.[485] Interestingly, however, it was found that the Office of the Ombudsman was using some disposal and transfer guidelines issued by the National Archives of Namibia (NAN) although these were only for paper records.[486] In addition to lack of policies and procedures, it emerged that NAN had inadequate facilities for the management of electronic records. Consequently, there had been little emphasis placed on the management of electronic records and skills development, not only at NAN but also in government agencies. From the discussions with NAN staff, it emerged that NAN seemed confident that once the government realised the importance of electronic records in promoting good governance, it would commit resources for the development of a government-wide programme for the management of electronic records.[487]

The respondents were also optimistic that the situation would improve in the near future, particularly after all professional vacant posts were filled. Some of these posts were: Head of Archives, Records Manager, Archivist (Preservation and Conservation) and Archivist (Records Management).[488] A follow-up interview in 2004 with the acting Director of NAN established that the post of the archivist in charge of records management had already been filled. Further, an archives assistant had been recruited. This is an indication of the fact that NAN is committed to its involvement in records management responsibilities. This will go a long way in relieving NAN with the burden of managing records, not only in the archives but also in government agencies. It was, however, sad to note that NAN had lost one of its senior archivists, who had been a great source of information during the first field visit to Namibia in 2003. NAN still needs more records management staff to be able to match the expectations of the regional counterparts of Botswana and South Africa.

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[485] Interview with the Records Manager, St Mary Hospital, on 19 August 2004, at St Mary Hospital, Rehoboth, Namibia.

[486] Interview with the Records Officer, Ombudsman, on 18 August 2004, at the offices of the Ombudsman, Windhoek, Namibia.

[487] Discussion on the role of the national archives in managing electronic records, with Archivist: Research, on 6 August 2003 at the offices of NAN, Windhoek, Namibia.

[488] Discussion on the role of the national archives in managing electronic records, with Archivist: Research, on 6 August 2003 at the offices of NAN, Windhoek, Namibia.

5.4.3. South Africa

South Africa's case is encouragingly different from Namibia and Botswana. South Africa has established the necessary policies and procedures to guide the management of electronic records in government agencies. With the realisation that sound recordkeeping and records management practices are key elements in good governance, the National Archives and Records Service of South Africa (NARS) has issued clearly laid out policies and procedures for the management of electronic records in government agencies. As of April 2003, NARS issued three publications that were to help records managers and government agencies to manage their records. First, is the *'Performance criteria for records managers of governmental bodies'* which clearly lays out the purpose of the records management posts, describes the tasks involved and the competency requirements.[489] Section 13 (5) of the National Archives and Records Service (NARS) Act of 1996, as amended in 2001, requires that each government agency designate a records manager to take responsibility of the management of the agency's records, including the design, implementation and maintenance of records classification systems as well as training in sound recordkeeping. As part of the tasks involved, the records managers had to ensure that information contained in records was managed effectively throughout the office by drafting and implementing own records management policy. This policy had to link the office's own unique processes and procedures to the requirements of the broad policy guidelines in the NARS Act. The policy had to be flexible, implementable and cost effective.

Interviews with some of the records managers established that indeed agencies had made progress in coming up with own policies. For example, the DPE had a records management policy which was in line with the NARS policy. It was reported that senior managers in the department were strict on following the policy. On the other hand, the DoJ was in the process of preparing its own policy. The respondent, however, said that she had published some procedures particularly those dealing with

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[489] National Archives of South Africa, *Performance criteria for records managers of governmental bodies* (Pretoria: NASA, April 2003).

saving information on drives.[490] Implementation of these procedures had been successful.

Secondly there is the 'Records management policy manual' which provides a statutory and regulatory framework to support records management.[491] The policy manual has been issued in terms of Section 13 (5) of the NARS Act which states that the National Archivist may from time to time issue directives and instructions which shall not be inconsistent with the regulations, as to the management and care of public records in the custody of government agencies. Step by step guidelines on the management of public records, designing and implementing records classification systems, systematic disposal of records, caring for specific types of records, training and compliance monitoring are clearly laid out in this manual. The records classification system aims to provide intellectual control and ensure that records are easily accessible and facilitate transparency and accountability. On the other hand, systematic disposal of records will ensure that effective disposal programmes are put in place for transfer of archival records to the national archives and destruction of worthless records. The manual is detailed and it has appendices on other information that may be needed by records managers, including a list of the circulars issued by NARS. This manual is to be retained by a records manager of each office and has to be updated from time to time as necessary.

Finally, there is a manual entitled 'Managing electronic records in governmental bodies: policy guidelines'. This publication provides guidance to government agencies on appropriate management of electronic records and systems. Government agencies are expected to comply with legislative requirements regarding records as an integral part of the strategic management of information. The policy guidelines contain information on the management of web-sites and web-based activities, data warehouses and geographic information systems.[492] The three NARS publications have seen a rapid transformation in the management of electronic records as

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[490] Interview with the Records Manager, DoJ, on 30 July 2004, at the offices of DoJ, Pretoria, South Africa.

[491] National Archives of South Africa, Records management policy manual (Pretoria: NASA, April 2003).

[492] National Archives of South Africa, Managing electronic records in governmental bodies: policy guidelines (Pretoria: NASA, April 2003).

evidenced by the responses from government agencies. The situation in South Africa provides a sharp contrast with Botswana and Namibia.

5.5. Involvement of the national archives in the record keeping practices within government agencies

This section focuses on the way government agencies view the national archives involvement in the recordkeeping practices.

5.5.1. Botswana

Respondents were asked to comment on the involvement of BNARS in the recordkeeping practices. The responses from some records officers revealed that BNARS was involved in guiding government agencies in effective and efficient management of their records.[493] In addition to its archives administration role, BNARS has been tasked with records management responsibilities. This means that it has to be involved throughout the records life-cycle from the time when records are created through maintenance and use to their disposal by either destruction or preservation as public archives. This role has meant that the involvement of archivists has been extended to the beginning of the generation of records and in actual management of current records, by controlling them or supervising the process. Consequently, RMUs have been integrated into BNARS to ensure its active involvement in the recordkeeping practices. Following from this, BNARS has been able to deploy records officers to different ministries and departments to manage RMUs and responsibilities involved. It had, therefore, emerged that BNARS was actively involved in coordinating, monitoring, advising, and issuing of policies and procedures necessary for proper control and management of paper-based records.[494] BNARS also offered technical support to its entire records management staff. Although BNARS had recruited a Senior Systems Analyst for this purpose, the officer had resigned from his post by end of September 2004. From that time on, BNARS has depended on services

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[493] Responses to Questionnaire B on the impact of ICT on recordkeeping, completed by Records Managers, Teaching Service Management and Attorney General Chamber, Gaborone, Botswana, July 2003.

[494] Responses to Questionnaire B on the impact of ICT on recordkeeping, completed by Records Managers, Teaching Service Management, Gaborone, Botswana, July 2003.

and guidance offered by the Department of Information Technology, which is in charge of ICT in government agencies. BNARS was also working hand in hand with the information technology managers in the departmental and ministerial units who were helping with the design of databases which assisted with data storage and retrieval.

One of the respondents, however, felt that BNARS had to be more proactive in its role.[495] It has to spearhead the establishment of policies and guidelines for the management of electronic records. It also has to liaise with other archives services in neighbouring countries that have made significant strides in the development of such policies and guidelines, citing the South African experience as a good learning example.

Contrasting reports were received from other departments. One of the respondents reported that the role of BNARS was not clearly defined, but one would envisage it taking the lead in developing systems and requirements for the management of electronic records.[496] A follow-up question was asked on why some respondents said BNARS's presence was not felt in some departments. Respondents complained that records managers in their units were too distant from RMUs and appeared committed to other administrative duties like performance-based reward system, neglecting their records management responsibilities.[497] There were some criticisms as well. Some respondents said that on several occasions they had invited BNARS to see progress in their units, but it appeared not interested as it never showed up. One of them who looked frustrated when talking about the involvement of the archives had this to say:

[495] Response to Questionnaire B on the impact of ICT on recordkeeping, completed by Records Manager, Teaching Service Management, Gaborone, Botswana, July 2003.

[496] Response to Questionnaire B on the impact of ICT on recordkeeping, completed by Record Manager, Secondary Education, Gaborone, Botswana, July 2003.

[497] Interview with Records Officers, Ministry of Health, on 14 July 2004, at the offices of the Ministry of Health, Gaborone, Botswana.

> *"I feel the presence of BNARS only as their employee. But
> how it influences activities this side, there is still a gap.
> On two occasions I have talked to other departments to
> find how the archives was monitoring recordkeeping
> activities ...it was not only me but most departments said
> they did not feel the presence of the National Archives "*[498]

Another respondent felt that BNARS was not helping as would be expected, saying that they had only received a skeletal draft of how a records management policy should look like. According to the respondent, this was not useful in any way, and to him it appeared like BNARS was struggling to cope with its responsibilities.[499] The idea of seconding records management staff to agencies was criticised by one of the respondents, who felt that BNARS only had to guide them.[500] He preferred that agencies be left to make own staff appointments as they had different needs. Records managers on secondment were asked to comment on this. Their general feeling was that indeed government agencies had to be left to make their staff appointments and provide their own training. BNARS was only to offer advice and guidance. Their concern was that BNARS was not able to meet requirements of government agencies in terms of staffing levels and qualifications.

Two of the respondents said that they viewed the role of BNARS as an important and major one that ensured all records management procedures and policies were followed.[501] In spite of different feelings on the involvement of BNARS, there appeared to be a lot of appreciation on its role in the recordkeeping practices. Botswana is clearly keen to ensure that government agencies are supported in their efforts to modernise their recordkeeping practices. Unlike Namibia, Botswana is making serious attempts to match South Africa in the management of electronic records and ICT advancement.

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[498] Interview with the Records Manager, Ministry of Finance, on 13 August 2004, at the offices of the Ministry of Finance, Gaborone, Botswana.

[499] Interview with the Deputy Attorney General: Civil and Prosecution, on 29 September 2004, at the offices of the Attorney General, Gaborone, Botswana.

[500] Interview with the Accountant General, on 28 September 2004, at the office of the Accountant General, Gaborone, Botswana.

[501] Responses to Questionnaire B on the impact of ICT on recordkeeping, completed by Records Managers, Teaching Service Management, Gaborone, Botswana, July 2003.

5.5.2. Namibia

The National Archives Act No. 12 of 1992 of Namibia mandates the archives with the responsibility of managing records and ensuring that the public has access to such records.[502] This mandate includes control on current records. As stipulated in the Act, the Head of Archives may from time to time issue guidance on the proper management of records in government agencies. This is expected to include advice on the management of electronic records. Government agencies similarly have a role in properly caring for records in their custody. This, however, has to be done with guidance from the NAN. While it had emerged from a survey conducted by the International Records Management Trust consultants in 2001 that government agencies had good structures in place[503], interview responses have established that NAN was incapacitated by lack of resources to be actively involved and play a significant role in the management of records in government agencies. During the interviews conducted in 2004, respondents said that NAN had to be given more resources to be able to play this role. NAN was, however, found to be making an effort by circulating copies of the Archives Act, the Archives Code, the Registry Manual and other guidelines for the management of paper records.[504] This was confirmed by at least four respondents from government agencies. According to the information gathered, there was no active government-wide records management programme which would normally be coordinated by the national archives as was the case in Botswana and South Africa. As one of the respondents stated:

> *"The National Archives of Namibia is at this stage very understaffed and overworked, therefore it is unable to take such a step"[505]*

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[502] National Archives of Namibia Act (Act No. 12 of 1992), Republic of Namibia.

[503] K Barata, R Bennett, P Cain and D Routledge, 'From accounting to accountability: managing financial records as a strategic resource, Namibia: case study', report to World Bank infoDEV programme. Available at <http://www.irmt.org/download/DOCUME~1/DEVELO~1/RESEAR~1/NAMIBI~1.pdf>. Accessed 21 January 2004, p 7.

[504] Interview with the Deputy Director: Systems Development, PSITM, on 20 August 2004, at the offices of PSITM, Windhoek, Namibia.

[505] Discussion on the role of the national archives in managing electronic records, with Archivist: Research, on 6 August 2003 at the offices of NAN, Windhoek, Namibia.

What the respondent said is not meant to suggest that NAN cannot take the responsibility for the management of electronic records, but that it had too few resources to enable it to be actively involved. Further discussions with the same respondent revealed that although NAN was not physically involved in the recordkeeping practices in government agencies, it was keeping an eye on the records management aspects. On the whole, however, NAN showed much interest on the need for active involvement in recordkeeping practices, especially the need to integrate manual and electronic systems. NAN had, however, not done anything about this because of the problems that it continued to face. During the visits to NAN, I was able to observe the gravity of the problem. I found only two archivists dealing with all the work. Neither could NAN attend the ESARBICA conference held in Mozambique in July 2003 because of shortage of staff. It was, however, encouraging to find out that NAN recognised the need to put in place infrastructure for the management of electronic records. Even though government agencies needed guidance in ensuring that records were properly created and kept, they did not have the necessary tools to guide them in carrying out this important task.

There was, however, evidence to show that in the 1990s, NAN had been actively involved in the recordkeeping practices in government agencies. According to this evidence, in 1995, NAN had two professional records managers who were responsible for records management activities which included running of informal courses to officers in charge of registries. During this period, records managers made circuit visits around government agencies to assess the needs and review filing systems. Regrettably, the two records managers resigned in 1995, stripping NAN of any hopes of records management responsibilities.[506] Consequently, NAN had no choice but to suspend the records management programme which during the visit in 2004, had not been revived. In spite of the challenges, NAN nonetheless, must forge ahead if it is to keep apace with the management of electronic records. Any plans to meet the challenges of the future should certainly address some of these problems.

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[506] B. Lau, 'Country report: Namibia', in *Proceedings of the 13th Biannual Conference of the Eastern and Southern African Regional Branch of the International Council on Archives (ESARBICA)*, Windhoek, 14-18th August 1995 (Windhoek: National Archives of Namibia, 1995), p 76.

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5.5.3. South Africa

The National Archives and Records Service of South Africa's (NARS) strategy for managing electronic records is closely aligned to the electronic government strategy framework. The information gathered revealed that NARS is actively involved in advising government agencies on computerisation efforts and on the management of electronic records.[507] However, NARS has not deployed records managers to government agencies. Instead, it has asked the agencies to appoint records managers in their own offices. An interview with respondents from government agencies confirmed that indeed their offices had been able to appoint records managers.[508] Notwithstanding this, Section 5 of the National Archives and Records Services (NARS) Act of 1996, as amended in 2001, provides wide-ranging powers to the National Archivist to approve records management systems to government agencies.[509] This includes advice on the management of electronic records. Further, in accordance with section 13 (1) of the same Act, the National Archivist is charged with the proper management and care of all public records in the custody of government agencies. Following from this, heads of government agencies were expected to ensure that all records under their control were stored and filed in a systematic manner. They had to ensure that suitable conditions were provided for effective storage of all records and had to manage access to records in their custody.

NARS's involvement in the recordkeeping practices in government agencies is an indication that it is keen to ensure that records and information were used as tools for good governance in South Africa. The issuing of the three manuals already discussed in section 5.4.3 and guidelines is proof of NARS's commitment. It was encouraging to find that NARS was getting consistent cooperation from government agencies. An interview with the archivist in charge of records management established that government agencies contacted NARS before they procured systems for

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[507] Discussions on impact of ICT on recordkeeping with Deputy Directors, NASA, on 17 July 2003 at the offices of NARS, Pretoria, South Africa.

[508] Interviews with Records Manager, DoJ and Records Officer, DPE, on 30 July and 3 August, 2004, at the offices of DoJ and DPE, Pretoria, South Africa.

[509] National Archives and Records Service of South Africa Act, (Act No. 43 of 1996) as amended by the Cultural Laws Amendment Act 36 of 2001, 'Section 5: Powers and duties of National Archivist', Republic of South Africa.

implementation to ensure that they followed the set requirements.[510] NARS would undertake records management surveys and run workshops to explain NARS requirements. One of the respondents also informed that NARS was carrying out records inspections in government agencies which were helpful.

In government agencies IT units had been established. Digital councils were also set up in the nine provinces of the country to overlook policies. These councils had to report back to NARS on the implementation and success of the policies. NARS was, at the time of data collection in 2004, involved in a feasibility study to investigate the possibility of creating infrastructure for the long-term preservation of electronic records.[511] This was expected to address the authenticity and reliability of such records.

Given the lack of resources NARS faces, one of the respondents suggested that it should focus more on playing an oversight or audit role, monitoring recordkeeping to ensure compliance with recordkeeping legislation.[512] Skills and financial constraints continue to pose a serious problem in South Africa as they do in Botswana and Namibia. But even if these constraints were overcome, without availability of adequate staffing levels and professional training, this serves little purpose for government agencies. Hence there is a dire need to provide professional training for the management of electronic records in the three countries.

5.6. Staffing levels and availability of professional training for managing electronic records

This section focuses on staffing levels and availability of professional training for the management of electronic records.

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[510] Interview with the Records Management Archivist, NARS, on 29 July, 2004, at the offices of NARS, Pretoria, South Africa, July 2003.

[511] This is discussed in detail under section 6.2.3.

[512] Responses to Questionnaire B on the impact of ICT on recordkeeping, completed by the Information Analyst, Nelson Mandela Foundation, Johannesburg, South Africa, September 2003.

5.6.1. Botswana

Respondents were asked to comment on their staffing levels and staff background in relation to the management of electronic records. Table 5-2 below provides a summary of the responses.

Table 5- 2 Summary of staffing levels and background in relation to the management of electronic records in Botswana

Government agency	Staff establishment	Level of training
Ministry of Health (headquarters)	7 records officers 3 IT officers	- 3 basic courses in records management -1 certificate, records management -1 diploma, records management -1 MA, records management* - 1 not trained - 2 qualified systems developers - 1 not trained
Ministry of Finance (headquarters)	12 records personnel 2 IT officers	- 8 basic courses in records management -1 certificate, records management - 2 diploma, records management -1 MA, records management - both trained in IT.
Attorney General Chambers	2 records officers IT officers	- B.A. + basic training in records management. - well trained.
Accountant General	4 records officers have qualified IT specialists	- 1 basic courses in management - 3 no training

* officer resigned from the public service in October 2004 to join the private sector.

As the display in Table 5-2 shows, Botswana has made considerable strides in training its records officers. It would, however, appear that while this training had been able to prepare them for the management of paper records in their life-cycle, it has not given them practical skills to apply in the management of electronic records. This may be explained by the fact that countries such as the United Kingdom, which provide training at the postgraduate level, still have to design specialised training programmes to meet their own needs. For example, University College London (UCL) in the UK was part of a team of experts tasked to develop a common European framework model for electronic records training, to produce a core curriculum and pilot it.[513] This project, as discussed in Chapter 3, is still ongoing.

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[513] E Shepherd, 'Report on the proposal for a European project for archival training: E-term'. Available at <http://www.ucl.ac.uk/e-term/files/es-dlm99.htm>. Accessed 9 December 2003.

As computers find their way into government agencies, many record creators, record officers and record users still do not know how to use them. Evidence from the field research has revealed that records officers in Botswana were not equipped with the necessary skills for the management of records in the electronic environment.[514] As can be seen from Table 5-2, in spite of its huge accounting and budgeting computerisation project, the Accountant General's office has no qualified staff in the records management unit to manage the new development. The Accountant General was worried that they were operating with untrained staff and he emphasised the need to employ more qualified people in RMUs.[515] This has posed a serious challenge for management. The office was, however, making efforts to train all those to be involved in the project. As far as the IT unit was concerned the respondent was also concerned that, although all were qualified, they were expatriate staff and would leave at the end of their contracts. This was posing another challenge - that of training citizens - even though the respondent said that it was not a question of training but that of retaining staff. Another respondent felt that RMUs were disadvantaged by being allocated personnel who did not match the required qualifications. As he further explained, people were removed from general administrative duties to records management responsibilities.[516] So the calibre of staff was not only inadequate but was also far below par. Some were thought to be untrainable. The other observation made was that although some records officers had basic training in computers, they never had any access to computers at work.

At the national level, the Department of Library and Information Studies (DLIS) at the University of Botswana (UB) is providing archives and records management courses, although these are still focused on traditional archival practices.[517] No aspects of electronic records management are covered, except at introductory aspects of computer usage. There is, however, a newly established Master of Arts (MA) and

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[514] Responses to Questionnaire B on the impact of ICT on recordkeeping, completed by Records Managers, Teaching Service Management, Senior Systems Analyst, BNARS, Gaborone, Botswana, July 2003.

[515] Interview with the Accountant General, on 28 September, at the offices of the Accountant General, Ministry of Finance and Development Planning, Gaborone, Botswana.

[516] Interview with the Records Manager, Ministry of Finance, on 13 August 2004, at the offices of the Ministry of Finance, Gaborone, Botswana.

[517] These practices as discussed in Chapter 2 of the literature review are proving inapplicable in the electronic environment. See pages 44-47.

PhD in archives and records management, but the department still has to recruit graduate students for these courses.[518]

In addition to courses offered at UB, the records managers from TSM revealed that IT units established in their different departments liaised with training houses such as the Institute of Development Management (IDM), the Botswana Institute of Accounting and Commerce (BIAC), Genetic Computing and many others.[519] This provided basic training which mainly focused on general use of computers, for example, an introduction to computers for staff at all levels, which was meant for basic computer literacy rather than training in the management of electronic records. The records managers, however, hoped that BNARS would be able to coordinate technical training which would be provided as recommended by those who would set up the planned electronic records management system.[520]

Although BNARS was doing all it could in managing paper records through their life-cycle, it still had insufficient competencies to manage electronic records. Respondents were asked for suggestions on improving the available training. They all lamented that training was inadequate and wanted improvements to cover all aspects of electronic records management as may be necessary. But as of now, government agencies will have to depend on the BNARS training plan. The respondents also pointed out that for BNARS to effectively support the management of electronic records it needed additional staff with ICT background.[521] As the data from Table 5-2 further suggests, ministries and departments have IT officers trained to handle the computerised systems. The IT officers themselves felt they were overworked and that they were inadequately staffed to support divisions within departments and ministries.

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[518] This information is drawn from my own experience as a lecturer in the archives and records management course at the University of Botswana.

[519] Responses to Questionnaire B on the impact of ICT on recordkeeping, completed by Records Managers, Teaching Service Management, Gaborone, Botswana, July 2003.

[520] Response to Questionnaire B on the impact of ICT on recordkeeping, completed by Senior Systems Analyst, BNARS, Gaborone, Botswana, July 2003.

[521] Responses to Questionnaire C on national archives' strategies and role of legislation in managing electronic records, completed by Archivists, BNARS, Gaborone, Botswana, July 2003.

At the time of data collection in 2004, there were no trained professionals to deal with electronic records. At that time, BNARS was making all the necessary efforts to provide basic training to prepare records officers for a role in the management of electronic records. BNARS's planned computerisation project was, however, seen as a significant move.[522] Plans were underway at BNARS to provide appropriate training in line with the new roles once computerisation of archives and records management service was in place. A resource training mechanism and strengthening of courses already available at UB and IDM would help. Records officers were confident that training opportunities would be created locally so that they were able to learn within the relevant environment. Where possible, training could also be provided through seminars and workshops.

5.6.2. Namibia

Respondents from government agencies were asked about their staffing levels and background in relation to the management of electronic records. The data colleted revealed that government agencies had inadequate staffing and that the available staff had no professional training in the management of electronic records. Table 5-3 provides a summary of staffing levels and background in relation to the management of electronic records as reported from the interviews.

Table 5-3 Summary of staffing levels and background in relation to the management of electronic records in Namibia

Government agency	Staff establishment	Level of training
Administration and IT Management division (OPM)	2 officers dealing with records 1 Chief Control Officer	- 1 trained in basic electronic records management. - basic training in records management
Office of the Ombudsman	1 Records Officer 1 Record clerk 1 Chief Control Officer 1 Deputy Director	- all have basic training in records management and use of computers. (but has long experience)
St Mary Hospital	2 officers dealing with records. (1 records officer and 1 accounts officer) No IT staff	- both not professionally trained. But depend on long experienced to manage the work.

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[522] This computerisation project is discussed under section 6.2.1.

As can be seen from Table 5-3, no officers dealing with records have any professional training in the management of electronic records. Only the personal secretary to the Under Secretary in charge of the administration and IT management department has basic training in the management of electronic records. The department was, however, working on training modules for those at the lower level, who had to deal with computerised systems. Some officers who had no training depended on their long years of experience in dealing with records. For example, as the table shows, officers from St Mary Hospital said that they had no professionally trained staff for the management of electronic records and depended upon their long work experience.[523] Further, this office had no IT staff and relied on the services from PSITM.

The responses, however, indicated that some departments had been able to take initiatives in creating awareness on the need for good records management practices. For example, in April 2004, OPM in conjunction with NAN conducted a workshop on records management and registry procedures.[524] The workshop was organised by senior managers in the department of Administration and IT (OPM) and was attended by records officers, private secretaries, administrative assistants, control officers. Topics presented covered a wide range of issues in records management systems. At the end of the workshop, participants had this to agree on:

> "an electronic records project would be difficult to initiate at this time and should be postponed for now until the public service takes common stance on how to approach it, however, ...computer user policy should be applied on the proper usage of e-mail systems"[525]

In spite of the efforts made in running workshops, it had clearly emerged at the time of data collection that, Namibia had not been able to put in place records management programmes in government agencies. At that time, there were no

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[523] Interview with the Records Manager, St Mary Hospital, on 19 August 2004, at the offices St Mary Hospital, Rehoboth, Namibia.

[524] Interview with the Under Secretary: Administration and IT Management, OPM, on 18 August 2004, at the offices of OPM, Windhoek, Namibia.

[525] Interview with the Under Secretary: Administration and IT Management, OPM, on 18 August 2004, at the offices of OPM, Windhoek, Namibia.

ongoing training programmes.[526] Consequently, people working with records were not trained. Most did not have any formal education nor did they have any formal training in computers. When asked what NAN had done in terms of providing training to government agencies, the respondents focused their concerns on lack of resources, security concerns for archival collections and the fact that the archives was overwhelmed with responsibilities.[527] The need for skills and expertise was nevertheless recognised. NAN, which is expected to help guide record creators on the proper management of records, had insufficient competencies to deal with electronic records or even the management of paper records. It had no professional staff in the Archives and government agencies.

The evidence collected seem to suggest that NAN has serious difficulties and that it needs to move forward to be able to catch up with electronic records management developments in the region. In spite of these problems, NAN was hoping to get resources but it was not very confident of success. NAN has to design the necessary training programmes for government agencies but limited resources remain a serious concern and it appears the issue of training has been given minimal attention.

5.6.3. South Africa

Without knowledge and professionally trained staff, effective utilisation of ICT in recordkeeping will not be recognised. Government agencies, therefore, have to ensure that they have staff adequately trained to effectively implement projects for the management of electronic records. In recognition of this need, the *'Performance criteria for records managers of government bodies'*, has been issued by NARS clearly outlining the training requirements for records managers. For example, all the records managers are expected to have a relevant B-degree or relevant technical qualification including records management or any relevant training as may be provided by NARS.[528] They are all required to have recordkeeping skills to

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[526] Discussion on the role of the national archives in managing electronic records, with Acting Director, on 6 August 2003 at the offices of NAN, Windhoek, Namibia.

[527] Discussions on the role of the national archives in managing electronic records, with Acting Director and Archivist: Research (both from NAN), on 6 August 2003 at the offices of NAN, Windhoek, Namibia.

[528] National Archives of South Africa, *Performance criteria for records managers of government bodies* (Pretoria: NASA, April 2003).

effectively manage records in those organisations. The training is either provided through technicians or is offered by NARS. In fact, the records management policy manual that has already been referred to in section 5.4.3 is also used as a basis for the training in the NARS records management course. Asked about staffing levels and background in relation to the management of electronic records, respondents revealed that staffing levels in government agencies were far from being adequate. Table 5-4 provides an example of the records management staffing levels and background situation existing in most agencies.

Table 5-4 Summary of staffing levels and background in relation to the management of electronic records in South Africa

Government agency	Staff establishment	Level of training
Department of Justice (DoJ)	2 Records managers	-1 is former employer of NARS, has training and knowledge in basic electronic records management. - another is responsible for paper records
Department of Public Enterprise (DPE)	1 Records officer assisted by 1 library officer	- has training in different electronic records management courses and use of Hummingbird software.
Department of Trade & Industry (DTI)	1 Records manager	- has basic training in archives and records management

As can be seen from Table 5-4, at DoJ, the records manager is the only officer in charge of records and the only one who has training and experience in the management of electronic records.[529] In other offices under DoJ, there are record clerks responsible for recordkeeping of case records. These officers are, however, not trained. At DPE, the records officer is the only one who has been trained at different local institutions on basic electronic records management. At times she was trained by the software vendors.[530] This records officer was, however, assisted by the library officer, who was present during the interview. Even though the number of IT staff was not specified, they were all said to have professional training.

The respondents were asked what they wanted future training programmes to cover. They said that they wanted the training to cover all aspects of electronic records management including work flow, document management, filing, searching and retrieval. The respondents, however, stated that in future vendors will have to

[529] Interview with the Records Manager, DoJ, on 30 July 2004, at the offices of DoJ, Pretoria, South Africa.

[530] Interview with the Records Officer, DPE, on 3 August 2004, at the offices of DPE, Pretoria, South Africa

provide training, which will be expected to be continuing professional development. A respondent from SITA revealed that the department was maintaining the level of IT skills in all government agencies for the products but said that vendors were responsible for maintenance of systems. Respondents from NARS were also asked about staffing levels and training in government agencies. The archivist in charge of records management revealed that the only training available was provided and coordinated by the team responsible for records and archives management.[531] This meant that NARS provided its own training and sometimes used videos for self-training, which had proved effective. In addition, the records managers had to ensure that all records officers in their agencies understood their responsibilities and acquired the necessary skills to manage records effectively. They had to draw up training programmes on records management and ensure that all induction training programmes included awareness sessions practices as well as training in, for example, the allocation of file reference numbers according to a file plan for both paper and electronic records.

Although South Africa had taken the lead in the region and had developed policies and guidelines for the management of electronic records, it still had no professional training in this area. There was a shortage of fully trained staff and this had resulted in one person being self trained at NARS. This was far from being sufficient. NARS had more than 4000 client offices and clearly one person could not cope with the continuous research that was necessary to keep up-to-date with electronic records management issues. Further, it would be impractical for one person to supervise client offices to ensure that they complied with the NARS's requirements for electronic recordkeeping.[532] The results thus indicate that NARS staff still has no expertise to fully advise client offices on the management of electronic records.

In spite of the lack of professional training, workshops had been organised to provide basic training. For example, The Assistant Director Records Management (Special Projects) designed an in-house workshop for records management staff on project

[531] Response to Questionnaire C national archives' strategies and role of legislation in managing electronic records, completed by Records Management Archivist, NARS, Pretoria, South Africa, July 2003.

[532] Response to Questionnaire C on national archives' strategies and role of legislation in managing electronic records, completed by Records Management Archivist, NARS, Pretoria, South Africa, July 2003.

management, electronic records management basics and knowledge management. Training sessions with records officers country-wide were provided especially on implementation of policies. A training plan which commenced in January of 2004 had been able to provide government agencies with training on requirements for converting from paper-based to electronic systems. This training included practical sessions. Some of the workshops were organised by the private sector which was helping with training of staff on aspects of ICT. GITOC in conjunction with the Information Technology Faculty of the University of the Witwatersrand was at the time of data collection designing an open source electronic document management application and NARS had requested that it should be allowed to contribute towards the development of the records management functionality of the product as soon as it was available.[533] NARS was hoping that appropriate training through workshops, discussion groups and external training to help address shortage of skills in key areas would be provided. This would ensure the management of public records at the national level and ensure that NARS played a broad national coordinating role.

Despite the efforts made, the responses have indicated that government agencies still remain under-prepared and under-resourced. Lack of financial resources has hampered efforts to conduct systematic training. NARS was, however, hoping that resources would be made available for the management of electronic records in South Africa as tools for good governance and accountability. Archival institutions in the region should, however, play a role in guiding government agencies in their efforts to manage electronic records.

5.7. Analysis of findings related to ICT use and impact on recordkeeping practices in Botswana, Namibia and South Africa

Sections 5.2 to 5.6 presented the data collected on the impact of ICT on recordkeeping practices in Botswana, Namibia and South Africa. This section will present an analysis

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[533] Response to Questionnaire C on national archives' strategies and role of legislation in managing electronic records, completed by Records Management Archivist, NARS, Pretoria, South Africa, July 2003.

of the implications of the data in sections 5.2 to 5.6 on recordkeeping practices in the three countries.

5.7.1. Use and impact of ICT in government agencies

(a) Use of ICT in government agencies

The results of this study as presented in section 5.2 indicate that in Botswana, Namibia and South Africa, ICT is used in the public sector to support delivery of quality public services. In fact, IT units have been established in government ministries and departments in each of the three countries to facilitate coordination and implementation of ICT facilities and services. This is important, as it provides technical support through decentralised structures to ensure that technical problems are attended to much more quickly. These IT units appear to be doing well in all three countries, particularly in helping the ministries and departments to plan, direct and control their own ICT facilities, and most important, in ensuring the relevance of IT applications to their environments. The interviews showed that IT units are helping RMUs that have computers in their offices using different applications in their day-to-day operations.

The same results show that the use of computer technology in government agencies in each of the three countries varies across agencies. There appear to be several stages of IT usage in these agencies, starting with simple word processing and general recordkeeping tasks like file registration and tracking. The level of the management of electronic records in each of the three countries is also different, as it has been influenced by different levels of computerisation in ministries and departments. For example, as shown in section 5.2.3, South Africa, as compared to Botswana and Namibia, has already developed programmes for the management of electronic records in some government agencies, because it has more advanced computerised systems in use. This study has, however, discovered that Botswana and Namibia are slowly advancing, as there is increasing use of ICT in most government agencies. In spite of the observed differences in the stages of ICT use in each of the three countries, the priorities in computerising government services appear similar.

For example, it emerged in section 5.2, that transactions like personnel, healthcare, finance and accounting, and electoral processes appear to be given priority in all three countries. This clearly suggests that these services are prioritised because they deal with what the government considers to be critical services. These services form key areas of employment, which are also the largest creators of records. Further, they attract external funding, which has to be accounted for through proper recordkeeping.

Although some respondents in Botswana and Namibia indicated that some ministries and departments have developed web-sites which could deliver information to the public, the overall picture, as demonstrated in sections 5.2.1 and 5.2.2, was one which indicated either the general need for web-sites or the improvement of existing ones to provide adequate information. Most of these agencies did not update the web-sites regularly, and in most cases essential information was not there. It is worth mentioning here that, among the national archives of the three countries, only the National Archives and Records Service of South Africa has a web-site on which it posts policy manuals, records management procedure manuals and other essential documents for government agencies to download. National archives in Botswana and Namibia might have to learn from South Africa and develop web-sites that would be used for the posting information and documentation that government agencies need to know.

Further, it appears that individual ministries and departments in Botswana and Namibia are undertaking computerisation projects with little inter-ministerial interaction and less consultation across the agencies. Computerisation in most of these agencies appears to be done on an ad hoc basis. This has led to lack of standardisation, such that even if systems are put in place for the management of electronic records, it is likely that they would not be integrated across agencies. This again shows how slowly the two countries are developing in comparison to South Africa.

(b) Impact of ICT in government agencies

As far as the impact of ICT use on recordkeeping is concerned, the results in section 5.2 show different opinions. In most cases, however, ICT use has impacted positively on the way RMUs operate. For example, it has made work easier and more manageable. It has facilitated electronic file retrieval and tracking systems in most agencies in each of the three countries. The use of ICT has without doubt improved traditional recordkeeping in most agencies, although there is still a lot of work to do in ensuring that all RMUs are computerised. In fact, Batlang Serema's PhD study completed in 2003 suggested that the RMUs should be computerised to bring efficiency to the way records officers handle information.[534] Generally, there is an acknowledgement in Botswana and Namibia that, although some agencies have not yet started using computers in their RMUs, it appears that computers are starting to bring change in the way records officers operate. Some of the officers who have access to computers said they were using them for the Internet, e-mail communication and file tracking. No doubt, a "solid" foundation has been laid for using ICT to improve recordkeeping functions.

Government agencies in each of the three countries, however, have a task of helping their staff in RMUs to cope with the new computerised systems. This study recognises that such a change means facing known problems of data capture, storage, retrieval and institutional and policy obstacles. There may also be resistance to a new system because it is not always user-friendly. Regardless of the factors that act as barriers to change, government agencies need an understanding of their structures to enable manageable steps in the transformation process. It is, therefore, important to provide records officers, records creators and records users with the tools and techniques to help them through the transition. These should include proper communication channels and training plans to help them move from or integrate traditional manual systems with computerised ones. From the results of this study, it has emerged that some agencies are already doing a lot to help staff in adapting to new systems and in dealing with change in their organisations. For example, the office of the Accountant General in Botswana, as reported in section 5.2.1, is

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[534] B Serema, 'Information infrastructure for public policymaking in Botswana', unpublished PhD Thesis, University College London, 2003, p 187.

running awareness programmes to educate staff and make them comfortable in the new computerised systems for the department. The IRMT has done well in changing people's perceptions of records management, using video films linking records management to national concerns in Ghana, Kenya and Tanzania.[535] Each of the three countries could work with the IRMT in this and use video films as part of creating awareness and training.

With the IRMT encouraging government agencies in developing countries to take advantage of the technology and use it to their advantage, particularly in recordkeeping functions, the three countries should do more to ensure adoption of ICT in improving recordkeeping. In Ghana, Kenya and Tanzania, for example, capacity building projects have been undertaken by the IRMT, with the support of the World Bank, to integrate recordkeeping as a major component of good governance.[536] Such projects have helped in building information and communication systems to enable government reforms, and to preserve and protect electronic information to safeguard the rights of citizens.[537] The projects have also helped in designing facilities for managing personnel and other essential records which would otherwise not be handled efficiently by manual systems. A lot still has to be done in utilising the new technology in recordkeeping, particularly in Botswana and Namibia, which appear to have done less than South Africa in the computerisation of government operations. It appears from the results that little impact of ICT use is being felt in RMUs, as most records officers still do not have access to computers or the skills and policies to utilise them. With government commitment, it is hoped that the necessary measures will be taken to ensure that ICT is used to better manage records generated in government.

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[535] A briefing by Dr Anne Thurston during a visit (as part of UCL archives and records management course for international students) at the offices of IRMT on 22nd October 2002.

[536] Examples of some of the projects by the IRMT are discussed in detail in Chapter 3, section 3.3.

[537] International Records Management Trust (IRMT), 'Information for good governance'. Available at <http://www.irmt.org/consult/howhelp.html>. Accessed 24 February 2003, p 1.

5.7.2. Current electronic recordkeeping practices

(a) Business processes producing electronic records and software used

It has emerged from the results as presented in section 5.3 that in all three countries, almost all business processes were producing electronic records. However, as mentioned earlier in section 5.7.1, the RMUs themselves, which are expected to help with the management of these records, are not yet fully computerised. Interestingly, in South Africa, the DoJ is encouraging all its units to be involved in the proper management of records regardless, of their format. This has encouraged RMUs in the department to computerise most recordkeeping functions. The same trend is expected in other agencies in the country. On the other hand, Botswana and Namibia have to put more effort into encouraging the computerisation of RMUs to be able to cope with the management of electronic records generated by the different business processes.

The choice of which software to use seems to depend on the business processes to be computerised. For example, for health care, MEDITECH (Medical Information Technology) software is used for managing records in hospitals, care centres and doctors' offices. The software has applications for patient identification and scheduling, patient care management and clinical information management. In the case of financial records, Oracle software, which has proven its capacity to handle financial processes like payments, is often used. It is interesting that in South Africa, the most up-to-date integrated document and records management software applications like Hummingbird and TRIM are used in most agencies. These softwares are used to manage business information and business processes that generate the information. They support document, e-mail, correspondence and records management, including capture, access, classification, and search and retrieval. In fact, these software applications are widely used in Australia, the United States of America and the United Kingdom to manage records from creation to

disposition.[538] In contrast, Botswana and Namibia have not yet started using these applications.

(b) Management of electronic mail (e-mail)

It has emerged from the results of this study, as reported in section 5.3, that the use of e-mail is becoming a common way of communication in government agencies in all three countries. This means that e-mail is also the producer of large amounts of records. In addition, web-sites and instant messaging are emerging as potentially large producers of records which will have to be managed. A 2006 study by TOWER Software has revealed that e-mail is a major source of corporate memory and forms evidence of business processes, making it a vital source of evidence.[539] In spite of this, most government agencies visited during the field research, particularly in Botswana and Namibia, appear to have no clear policies in place for the management of e-mail communication. Responses from Botswana and Namibia, as reported in sections 5.3.1 (b) and 5.3.2 (b), confirmed this situation. In Botswana e-mail policies do not seem to exist in agencies visited; even if they did, the respondents appear not to have been aware of them. In fact, TOWER software has argued that in most organisations, staff are unaware of the existence of organisational e-mail policies.[540] In Namibia, IT policies that address the management of e-mail exist in some agencies. For example, OPM and PSITM both have IT policies that address e-mail communication. However, the effectiveness of the available policies on the management of e-mail in Namibia appears not to be felt, as most respondents seem not to be aware of their existence.

South Africa, on the other hand, had e-mail policies in place in the government agencies visited. Respondents knew of the existence of these policies and followed the guidance which they gave. As mentioned in section 6.2.3 dealing with national

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[538] More information on TRIM and Hummingbird solutions and customers is available on their websites at <http://www.tyowersoft.com/company> and <http://www.hummingbird.com/industry/customers/index.htm>. Accessed 31 March 2006.

[539] TOWER Software, 'Best practice in corporate recordkeeping and archiving', in *Records Management Bulletin*, Issue 131 (April 2006), p16. This article provides details of some court cases in which e-mail messages were used as evidence, amongst them is the Microsoft case on anti-competitive practices.

[540] TOWER Software, 'Best practice in corporate recordkeeping and archiving', in *Records Management Bulletin*, Issue 131 (April 2006), p16.

archives strategies for managing electronic records, the IDRMS recommended by NARS of South Africa provides for the management of e-mails and web-sites as records. This appears to have been boosted by the existence of the Electronic Communications and Transactions (ECT) Act of 2002, which recognises electronic communications.

The fact that Namibia and South Africa have e-mail policies provides a contrast with Botswana, which has none. Generally, the results of this study indicate that records officers in all three countries view e-mails as constituting records, and as such think they have to be properly managed like other records. Clear policies on this have to be put in place to help guard against unlawful destruction of these important government records. The policies should also address how official e-mails created using private accounts like hotmail and yahoo are to be handled. Users should be discouraged from using private e-mail accounts for official communication and stiff penalties set for those who break the rules.

If users are left with the responsibility of managing the e-mails they create, the chances are that they would delete all the records once they felt they no longer needed them. The implication of this would be the destruction of important records, which may have future value to the operations of government. Even if some agencies like DPSM in Botswana and the Office of Ombudsman in Namibia are printing and filing such records, there is no guarantee that this will always be done, as no follow-up measures are in place to reinforce this. Unless policies are put in place, this trend will continue in the future. At the moment, it appears that government agencies in Botswana and Namibia are still waiting for policies for the management of electronic records to be provided by their national archives, which they hope will include procedures for the management of e-mail. Government agencies in the two countries should develop e-mail policies now. This might be possible, as in the UK many organisations have standard e-mail policies. For example, Goldsmiths College, and many other universities across the UK have policies on the use of e-mail, including their use for teaching, research and administration. The Goldsmiths College policy prohibits students from allowing anyone else to send e-mail using e-mail accounts they have been given by the university. Further, attempting to disguise the e-mail address from which a message is sent or the identity of sender is unauthorised.

According to the policy, users should be aware that "in responding to requests for information under the Data Protection and Freedom of Information Acts, the College may be obliged to disclose the content of e-mail correspondence held on College mail servers, irrespective of whether the sender or the recipient has deleted the message from local inboxes. In such circumstances, the rights of senders and recipients of e-mails to privacy have to be balanced against other legal requirements which may apply in the context of particular messages"[541]

(c) Electronic records in legacy systems

Interestingly, as observed from sections 5.3.1, 5.3.2 and 5.3.3, only financial records seem to exist in legacy systems in Botswana, Namibia and South Africa. This may be because financial services in all three countries have long been computerised; indicating the fact that finance has been taken seriously as a strategic resource in each of the three countries; and also that financial software was one of the first types of software to be developed. Further, there appeared to have been a lot of pressure from international financial institutions like the World Bank, the International Monetary Fund and aid donors for the efficient management of finances in governments, particularly those in developing countries, and this may also explain why financial functions have been the earliest to be computerised. Each of the three countries is at the planning stage to migrate old records to new systems to ensure their continued accessibility and use. The migration of these records systems to new systems must, however, be managed carefully as records may be lost in the process. Recent studies in the management of electronic records as presented in the literature review in Chapter 2, section 2.2.2, have debated and are still debating the issue of the long-term preservation of electronic records. Emerging from these debates is the conclusion that, at least for now, migration is the preferred solution for the preservation of electronic records. So the three countries appear to be on the same track as they are all opting for migration which, at the moment, seems to be the preferred strategy for keeping electronic records alive and accessible over time.

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[541] Goldsmith's College, University of London, 'E-mail policy and code of conduct'. Available at <http://www.gold.ac.uk/college-policies/email/students.php>. Accessed 30 March 2006, p 6.

(d) Paper vs. electronic systems

In all government agencies visited in each of the three countries, records were found to exist in both paper and electronic formats, although the bulk of the records was usually in paper format. In spite of the fact that paper is a common medium of transmission and storage of information, electronic records are slowly becoming more common. Organisations, at least for now, cannot operate in a completely paperless environment, and paper continues to flow into and out of organisations. Regardless of the format in which records exist, they have to be managed in one way or another, as they are important in directing, controlling and documenting the expectations and operations of government.

As the data in sections 5.3.1 (d) and 5.3.2 (d) suggests, some records officers in Botswana and Namibia appear happy with the continuing existence of paper records, which they think are easier to manage than electronic ones. Although personal knowledge of the physical layout of a manual records unit may lead to quick retrievals, this is greatly impaired where storage covers a wide expanse of space. Well designed computer systems will, however, retrieve information more quickly.

This study views an integrated approach as a feasible strategy because it will ensure that paper records are not neglected in favour of electronic records. A number of suggestions have been advanced in favour of an integrated approach to the management of records. For example, Johan Hofman[542] and Elizabeth Shepherd[543] have argued in favour of this approach by stressing the need for a system that will ensure that all records are managed throughout their life-cycle regardless of their format. According to Shepherd, even if different media are stored separately and have to be retrieved manually, an intellectual structure can be devised and controlled centrally. This she has argued, brings in the possibility of hybrid systems. The Department of Public Enterprise (DPE) in South Africa provides a good example of a government agency which is managing the two forms of records in a hybrid

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[542] J Hofman, 'Multidisciplinary aspects of electronic documents, concept of electronic document life-cycle, characteristics and links with information flow/work flow', in *Proceedings of the DLM-Forum on electronic records,* Brussels, 18-20 December 1996 (Luxembourg: Office for Official Publications of European Communities,1997), p 25.

[543] E Shepherd, 'Managing electronic records', in *The Records Management Journal,* vol.4:1 (1994), p 44.

system. In this kind of system, the records are managed side by side following the same processes like classification schemes, file plans and retention schedules.[544] The department has developed a file plan applicable to both the electronic and paper environment. Other government agencies in the country are in the process of developing similar file plans. E Shepherd and G Yeo have in fact argued that this system is effective in managing records existing in an environment where some records are in paper and others in electronic formats.[545] However, this kind of system can only be successful if alliances between professionals in the two environments are formed. For example, IT experts will be needed by archivists and records managers to help in the design and maintenance of the new systems.

In comparison to South Africa, Botswana and Namibia still lack consistency in practice between paper and electronic records. Records officers in the two countries are still waiting for their national archives to guide them in developing file plans, appraisal and retention schedules for both paper and electronic records. On the other hand, results presented in sections 6.2.1 and 6.2.2 show that the national archives of the two countries have not developed the capacity to provide the required guidance. Government agencies themselves have not yet thought about how they would manage the two formats of records in an integrated system. While file structures for paper records may be based on organisational structures with each department having a separate structure, those in the electronic environment may have to be based on the functions of the department. Most organisations are opting for file structures developed based on a functional approach. In the UK, The National Archives is advising all government agencies on using a functional approach to develop file plans for the management of both paper and electronic records.[546] In fact, this is the same approach recommended by Shepherd and Yeo. This approach is good because even if the agencies change their organisational structures, their functions will not be affected, which means that there will be no need to change the file plans to suit a

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[544] E Shepherd and G Yeo, *Managing records: a handbook for principles and practices* (London: Facet Publishing, 2003), pp. 21-22.

[545] E Shepherd and G Yeo, *Managing records: a handbook for principles and practices* (London: Facet Publishing, 2003), pp. 21-22.

[546] Interview with Director: Government and Archive Services, the UK National Archives, on 14 May 2003, at the offices of The National Archives, London, UK.

new structure. The functional approach, which seems to be working well in a number of countries, including South Africa, could be adopted by Botswana and Namibia.

(e) Back-up strategies

The results of this study indicate that the risk of losing information in computerised systems is relatively low and government agencies in each of the three countries seem confident with their back-up procedures. As reported in sections 5.3.1, 5.3.2 and 5.3.3, the back-up of such information is done on a daily, weekly, monthly and yearly basis. In Botswana and Namibia, tapes, videos, and compact discs are used for back-up storage. However, the length of time for which data in these media remain accessible and viable should be determined, and procedures for their back-up and migration put in place. The IT units established in each of the ministries and departments in all three countries are helping agencies with the back-up of their work and in ensuring that the computerised systems are working. For example, interviews with IT officers at the Ministry of Health in Botswana, a system developer at PSITM in Namibia and records mangers at DoJ in South Africa showed that their respective IT units were working closely with all divisions to ensure systems were maintained. More work on back-up strategies, however, still needs to be done, especially the use of off-storage.

Increased dependence on computers and their services for data processing also means increased reliance on the power supplies that keep the systems operating. Power failure means that organisations may lose valuable information and time. It is estimated that 50-70% of businesses that lose their data due to power cuts never recover it, and some go out of business.[547] There is a need, therefore, for systems that will maintain quality power supply and protect electronic systems. The power supply, however, appears very reliable in keeping the computers running in all the agencies visited in the three countries. Generators are available to take over in cases of power failure. This appears to be a rare occurrence.

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[547] 'UPS and power conditioning: dealing with ever deceasing power supply' in ElectroLink Magazine, July- August issue. Available at <http://www.electroniclink.c0.nz>. Accessed 11 April 2003.

(f) Physical and intellectual access to electronic records

With a great deal of computerisation ongoing in governments and with more and more information becoming accessible online, measures to protect unauthorised physical and intellectual access to electronic records have to be put in place. For example, as mentioned in the literature review in Chapter 2, section 2.2.2 (c), there is a possibility that information about citizens' medical, employment and welfare benefits held by government may be available to other institutions without the individual's knowledge or permission. Such extended use raises concerns about the protection of the individual's rights to privacy. The data presented in sections 5.3.1 (f) 5.3.2 (f) and 5.3.3 (f) suggests that in Botswana, Namibia and South Africa, physical and intellectual access to computerised information differs slightly from agency to agency. In most cases, this is determined by the nature of the employee's work and is dependent on the action of the officers concerned and the types of records they have to access. An example given in each of the three countries relates to health information. In this case, doctors and nurses will have access to patient records, although nurses, unlike doctors, will have limited access to some of these records, depending on the level of confidentiality. This has been used as a measure to protect unauthorised access to records.

Whatever systems are designed to manage records electronically, they should ensure that information is protected against unauthorised physical and intellectual access. Putting in place appropriate legislation to outlaw the abuse of electronic public records systems, and deal with those who break the law should be a priority for each of the three countries. Drawing from experiences from the UK, which has data protection laws and regulation of access controls, could help.[548] Citizens in each of the three countries must be able to trust their governments to conduct proper maintenance and enforce controls to ensure adequate security for electronic public records systems. Apart from access that is determined by the employee's work, passwords and electronic security cards to computer rooms are used to protect records from unauthorised access. It was also interesting to find that at the DoJ in

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[548] 'Data Protection Act (UK), 1998, Chapter 29'. Available at <http://www.opsi.gov.uk/acts/acts1998/19980029.htm>. Accessed 2 September 2005. See Chapter 2 for information on the UK Data Protection Act of 1998.

South Africa, stand-alone systems are used as a security measure. Data sharing is hindered and has to be through floppy disks and compact disks. Each person is made aware of the individual's to whom they can release data. This appeared to be working well for South Africa.

(g) Problems affecting access to electronic records

Problems affecting access to records in computerised systems are common across agencies in Botswana, Namibia and South Africa. Top of the list of problems appears to be network failure, which the results of this study as presented in sections 5.3.1 (f) and 5.3.2 (f), suggest is more serious in Botswana and Namibia. The two countries should follow South Africa's approach and be strict with hardware and software suppliers who win tenders for computerisation projects by ensuring that they take responsibility for network maintenance. For example, DoJ reported that it had requirements for network availability for which service providers were responsible. Encouragingly, however, most agencies are able to deal with the problem through their IT units. Work on problems of a complicated nature is usually outsourced to private companies, although this may be costly. The fact that the governments of the three countries are prepared to pay for such extra costs is again evidence of the commitment that they have to improving recordkeeping practices.

(h) Legal issues

The responses in sections 5.3.1 (g) and 5.3.2 (g) show that in Botswana and Namibia there is still no indication to suggest that there have been experiences where electronic records were required and produced as evidence. A completely different scenario prevails in South Africa. For example, electronic records in South Africa are recognised and admissible as evidence. As such, NARS reported that it was able to produce such records whenever they were required as evidence. The enacting of the ETC Act of 2002 in the country has been a milestone development, as this now recognises electronic records as legally admissible evidence. Since government agencies in Botswana and Namibia expect to have more and more records produced in electronic form in the future, it is important for them to put in place measures that will recognise the legal status of these records. This will give records officers the

confidence to produce such records and make them available to appropriate persons whenever they are required. The two countries will have to work with legal expertise to help design guidelines to ensure that electronic records function as evidence.

5.7.3. Policies and procedures for the management of electronic records

Sections 5.4.1 and 5.4.2 have provided data suggesting that in Botswana and Namibia there are no established policies, procedures or strategies for the management of electronic records. The policies and procedures are, however, important for directing and guiding records officers on better approaches to the management of electronic records. The absence of documented and accessible policies and procedures in government makes it difficult to achieve accountability, as no one is responsible for official electronic communication.

Most archival institutions in developed countries, and a few in the developing world, have established policies and procedures to ensure the proper management of electronic records. For example, the National Archives of Australia[549], New Zealand[550] and Malaysia[551] have, through these policies and procedures, provided conditions for the appropriate access, protection, use and preservation of electronic records. Policies and procedures in these countries emphasise the requirements for systems and processes that deal with electronic records; their reliability, access and long-term preservation.

As shown in section 5.4.2, problems linked to Namibia's failure to develop policies and procedures have been attributed by some respondents to lack of government commitment in making available the policies and resources needed by NAN to commit to the management of records in the whole of government. While in Namibia the frustration expressed by NAN staff is linked to lack of resources, which is

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[549] National Archives of Australia, 'Managing electronic messages as records: policy'. Available at <http://www.naa.gov.au/recordkeeping/er/elec_messages/policy.html>. Accessed 16 December 2003, pp. 1-3.

[550] Archives New Zealand, 'Policy for managing electronic records'. Available at <http://www.archives.govt.nz/statutory_regulatory/er_policy/introduction.html>. Accessed 16 December 2003.

[551] 'Country report: National Archives of Malaysia'. Available at <http://arkib.gov.my/sarbica/malaysia.htm>. Accessed 19 April 2004.

thought to be hampering progress, in Botswana record officers have linked this to a lack of visionary leadership and proper administration on the part of the National Archives. For example, the data presented in section 5.5.1 on involvement of the national archives in recordkeeping practices clearly suggests that most record officers in Botswana are not happy with the leadership of BNARS. One of the respondents in Namibia, however, further suggested that NAN also lacked visionary leadership. It does, therefore, appear that in addition to the problems experienced by the national archives of the two countries, archival leadership does not strongly advocate the recognition of records management in government. However, with plans for BNARSs' computerisation project advanced, there is hope that Botswana will soon have the necessary policies and procedures.

It is worth mentioning that evidence from the responses in the two countries has shown that there is widespread interest and concern among senior managers in different government agencies about records management in general. As reported in sections 5.4.1 and 5.4.2, these managers have been taking initiatives to lead in the development of policies and procedures for the management of electronic records in their own offices. For example, the Deputy Attorney General and the Accountant General in Botswana, and the Deputy Director in charge of IT and Administration from the OPM in Namibia have shown particular interest in electronic records management issues. The intervention of these senior managers has ensured that policies for the management of electronic records have been recognised as a priority. As a result of this, significant changes are taking place, as these agencies are already taking the lead in developing their own policies for the management of electronic records without having to wait for guidance from their respective national archives. This approach is risky because efficient policies have to be developed, with professional guidance from national archives to ensure adherence with standards for recordkeeping.

Further, the fact that a training records management workshop in 2004 in Namibia was sanctioned by OPM senior management shows the role of senior managers and policy-makers in driving change to bring efficiency. It shows that these managers are concerned that RMUs are not functioning properly in most agencies and that this situation needs to be addressed urgently. From the evidence presented in sections

5.4.1 and 5.4.2, it would appear that the way people in senior management treat records management is changing, as they seem to appreciate it as a strategic resource and are giving it the attention it deserves. This is important in view of the fact that organisations may fail to function in circumstances where records are not available for decision-making for carrying out operations.

A study by Terry Wilson in the change management literature has demonstrated that for any change to be successful there should be a powerful person or group of people who are determined and committed to change the business, no matter what the risks are.[552] This may help explain why some agencies in each of the three countries are being more successful in developing policies and procedures than others. For example, it has been found that those agencies whose senior managers are liberal (as opposed to conservative) are more likely to be associated with efficiency and implementation success in the way they manage their records. Some senior managers in each of the three countries appeared to have visions of how ICT would contribute to change in their organisations, had high expectations of their staff using ICT, and were willing to provide infrastructure and training support to ensure that records officers made effective use of computers.

In contrast, South Africa has already put in place the necessary policies and issued guidelines to government agencies on the management of electronic records. These emphasise the importance of designing and implementing records classification systems, the systematic disposal of records, caring for specific types of records, training and compliance monitoring. As stated earlier, in section 5.4.3, the three publications issued by the National Archives and Records Service (NARS) of South Africa provide detailed guidelines on how records managers should manage electronic records. With guidance from NARS, government agencies have been able to draw up their own policies specific to their own needs but consistent with the NARS policy. This has been working well and has been successful.

Clearly emerging from the results presented in section 5.4 is the fact that Botswana and Namibia still have serious challenges that need to be addressed. Namibia,

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[552] T Wilson, *A manual for change* (Aldershot: Gower, 1994), pp. 5-9.

however, has more work to do as it has no plans in place at present for the management of electronic records. The two countries should develop the necessary policies and procedures for the management of records regardless of their format. They can draw lessons from South Africa, where the management of electronic records is more advanced, and use NARS's policies as guidelines for preparing their own. Amongst developing countries, they can also draw upon the National Archives of Malaysia, which has an electronic records policy division to formulate policies on electronic records for research and practice.[553] This would ensure the design and implementation of policies for the management of electronic records and ensure that national archives take the lead in carrying out strategic planning in the management of electronic records, as is the case in Malaysia. The role of senior management in policy formulation and implementation will be critical. Policies and procedures are not an end in themselves. The national archives of the three countries have to be pro-active in their involvement in recordkeeping practices.

5.7.4. Involvement of the national archives in the recordkeeping practices within government agencies

It has emerged from the results in section 5.5 that Botswana, Namibia and South Africa have many similarities and also differences in how each of their national archives is involved in recordkeeping within government agencies. Whereas each of the national archives is responsible for records management, the arrangement of how this is done differs across the three countries.

While Botswana has seconded records management staff to RMUs in government agencies to take up records management responsibilities under the supervision of the agencies, Namibia and South Africa have left the agencies to appoint their own staff although offering guidance. RMUs in Botswana are under BNARS, which exercises total control of these units. Although in theory Botswana's approach is good, it appears not to be working well because of administrative problems. As of 2004, BNARS was reported to be overwhelmed by staffing demands from government

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[553] 'Country report: National Archives of Malaysia'. Available at <http://arkib.gov.my/sarbica/malaysia.htm>. Accessed 19 April 2004.

agencies and was not able to meet them. As a result, there has been criticism alleged by some agencies and records officers against BNARS for failure to meet its records management responsibilities. The data presented in section 5.5.1 suggests that most records officers are of the opinion that the leadership of BNARS is not very keen and supportive and has little time for the general welfare of its staff seconded to RMUs. In addition, the data suggests that BNARS is not up-to-date with activities in government agencies, as some of the records officers indicated that it was not regularly monitoring their operations. If record officers continue to feel neglected, they may put priorities on other responsibilities instead of concentrating on records management tasks.

Further, records officers seem not to trust BNARS to give them the necessary guidance on the proper management of electronic records because BNARS staff themselves lack the professional training to do this. Based on personal experience as a former archivist with BNARS, the author of this thesis would agree with them and suggest that BNARS might need to review and strengthen its authority in administering recordkeeping practices in government agencies. For example, it should institute clear communication channels with government agencies, concerning what is expected of them, and keep in touch with RMUs to be able to supervise records management activities in the agencies. On the other hand, records officers have to respect BNARS leadership and develop a positive attitude towards it.[554] Developing good communication will allow agencies to discuss their needs with BNARS, a process which will enable the recruitment of the numbers and professional levels required in the agencies. Further, developing a good relationship between BNARS and records officers will reduce frustrations among these officers, as they would be able to express their concerns and have these concerns addressed. Such officers will consider themselves part and parcel of BNARS, a factor which will motivate them towards greater productivity.

In Namibia and South Africa, as shown in sections 5.5.2 and 5.5.3, government agencies have been left with the responsibility of appointing their own records officers. This appears to be working well for the agencies, as no complaints or criticisms have been voiced against the national archives in each of the two

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[554] This information is from personal knowledge and experience having observed and followed up on activities in records management units.

countries, unlike the case in Botswana. However, for as long as RMUs are not fully integrated into the national archives in the two countries as is the case in Botswana, active involvement of the national archives will not be guaranteed. Further, it will not be mandatory for the agencies to take advice and follow guidance from national archives: they may choose to ignore it. Namibia, however, has not developed a full government-wide records management programme and development in this area is much slower. Given the resource constraints, which include inadequate staffing levels at NAN, this could be expected. This is making it impossible for NAN to play an active supervisory role. A study conducted by IRMT consultants in Namibia in 2001 specifically emphasises the need for putting in place a government-wide records management programme which would be coordinated by NAN.[555]

During my visits to NAN, the respondents from there felt that should financial resources be made available to NAN for recruitment of professional staff, then an aggressive records management programme should be put in place to manage all records in government regardless of their format. It is important to note that, regardless of the minimal role that NAN is playing, government agencies seem impressed with its efforts and appear to understand NAN's problems. Many agencies in Namibia still have confidence in NAN's role. The fact that it is making the Archives Code and the Registry Manual accessible to agencies suggests that it is willing to put in place a government-wide records management programme. Should a full records management programme start running again in Namibia as it did in the 1990s, it should go smoothly because it is something that has been done in the past and, therefore, will not be new to agencies (see section 5.5.2). In fact, many agencies in the country appear to have good recordkeeping structures in place. No matter how long it takes, the records management programme will have to be revived. There is scope for improving records management in Namibia. NAN, however, needs a strengthened authority to do this. Working with other stakeholders like the Auditor General, which can help with records management auditing, the Office of the Prime Minister, which is responsible for allocating resources and policy formulation on IT in government, and government agencies should be part of the future plan.

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[555] K Barata, R Bennett, P Cain and D Routledge, 'From accounting to accountability: managing financial records as a strategic resource, Namibia: case study', Report to World Bank infoDEV Programme. Available at <http://www.irmt.org/download/DOCUME~1/DEVELO~1/RESEAR~1/NAMIBI~1.pdf>. Accessed 21 January 2004, p 4.

On the other hand, the data presented in section 5.5.3 shows that in South Africa, NARS is doing well in its involvement with government agencies. For example, one respondent from the DPE said that her department was working closely with NARS and that NARS had already approved their disposal schedule for both paper and electronic records. NARS is also inspecting the ongoing decongestion[556] exercise at DPE. NARS constantly intervenes to facilitate the implementation of records management systems in government agencies. As mentioned earlier in section 5.7.1, NARS has a web-site from which publications on policies for the management of electronic records, filing systems and disposal guidelines can be obtained. As a result, it has been able successfully to promote the use of electronic records management systems in government agencies, such that, those who have not put in place the systems will soon do so. So, further aligning NARS's responsibilities with the overall government strategy on electronic government has been influential. This is because NARS gets a lot of support and has been able to convince government that records management plays an important role in contributing to accountability and good governance.

The common feature among the national archives in each of the three countries is that they are all involved in one way another in advising government agencies on the management of records, though each has different levels of influence. The results in section 5.5.3, however, show that South Africa is doing much better in its involvement in the recordkeeping practices within government agencies than the other two countries. While the results have shown that generally the national archives in each of the three countries are involved in records management, there is a need for a follow-up study within the next few years to re-assess the situation. Such a study will help find out if Botswana has improved its approach to the way it is involved in records management activities and if this is working well; if Namibia has established a government-wide records management programme; and whether South Africa has managed to implement its IDRMS in all government agencies. National archives in all three countries have to play a broad national coordinating role and ensure the management of public records at national level.

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[556] Decongestion is used here to refer to an office, in this case a records management unit, which is so full of records (current and non-current) that nothing can easily be located.

5.7.5. Staffing levels and availability of professional training for managing electronic records

(a) Staffing levels

From the data presented in section 5.6, the human resource component for managing electronic records has emerged as important. This is because it is a critical factor that can determine the success or failure of electronic records management systems. The staffing levels in Botswana, Namibia and South Africa, however, remain inadequate to meet the demands in government agencies. The situation has been worsened by the fact that some qualified records officers are leaving government to work in the private sector. In Botswana, for example, records managers who have been trained at postgraduate level are leaving government to work in the private sector, where salaries are higher. At the time of data collection in 2004, some archivists and records managers who had been trained in the UK (University College London and University of Liverpool) had left BNARS to join the Bank of Botswana and the Botswana Telecommunications Corporation respectively, leaving the department with no professionally trained personnel. These records managers blame their exodus on lack of motivation, lack of interest from their employer (BNARS) in their work, poor working conditions, and lower salaries in the public sector. A study conducted by the IRMT consultants in 2001 found the same problem in Namibia, where records officers and archivists leave the government for better-paid jobs elsewhere.[557] In most cases, development programmes in the area of archives and records management are shelved due to shortage of staff. This appears not only to be a problem affecting the ICT industry alone, as it has also has a negative impact on the development of records management programmes in the region.

Inadequate staffing levels in both national archives and RMUs in government agencies in each of the three countries has slowed down progress in supervising records management activities and has made implementation of government-wide

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[557] K Barata, R Bennett, P Cain and D Routledge, 'From accounting to accountability: managing financial records as a strategic resource, Namibia: case study', Report to World Bank infoDEV Programme. Available at <http://www.irmt.org/download/DOCUME~1/DEVELO~1/RESEAR~1/NAMIBI~1.pdf>. Accessed 21 January 2004, p 8.

records management programmes suffer. For example, some records officers have to do a combination of other duties in addition to records management responsibilities. A case in point is the Ministry of Health in Botswana, where the records manager was expected to undertake performance management tasks as well as records management. The problem can be minimised by proper administration and improved communication with its staff in RMUs. This would improve the relationship between BNARS and its seconded staff and would encourage the records officers to focus on the responsibilities for which they have been appointed. If this is done, records officers will also not feel neglected by their employer (BNARS) as is the case now.

The data presented in section 5.6.2 seems to suggest that records management responsibilities in government agencies in Namibia are assigned to control officers whose duties do not appear to be clearly defined. Some agencies depend on the senior officers' individual secretaries, most of whom have no training in records management. NAN, however, tends to use these officers as their main point of contact in RMUs. If these control officers are deployed to RMUs with clear responsibilities to perform records management tasks, this will relieve NAN of staffing needs. It is, however, encouraging to note that at the moment, NAN is working on staff recruitment, although this is still far from meeting its current needs. The redeployment of control officers could improve staffing levels in relation to records management in the country.

Even though South Africa is doing well in encouraging government agencies to implement electronic records management systems, has the necessary policies and procedures for the management of electronic records, and is well equipped with computer technology in government agencies, its staffing levels appear discouraging. Inadequate staffing levels in RMUs as reported in section 5.6.3 have delayed the implementation of electronic records management systems in some agencies. NARS is, however, involved in strategic education and training plans and is working with tertiary institutions to offer in-house training on archival and records management courses to government agencies. This is having a positive impact on recordkeeping practices in the country.

The restructuring of schemes of service for records management personnel in each of the three countries can make the posts attractive and improve the calibre of people joining the profession. Schemes of service at the moment remain unattractive because of the low salaries pegged to the records management posts and lack of progression to senior positions. So it would appear that the main challenge is to raise the status and remuneration of the profession first.

(b) Professional training in the management of electronic records

It has also emerged from the results presented in section 5.6, that the pace of computerisation in each of the three countries is far from matching skills development for those who are going to use the systems. Staff working in a modern recordkeeping environment need to be equipped with knowledge and adequate skills of IT packages and systems and should be able to use relevant specialist software packages in their respective agencies. The systems can only be effective if people are trained to use them. This study has found that there is still a lack of effective training for the skills required for the management of electronic records for record creators, users and records management staff. As the data presented in section 5.6 suggests, the training programmes available in each of the three countries are insufficient in number and scope to meet demands. For example, the University of Botswana offers the archives and records management programme at diploma level and this is far from meeting the professional level required for the management of records in an electronic environment. Further, the impact of the newly established MA and PhD programmes has not been felt as the department has still to produce graduates from these programmes. The introduction of professionally accredited courses through regional professional associations and the strengthening of the current archives and records management curriculum may help meet the needs of the profession.

Most staff assigned to records management responsibilities in the agencies have no training and found themselves in RMUs because they had nowhere else to go. In fact, national archives in the region inherited a poorly trained "registry" staff with very low status and inferior working conditions. Records management as a profession took a long time to be recognised by governments in the three countries, and that is why is has taken long to train people working with records at the

professional level. Most of these people have had to learn on the job, and in most cases depend on experience. For example, in Namibia as reported in section 5.6.2, some records officers said that they had no training in records management and only depended on their long years of experience in working with records. This clearly suggests that at the moment training is essential. This has resulted in the lack of efficiency on the job. For example, in some agencies, RMUs are congested with non-current records because there are no proper retention and disposition schedules to guide the transfer and disposition of such records.

The three countries need to address the provision of effective training to support the management of electronic records. If the ICT industry can train people, then government agencies and in particular RMUs can use the expertise of these people in implementing and sustaining electronic records management systems. Further, if training is to be provided by consultants, as will be the case with the computerisation project by BNARS, then it has to be clear how skills will be transferred. A study by K Barata, F J Kutzner and J Wamukoya has in fact found that it is common for much of the work to be done by consultants and implied knowledge is lost when consultants leave.[558] Those trained to run projects often leave to work in the private sector once projects are implemented, leaving no one to sustain them.

Botswana, as compared to the other two countries, has done relatively well in training records officers at different levels of qualification. As reported in section 5.6.1, postgraduate training has been done mainly in the United Kingdom. It is important to note that the training offered by, for example, UCL for international students has, since 1996, been restructured to provide general archives and records management courses, exploring these in the context of developing countries.[559] These courses have been helpful in producing a new generation of records managers and archivists able to operate in a modern archival and recordkeeping environment. However, their impact on local conditions is not yet clear, as most of those who

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[558] K Barata, F J Kutzner and J Wamukoya, 'Records, computers and resources: a difficult equation for sub-Saharan Africa', in *The Information Management Journal* 35:1 (2001), p 35.

[559] UCL, SLAIS, A Guide for students taking MA/ Diploma/ Certificate in archives and records management (International)', School of Library, Archive and Information Studies, University College London, September 2004. Available at <http://www.ucl.ac.uk/SLAIS/stereo/files/hb-RAM-03.pdf>. Accessed 2 March 2005.

receive this training leave for alternative employment even before their impact is felt in those agencies.

Archives and records management courses at UB, the University of Namibia and different institutions in South Africa need to be re-structured to cater for new demands in recordkeeping and records management. Although some workshops on electronic records management are organised and run by consultants, these are short and no follow-ups are made on their effectiveness.

In Namibia, basic training opportunities are available but the fact that NAN cannot use them because of financial constraints shows the seriousness of the problem with which it is faced. There is a need for serious planning and availing of resources to take up the training opportunities available. NAN should make an effort to run courses, workshops and seminars for records management staff in government agencies. Some of these agencies, however, feel that at this time it is difficult to implement programmes for the management of electronic records, they think this should be postponed until all government agencies are ready. But one wonders how long this is going to take, because these records will otherwise continue to suffer neglect. There is clearly a need for more resources to tackle the problems experienced in Namibia. Botswana and South Africa should learn from Namibia's problems and properly resource records management programmes in governemnt.

Clearly, the issues of staffing and training remain major long-term problems in the three countries, much as they do in the rest of the region. While it would appear that there is going to be a great deal of reliance on international experts to help plan systems in each of the three countries, it is important to note that education and training programmes will have to be developed within the countries to meet specific local circumstances and adapt to local needs. This does not mean that "western" knowledge is to be ignored. It means that African and western systems of knowledge need to interact, engage with each other and seek insights into each other's weaknesses, limits and strengths. Commentators from developing countries have argued during the evidence based discussion organised by the IRMT in partnership with the World Bank that there is a need to break dependency by developing own models and training programmes that can provide own solutions for addressing the

management of electronic records.[560] African archivists and records managers should be able to have their own perspectives and generate their own theories, models and tools.

Institutional and collaborative links with other universities in the region and abroad may be part of the solution to the problem of training. International experiences suggest that a number of countries are working on developing training programmes for the management of electronic records. For example, efforts in the EU were focused on developing training through the E-term project.[561] This was intended to create a web-based knowledge and experience platform to be used for distance learning. The IRMT has developed introductory modules on understanding computers as part of the distance learning initiative to help records officers with training depending on the IT level of their agencies. This has been done in collaboration with educational institutions and regional associations like ESARBICA, to develop modules that suit the needs of individual countries. These, however, appear not to be widely used in the region. Further, it is not yet clear how effective these modules have been or will be as this is still a continuing project.

Certainly, Botswana, Namibia and South Africa can benefit from these programmes. Students can share and compare knowledge and experiences. For example, students from each of the three countries who are training for the MA in archives and records management could spend a semester abroad and the rest of the year in the home country. As for the PhD, the students could spend a year in an overseas university and the remaining years in the home university. This would help bring new ideas, methods and contacts back to their institutions. The exchange of staff, which may require more mechanisms, could help develop the next generation of professionals. For example, UCL, which has been a base for training archivists and records officers from Botswana, could exchange staff with the UB to help strengthen courses offered by UB and vice versa. This, however, is worth further research to establish its viability.

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[560] 'Electronic government and electronic records: electronic records and capacity building', an electronic discussion, 19 November – 12 December 2003. Available at <http://www.irmt.org/evidence/ediscussions/week1.pdf>. Accessed 26 February 2004. pp. 4 and 10.

[561] 'E-term'. Available at <http://www.ucl.ac.uk/e-term>. Accessed 28 July 2005, p 1.

Botswana, Namibia and South Africa should take advantage of SADC, NEPAD and the African Union (AU) who have commitment to building the electronic records management capacity in the region, by lobbying for increased resources and management support. AU and NEPAD ministers responsible for the archives have pledged to take action to improve records management practices, both paper-based and electronic, and to provide for more open, transparent, accountable and good governance.[562] With this support, the three countries would be able to encourage electronic records management activities and develop centres of excellence to be used by records management professionals in the region.

5.8. Summary

The data presented in this chapter has suggested that although government agencies have computerised essential services and are producing records in electronic format, Botswana and Namibia still have to put in place measures for managing such records. In these two countries there are no clear management policies for e-mails despite the fact that many agencies are using this as the main form of communication. Clearly, South Africa has emerged stronger than the two countries in its approach to the management of electronic records. It is important that policies and procedures for the management of electronic records are established in Botswana and Namibia. The same data has, however, suggested that each of the three countries has done well in developing procedures for controlled access to computerised information and for back-up strategies. In spite of this, the long-term preservation of electronic records still has to be seriously addressed.

No matter how limited, the national archives in each of the three countries has had a role to play in ensuring that records in government agencies are managed according to the provisions of the archives legislation. However, frustrations expressed by some records officers, for example in Botswana, are evidence of the fact that archival leaders in each of the countries have to make more effort, show commitment

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[562] 'Resolutions of delegates', meeting of the International Conference of the Round Table on Archives, Cape Town, 24 October 2003. Available at
<http://www.ica.org/new/citra.php?ptextid=resolutions&ptextannee=2000&plangue-eng>. Accessed 10 December 2004, pp 2-6.

and take the lead in the management of records regardless of their format in the whole of government. To address the frustrations, staffing levels and development of professional training have to be tackled.

The chapter has argued that the use of ICT has indeed changed recordkeeping practices, and in the process provided some opportunities and posed some challenges which need to be addressed. However, the prospects of future strategies for the management of electronic records, especially in Botswana and Namibia, will depend on the development of relevant policies and the recruitment of professional staff and training. Training in recordkeeping is slightly different in each of the three countries, with Botswana showing encouraging progress and Namibia lagging behind. It may be concluded that this is because Botswana's historical background, as compared to Namibia and South Africa, has encouraged smooth developments in many areas including human resources. However, this still remains unsatisfactory in matching the growing need for IT, archives and records management systems. It is apparent from this study that Namibia has a lot to do in many more areas than Botswana and South Africa, although the country is showing signs of improvement. With more effort, it should be possible to make progress in the management of electronic records in Botswana and Namibia. Archivists and records managers working with ICT professionals in Botswana and Namibia have to work together as this will help with practical issues related to systems development, policy development and the preservation of electronic information in the long-term.

CHAPTER 6

THE STRATEGIES OF NATIONAL ARCHIVES AND THE ROLE OF LEGISLATION IN MANAGING ELECTRONIC RECORDS IN BOTSWANA, NAMIBIA AND SOUTH AFRICA

6.1. Introduction

Chapter 5 focused on the extent of ICT use in government agencies and the way it has impacted on the recordkeeping practices in these agencies. This chapter focuses on the strategies of national archives and the role of legislation in guiding government agencies in their efforts to manage electronic records. Questionnaire C (attached as appendix C) and interview schedule (attached as appendix D) were used to find information on strategies used by the national archives in Botswana, Namibia and South Africa to manage electronic records and scope of the national archives acts in relation to the management of electronic records. This questionnaire was circulated and interview questions were administered to directors of archival institutions, archivists, and IT staff based at the national archives in each country. Details of information about the respondents to this questionnaire and the interview questions are contained in section 1.6 and summarised in Tables 1-3 and 1-4. In total 10 respondents from the three countries provided the data presented in this chapter. A summary of findings of Questionnaire C and interview responses is provided in Table 6-1. Sections 6.2 and 6.3 give in detail the findings of Questionnaire C and interview responses. Each of the sections reports on the current position of developments, plans for moving forward and any aspirations and wishes for the future. The implications of the results presented in sections 6.2 and 6.3 are discussed and analysed in section 6.4. Section 6.5 summarises the chapter.

Table 6-1 Summary of the findings for Questionnaire C and interview responses (National archives' strategies and role of legislaiton in managing electronic records)

THEME	BOTSWANA	NAMIBIA	SOUTH AFRICA
6.2 National archives strategy for managing electronic records.	- no clearly laid out strategy at the moment. - but have coordinated plan for managing paper records. - still working on an ERM strategy. - clear policies and procedures are needed.	- no strategy is available. Also no plan is available. - but making efforts to manage paper records. - only hosted an e-governance conference as an attempt to raise awareness. - clear policies and procedures are needed.	- have a clearly laid out strategy communicated through policy guidelines. - policy framework clearly covers some aspects of e.g. authenticity, retrieval, disposal and long term preservation. - file plans to be implemented and maintained. - government agencies encouraged to implement integrated records management.
6.3 Scope of archives act and legislation for the management of electronic records.	- present archival legislation does not cover electronic records. - act, however, under review. - suggested that electronic records should be treated just like paper records. - no specific legislation for management of electronic records.	- present archival legislation does not cover electronic records. - no evidence to suggest the act will be reviewed in the near future. - no specific legislation for management of electronic records.	- specific provisions for electronic records available in the act as amended. - need to align NARS Act with other laws. - have Electronic Communications and Transactions Act (No, 25 of 2002) which relates to electronic records.

6.2. National archives' strategies in managing electronic records: presentation of findings of Questionnaire C and interview responses (Table 6-1)

This section focuses on national archives' strategies for managing electronic records in Botswana, Namibia and South Africa. It also looks at the scope of their national archives act in relation to the management of electronic records.

6.2.1. Botswana

As part of its mandate, the national archives must ensure that public records are created, used, maintained and disposed of in an organised way regardless of their format. Respondents were, therefore, asked about the national archives' strategy for managing electronic records in Botswana. From the data collected, it emerged that notwithstanding this mandate, BNARS had not put in place any clearly laid out strategies to deal with the management of electronic records. BNARS had not been

able to issue government agencies with any guidance and procedures on how electronic records should be managed.[563]

It, however, emerged that BNARS was doing a lot in terms of providing guidance for the management of paper-based records as compared to other countries in the region, particularly Namibia. As a case in point, BNARS has a coordinated plan for managing paper-based records. According to this plan, records managers are deployed to government agencies to carry out records management activities.[564]

It was interesting, however, to find out that some of the respondents who were mainly records managers were confident that BNARS would in the near future be able to develop strategies for the management of electronic records. At the time of data collection in 2003 and 2004, BNARS was busy working on a computerisation strategy following the launching of its computerisation project in August 2002.[565] The first phase of the project included setting the ICT infrastructure in both government agencies and BNARS offices, mainly computer hardware, networking software, operating system software, web-server software and database server software.[566] This phase was completed in 2000.

The second phase of the project which started in October 2002 was concerned with development of the document on the Statement of User Requirement (SOUR). This according to the respondent was brought about by the fact that BNARS wanted to extent the use of ICT facilities to cover the core business of the department, that is, records management and archives administration. The SOUR, was therefore, aimed at offering a computerisation solution for the management of paper records throughout their life-cycle as current records in the records management units, semi-current in the records centre and non-current at the national archives. The proposed computerisation solution which will be known as the National Archives and Records Service System (NARMS) is expected to help staff manage the information they

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[563] Response to Questionnaire B on the impact of ICT on recordkeeping, completed by Records Managers, Teaching Service Management, Attorney General's Chambers, Gaborone, Botswana, July 2003.

[564] This coordinated plan has already been discussed under section 5.5.1.

[565] Interview with the Senior Systems Analyst, BNARS, on 13 July 2004, at the offices of BNARS, Gaborone, Botswana.

[566] Interview with the Senior Systems Analyst, BNARS, on 13 July 2004, at the offices of BNARS, Gaborone, Botswana.

require to carry out their day-to-day operational functions. In particular, it will be used to register, classify, request, retrieve, track, destroy and transfer records.[567] In principle, however, it is expected that this new system will start with the management of paper-based records as the functions performed at the time the solution was proposed only addressed the management of paper-based records. There were, however, future plans to use the same system for the management of electronic records. In fact, SOUR does indicate that plans were at a preliminary stage to develop an Electronic Records Management Strategy which was expected to provide standards, tools, methodologies, and capacity for the management of electronic records. This would use NARMS as a tool to manage the control of electronic records in the same way it will be used for managing paper-based records.

BNARS looks forward to a system that will be able to handle authority files, accession and multi-level description using both a record group and a series based approach to management. The system will, however, not directly support management and administrative functions of personnel, accounts supplies management and training and staff supervision.

The information gathered revealed that the SOUR document was successfully completed in May 2003. It is important to mention that a number of supplementary documents provided key inputs to the final SOUR document. These included ISO 15489[568] and the United States Department of Defense 5015.2 (US DoD 5015.2)[569], Design Criteria Standard for Electronic Records Management Applications. US DoD 5015.2 was used because it establishes mandatory baseline functional requirement for software applications.[570] The SOUR document has identified hardware and networking requirements, interfaces with departments and assessed the training

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[567] Botswana National Archives and Records Service, 'Statement of User Requirements (SOUR) for the computerisation of Botswana National Archives and Records Service, prepared by MJ Consultants (Pty), 25 April 2003, Gaborone, Botswana.

[568] International Standards Organization, ISO 15489-1, 'Information and documentation – Records management'. Pat 1 General, 2001.

[569] United States Department of Defense 5015.2 STD, 'Design criteria standard for electronic records management software applications'. Available at <http://jitc.fhu.disa.mil/recmgt/p50152s2.pdf>. Accessed 5 April 2004.

[570] Botswana National Archives and Records Service, 'Statement of User Requirements (SOUR) for the computerisation of Botswana National Archives and Records Service, prepared by MJ Consultants (Pty), 25 April 2003, Gaborone, Botswana.

requirements for staff members who will operate the systems. Figure 6-1 shows a model of the proposed system as it appears in the SOUR document.

Figure 6- 1 The proposed NARMS system as taken from the SOUR document [571]
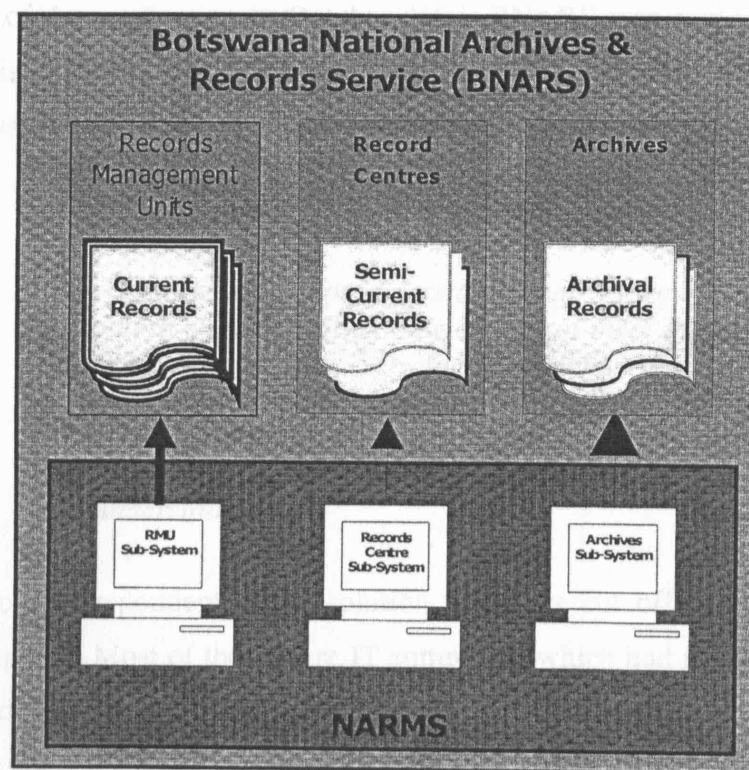
As shown in Figure 6-1, the model proposed in the SOUR document consists of three main subsystems: the records management unit sub-system, records centre sub-system and the archives sub-system. Each of the sub-systems is expected to support the processes carried out at the different stages in the life of a record as well as at different physical locations. However, responses from records managers who appeared discontented with the approach suggested that BNARS was interested in a centralised command control at the expense of individual agencies whose specifications and specific needs were unique to their own business processes. Records managers felt that the proposed model appeared impractical. One of the respondents said that the agencies would rather use this document as a benchmark in determining their own detailed specifications and requests for proposal.[572]

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[571] Botswana National Archives and Records Service, 'Statement of User Requirements (SOUR) for the computerisation of Botswana National Archives and Records Service, prepared by MJ Consultants (Pty), 25 April 2003, Gaborone, Botswana.

[572] Discussion on the national archives' strategy for managing electronic records, with Records Manager, Ministry of Finance and Development Planning, on 30 March 2004, at the offices of Botswana Parliament, Gaborone, Botswana.

The third phase of the computerisation project which was expected to start in 2005 would attempt to implement the requirements as proposed in the SOUR document. Tenders were invited in March 2004 for implementation of the proposed solution.[573] At the time of data collection in October 2004, BNARS was evaluating proposals from potential solution providers. From the interviews it was revealed that the responses were limited to five solution providers. As one of the respondents explained:

> "others either could not understand what we were asking for; others were cut off as they could not meet the initial condition which was set for obtaining the SOUR document. And even the ones who managed that and paid the money, they still came back and said that they could not respond to the tender because it was really not what they understood."[574]

According to the respondent, those solution providers cut off did not understand what was required. Most of them were IT companies which had no basic knowledge or understanding of records management functions and, therefore, could not offer the required solution.

Once implementation of the project starts, it will be carried out in stages. The first will be a pilot stage and will cover few selected ministries of Labour and Home Affairs, Education and Finance which have the required basic ICT infrastructure in place, functional classification tools and records committees. The second phase will roll-out the project to the rest of the country. As far as the proposed computerisation strategy is concerned, the data collected in 2004 only tells us that the SOUR document has been approved and that plans are underway for its implementation. At that time, the implementation process had not started and the project was in its infancy and as such it was still too early to evaluate its effectiveness. Further, the responses so far cannot guarantee its success. However, the Senior Systems Analyst at BNARS said that once training was provided and people's attitudes had been changed to accept the new system, they expected to see a more productive team that

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[573] Discussion on the national archives' strategy for managing electronic records, with the Senior Systems Analyst, BNARS, on 30 March 2004, at the offices of BNARS, Gaborone, Botswana.

[574] Interview with the Senior Systems Analyst, BNARS, on 13 July 2004, at the offices of BNARS, Gaborone, Botswana.

would manage the records effectively. Success in the new system will depend on those involved in its design and implementation, funders, top management support and a change management strategy. It was the hope of records officers that this would provide a gateway for electronic records management in the public sector in Botswana.

6.2.2. Namibia

In comparison to Botswana, it would appear that Namibia has more to worry about in terms of developing strategies for the management of electronic records. Respondents were asked about the national archive's strategy for managing electronic records. One of the respondents revealed that NAN had no strategy in place for the management of records in government agencies.[575] However, an interview conducted in 2004 with the acting Director of NAN informed that in 2003, the department was in contact with OPM which is the overall agency steering all branches of administration in Namibia to see if they could help in coming up with future plans for the management of electronic records. At that time, NAN was only advising government agencies to routinely make printouts of electronic communications and other documents for filing.

From the responses, there appeared to be more pressing priorities even before policies and strategies for managing electronic records could be thought of. While the responses revealed that NAN had been getting a lot of training offers from commercial firms in South Africa on electronic records management, no action had been taken because there had been little emphasis on the management of electronic records in the country. NAN had been faced with a number of challenges that had shifted its attention from electronic records to other issues which appeared more important. First, it had long been understaffed and this had reduced its capacity to deal with its responsibilities. For example, the acting Director said that until mid 2003, they were reduced to almost zero professional staff. Describing the staffing situation this was what he had to say:

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[575] Response to Questionnaire C on the national archives' strategies and role of legislation in managing electronic records, completed by Archivist: Research, NAN, Windhoek, August 2003.

"this is still disastrous. Altogether we have eight professional posts only three are filled. In government agencies there are no records managers"[576]

Second, NAN had the security of collections as its main priority.[577] Given the resource constraints, which it had emerged were mainly human and financial, the management of electronic records had not been given any significance and at the time of data collection in 2004, what NAN could do about this was limited. Although NAN had developed a training plan to expose staff to any training available on electronic records management, the respondent reported that it could not carry out any training let alone buy computer equipment because of serious budget cuts.[578] It was, however, encouraging to find that the newly appointed archivists had started conducting records surveys in government agencies as part of a search for a strategy.[579] The results showed that out of 13 regional councils, five had good signs of recordkeeping, out of 46 local authorities, 21 had good signs of recordkeeping and out of 87 ministries and departments, only 28 were found to have good recordkeeping practices.[580] With this information in hand, there were growing hopes that NAN would develop a strategy in the future.

One of the respondents felt that by hosting an electronic-governance conference in 2002, NAN had made an encouraging beginning to its involvement in the management of electronic records.[581] This was because the conference was able to create awareness on electronic records management. As an outcome of the conference, it was observed that the management of records in the public sector was weak and that full benefits of electronic governance could only be realised when improvements had been made on this.[582] It was, therefore, recommended that:

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[576] Interview with the acting Director, NAN, on 16 August 2004, at the offices of NAN, Windhoek, Namibia.

[577] Discussion with the acting Director, National Archives of Namibia, on the national archives' strategy for managing electronic records, held on 6 August 2003 at the offices of NAN, Windhoek, Namibia.

[578] Interview with the acting Director, NAN, on 16 August 2004, at the offices of NAN, Windhoek, Namibia.

[579] Interview with the Archives Assistant, NAN, on 16 August 2004, at the offices of NAN, Windhoek, Namibia.

[580] Interview with the Archives Assistant, NAN, on 16 August 2004, at the offices of NAN, Windhoek, Namibia.

[581] Response to Questionnaire C the national archives' strategies and role of legislation in managing electronic records, completed by Archivist: Research, NAN, Windhoek, Namibia. August 2003.

[582] Electronic based governance in electronic age and e-governance workshop (unpublished report), 'Resolutions and the way forward', 26-27 November 2002, Windhoek, Namibia.

- policies and procedures for capturing, storing, retrieving and disposing of information should be formulated with NAN playing a key role in this.

- NAN should work in close collaboration with the Auditor General and ensure that records management activities in government agencies are audited.

- NAN should participate in government IT acquisition programmes.

- A working group should be formed to revise and update registry manuals, compile lists of other legislations influencing records management and identify training needs of records officers in various offices.

While interview responses have revealed that no action was ever taken on the recommendations, this might be the right direction for NAN to find some of the solutions to the problems with which it is faced. Apart from the conference, nothing tangible had been done in terms of issuing guidance and procedures for the management of electronic records to government agencies. Instead, NAN had been busy digitising its photographs and critical records by scanning. This, however, was seen as a programme to make collections more accessible to the public. In the future, NAN is hoping to increase its staffing levels and upgrade its computer infrastructure as it prepares for a future role in the management of electronic records.[583]

6.2.3. South Africa

Respondents were asked about the national archive's strategy for managing electronic records. From the responses, it emerged that as part of its strategy for managing electronic records, NARS has ensured that sound records management is a critical success factor in implementation of the electronic government framework.[584] NARS was optimistic that by aligning itself to the e-government strategy it would ensure that transactions that took place through the planned electronic government gateway would be captured and made available to all citizens.[585] NARS has clearly laid-out strategies for managing electronic records in government agencies. These have been communicated through policies and procedural manuals. Further, it

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[583] Interview with the acting Director, NAN, on 16 August 2004, at the offices of NAN, Windhoek, Namibia.

[584] Discussions on the national archives' strategy for managing electronic records, with Deputy Directors, NARS, on 17 July 2003 at the offices of NARS, Pretoria, South Africa.

[585] Response to Questionnaire C on the national archives' strategies and role of legislation in managing electronic records, completed by Records Management Archivist, NARS, Pretoria, South Africa, July 2003.

emerged that the conditions and policy framework for the management of electronic records in terms of the National Archives and Records Service Act of 1996, as amended in 2001, covers aspects regarding the capturing of authentic and reliable records, subject classification, retrieval, disposal and long-term preservation of records.[586]

Through the policy guidelines issued to government agencies, NARS requires all agencies to implement and maintain file plans that are approved by the National Archivist. These advise on how to classify all records regardless of format into subjects or categories that relate to the business operations of government agencies. Further, NARS requires governmental agencies that are moving away from purely paper-based transactions to electronic transactions to implement and maintain Integrated Document/Records Management Solutions (IDRMS).[587]

NARS defines IDRMS as a solution consisting of document management, records management, file/document tracking, integrated imaging and scanning, integrated workflow/routing and integrated search and retrieval functionality.[588] It is a file plan functionality used as a standard for the management of electronic records in the public sector. IDRMS was mainly derived from the UK National Archives' Functional Requirements for Electronic Records Management Systems[589]. Information from the US Department of Defense 5015.2, Design Criteria Standard for Electronic Records Management Software Applications was also used where applicable and the specific requirements were adapted where necessary to suit the South African archival legislative framework. In fact, NARS had approached the UK National Archives and asked for permission to use its functional requirements as a basis for the IDRMS document.[590] NARS has also endorsed ISO 15489 as the required standard for records management. NARS was, however, planning that in

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[586] Response to Questionnaire C on the national archives' strategies and role of legislation in managing electronic records, completed by Records Management Archivist, NARS, Pretoria, South Africa, July 2003.

[587] Discussions on the national archives' strategies and role of legislation in managing electronic records, with Deputy Directors, NARS, on 17 July 2003 at the offices of NARS, Pretoria, South Africa.

[588] National Archives and Records Service of South Africa, 'Draft functional specification for integrated document and records management solutions', April 2004.

[589] National Archives: Public Record Office, *Functional requirements for electronic records management systems*, 2002 revision. Available at <http://www.pro.gov.uk/recordsmanagement>. Accessed 4 April 2004.

[590] Interview with the Records Management Archivist, NARS, on 29 July, 2004, at the offices of NARS, Pretoria, South Africa.

future it will be able to use its IDRMS specification to certify and evaluate its integrated document/records management functionalities.

IDRMS have the required records management functionalities to ensure the capturing of authentic and reliable records, to facilitate subject classification and retrieval of records, to manage their disposal in terms of the disposal authorities issued by the National Archivist and to support their long-term preservation. It also provides for the management of e-mail and web-sites as records. Since government is planning for e-governance gateway, the use of IDRMS will be an effective way to ensure that authentic and reliable evidence of transactions that take place via the gateway are captured and maintained. According to the respondents, NARS did, however, realise that not all governmental agencies had the capacity to implement IDRMS.[591]

A follow-up interview in 2004 on the effectiveness of IDRMS established that IDRMS projects in the public service were not going on too well. [592] This was because most agencies procured systems before doing the business analysis and tried to fit in the business case to the system instead of doing the reverse. NARS itself had not yet implemented IRDMS. The reasons being that, first there appeared to be no or little top management buy in and second a lot of historical hardware and software constraints hampered progress.[593]

NARS also required that, until such time that there was a specific South African standard for the management of electronic records, government agencies had to use only electronic records management software that has been certified as complying with international standards. Currently, they had to comply with the US Department of Defense 5015.2, Design Criteria Standard for Electronic Records Management Applications and the UK National Archives' Functional Requirements for Electronic Records Management Systems. These standards specify the capabilities that software

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[591] Discussions on the national archives' strategy for in managing electronic records, with Deputy Directors, NARS, on 17 July 2003 at the offices of NARS, Pretoria, South Africa.

[592] Interview with the Records Management Archivist, NARS, on 29 July, 2004, at the offices of NARS, Pretoria, South Africa.

[593] Interview with the Records Management Archivist, NARS, on 29 July, 2004, at the offices of NARS, Pretoria, South Africa.

must possess to meet the requirements of sound records management. Electronic records management applications so certified have the minimum mandatory records management functionality required for the implementation of Integrated Document/Records Management Solutions.

NARS also sought to ensure that records created on individual personal computers in the whole of government were saved to a shared workspace, so that the information they contained could be shared and re-used. This was done by setting up a workspace with a directory structure that corresponded with the paper-based file plan. It was also possible to establish naming conventions for individual documents and to develop retention and disposal procedures for records that correlated with the disposal procedures of the paper-based file plans.[594]

Although NARS had a clearly laid out strategy for the management of electronic records, the responses suggested that there were still a number of challenges to be overcome. For example, NARS has to put in place the necessary infrastructure for archival electronic records. One respondent, however, had a different view on this as he said that:

> "the National Archives should not take custody because it has limited resources to do it".[595]

NARS had requested the National Treasury to do a feasibility study for a public-private sector partnership to create the infrastructure that would enable NARS to take in and manage archival electronic records.[596] The public-private partnership was registered in 2003 with the National Treasury and a project officer had been appointed. It is expected that best options for digital preservation would be investigated by the partnership. As part of its contribution to this, NARS prepared a conceptual strategy in 2003 for an infrastructure to manage archival electronic

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[594] Discussions on national archives' strategy for managing electronic records, with Deputy Directors, NARS, on 17 July 2003 at the offices of NARS, Pretoria, South Africa.

[595] Responses to Questionnaire B on the impact of ICT on recordkeeping, completed by the Information Analyst, Nelson Mandela Foundation, Johannesburg, South Africa, September 2003.

[596] Discussions on the national archives' strategy for managing electronic records, with Deputy Directors, NARS, on 17 July 2003 at the offices of NARS, Pretoria, South Africa.

records.[597] This whole process may take longer than anticipated. However, once successfully completed, it will encourage government agencies to transfer their electronic records to NARS. It was also found that NARS had a joint project with the Auditor General. The idea behind this was to ensure that the office of the Auditor General undertook records management audits together with its performance and financial audits. This was mainly because NARS did not have the capacity to reach all the government agencies in the country in a yearly basis. Further, the Auditor General had drawn plans to include the records management requirements in its new National Treasury regulations, which were re-written in April 2005. NARS was hoping for the best out of this. The respondents, however, felt that their strategy could not be as effective as they hoped unless senior management was committed to ensure effective records management and sound ICT implementation procedures.

6.3 Scope of the archives acts and legislation for the management of electronic records

This section focuses on the scope of the Archives Acts in relation to the management of electronic records in Botswana, Namibia and South Africa. The section also looks at other legislation in place and how they impact on the management of electronic records.

6.3.1 Botswana

Respondents were asked about the scope of the Archives Act in relation to the management of electronic records. The respondents focused on interpretation of the definitions and whether these definitions covered electronic records. Section 2 (b) of the Botswana National Archives Act (Act No. 37 of 1978)[598] which governs management of public records in the country defines public records as:

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[597] Interview with the Records Management Archivist, NARS, on 29 July, 2004, at the offices of NARS, Pretoria, South Africa.

[598] Botswana National Archives Act (Act No. 37 of 1978), Republic of Botswana.

> "any records of government which are in custody of the
> government....or have been transferred to the National
> Archives or place of deposit' (b) and records of a
> prescribed body which are in the custody of such a
> body.....(c) any judicial records." [599]

According to the Act, "records" include:

> "any manuscript, newspaper, picture, painting, document,
> register, printed material, book, map, plan, drawing,
> photograph., photocopy, microfilm, music, recorded by
> any means capable of reproduction and regardless of
> physical form and characteristics." [600]

As one of the archivists suggested, while the definition of records in the present act did not make specific provisions for the management of electronic records, it did not seem to exclude such records. [601] In short, the respondent's expectation was that the present legislation should also cover electronic records as these were subject to the same requirements provided in the Act that applied to the management of other records. As a result of this, any conditions existing for all records should also be applied to those that were in electronic form. In fact, the respondent had this to say:

> "electronic records are records after all and they should
> be governed just like paper records." [602]

This according to the respondent was because the Act defined a record in terms of physical objects, such as paper files, video and magnetic tapes, microfilms, maps and plans.

A follow-up interview held in July 2004 to find out if there were any plans to amend the present Act revealed that there were ongoing efforts to review and amend the Act so that it made clear and specific reference to how electronic records were to be

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[599] Botswana National Archives Act (Act No. 37 of 1978), 'Section 1 (a) - (c): Interpretation', Republic of Botswana.

[600] Botswana National Archives Act (Act No. 37 of 1978), 'Section 1: Interpretation', Republic of Botswana.

[601] Response to Questionnaire C on the national archives' strategies and role of legislation in managing electronic records, completed by Archivist, BNARS, Gaborone, Botswana, July 2003

[602] Response to Questionnaire C on the national archives' strategies and role of legislation role in managing electronic records, completed by Archivist, BNARS, Gaborone, Botswana, July 2003.

handled.[603] The proposed amendments had been submitted to the office of the Attorney General, which was expected to facilitate the process, but it is not known when this will be completed.[604] But among the proposals will be an amendment to incorporate electronic records as authentic records that can be used in courts of law as evidence. This will be a relief for records managers, who have already shown a lot of concern about the need for updated legislation. However, no plans were being made to draw a specific legislation only for electronic records.[605]

On further questioning of the existence of other legislation that impacted on electronic records, one of the respondents appeared not concerned about other legislation and simply said that he was not aware of any.[606] However, another respondent mentioned the following: the Public Service Act (Act No. 13 of 1998)[607], Copyright and Neighbouring Rights Act (2000), Evidence in Civil Proceedings (No. 26 of 1977)[608] and Financial Regulations.[609] Section 37 (1) of the Public Service Act contains restrictions on disclosure of public information or records. For example, it says that any person who publishes or discloses contents of any documents, communication or information for private purposes and against the provisions of the act is guilty of an offence. Further, the Public Service Charter contained in the General Orders of 1996 governing the conditions of the service of the public service of Botswana declares that the principle of transparency dictates that members of the public are entitled to have access to non-confidential information on the operation and activities of the public services.[610] This, however, does not entitle members of the public to breach confidentiality, nor have access to private information concerning others which is to be found in public service files. The Evidence in Civil

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[603] Interview with the Senior Systems Analyst, BNARS, on 13 July 2004, at the offices of BNARS, Gaborone, Botswana.

[604] Interview with the Senior Systems Analyst, BNARS, on 13 July 2004, at the offices of BNARS, Gaborone, Botswana.

[605] Response to Questionnaire C on national archives' strategies and role of legislation in managing electronic records, completed by Archivist, BNARS, Gaborone, Botswana, July 2003.

[606] Interview with the Senior Systems Analyst, BNARS, on 13 July 2004, at the offices of BNARS, Gaborone, Botswana.

[607] Public Service Act (Act No. 13 of 1998), Republic of Botswana.

[608] Evidence in Civil Proceedings Act (Act No. 26 of 1977), Republic of Botswana

[609] Discussion on the national archives' strategy for managing electronic records, with Records Manager, Ministry of Finance, on 30th March 2004, at the offices of Botswana Parliament, Gaborone, Botswana.

[610] 'The Public Service Charter', General Orders of 1996 governing the conditions of the service of the public service of the Republic of Botswana

Proceedings Act, which declares the law of evidence, provides for certified copies or extracts of documents from the proper custody to be admissible in evidence. The Botswana Government Office Security Instructions[611] on the other hand, contain information on security of official documents and information is the concern of everyone in government service. According to the Instructions, official documents must be protected, if harm would result from the disclosure of the information to unauthorised persons and further provides conditions for the custody and storage of such documents.[612]

In spite of the fact that these acts contain sections that make reference to how public information or records should be treated, all of them are not aligned to the archives act.

6.3.2. Namibia

As in Botswana, the Archives Act of Namibia of 1992 (Act No. 12 of 1992)[613] defines a record as recorded information regardless of physical form and characteristics. In its definitions, however, the Archives Act does not make specific reference to 'records' per se but uses the terms 'archives' and 'documents' which are understood in this thesis to mean records. For example, Section 1 of the Act defines archives as:

> *"all documents received or created in the conduct of affairs in a government office or an office of a local authority or statutory institution".[614]*

The same section of the Act defines a document as:

[611] Office Security Instructions, Botswana Government, 14 October 1994, Gaborone, Botswana.

[612] Office Security Instructions, Botswana Government, 14 October 1994, Gaborone, Botswana.

[613] Archives Act of Namibia (Act No 12 of 1992), Republic of Namibia.

[614] Archives Act of Namibia (Act No. 12 of 1992), 'Section 1: Definitions', Republic of Namibia.

*"a combination of any medium and the information
contained thereon or therein, including paper, parchment,
vellum, charts, plans,, punched tape, magnetic tape,
compact disc,, microfilm, microfiche or gramaphome,
phonograhic, or other kind of sound recordings".[615]*

According to the responses, however, the Act is often not perceived to cover electronic records.[616] In confirmation of this, a survey conducted by the IRMT consultants commissioned by the World Bank in March 2001 specifically reported that even civil servants were not aware that electronic records were included in the definition of public records under the Act.[617] But as is the case with the Archives Act in Botswana, the definition is used in a broad sense to cover all records, including those in electronic format. Notwithstanding this, the Archives Code issued by the Head of Archives in terms of article 12 of the Archives Act of 1992, makes reference to custody of computer archives which this study views as electronic records.[618] According to the Code, computer archives should be cared for, protected against damage, unauthorised access or destruction in accordance with whatever conditions the Head of Archives may stipulate in specific cases.[619]

The respondents were asked if there were any future plans to amend the Archives Act to make specific provisions for the management of electronic records. The responses informed that while no specific legislation had been planned for the management of electronic records, there were plans to amend the current legislation to cover electronic records.[620] One of the respondents argued that the present Act which is from 1992, was already outdated when it was passed. He further commented that they were closely following developments at the Canadian Archives which is more advanced in this area. Furthermore, NAN was looking at experiences from the National Archives of Malaysia, which had a newly enacted archives

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[615] Archives Act of Namibia (Act No. 12 of 1992), Section 1: Definitions', Republic of Namibia.

[616] Response to Questionnaire C on national archives' strategies and role of legislation in managing electronic records, completed by Archivist: Research, NAN, Windhoek, Namibia. August 2003.

[617] K Barata, R Bennett, P Cain and D Routledge, 'From accounting to accountability: managing financial records as a strategic resource, Namibia: case study', Report to World Bank infoDEV programme. Available at <http://www.irmt.org/download/DOCUME~1/DEVELO~1/RESEAR~1/NAMIBI~1.pdf>. Accessed 21 January 2004, pp. 14-15.

[618] 'Archives Code', issued in terms of the Namibia National Archives Act No. 12 of 1992, 8.1.

[619] 'Archives Code', issued in terms of the Namibia National Archives Act No. 12 of 1992, 8.1.2.

[620] Interview with the acting Director, NAN, on 16 August, at the offices of NAN, Windhoek, Namibia.

legislation. The respondent's expectation was that the present act would be amended to ensure that the definition of records covered electronic records in a more precise way.

On the issue of other legislation that impact on electronic records, the following were mentioned: Treasury Instructions of 1991 and the Archives Code of 1992. The Treasury Instructions contain regulations on maintenance of all accounting records including the computerised bookkeeping system.[621] In particular, Section FE 0000 of the Instructions mentions that account records are archives and thus subject to the provisions of the Archives Act. It also prescribes control, custody, listing, disposal and safekeeping of such records. In the case of computerised systems, disposal authorisation for each system shall be obtained and complied with. In fact, a case study conducted in Namibia by the IRMT consultants in March 2001 found that other legal and regulatory frameworks that may affect or maybe affected by electronic records such as the Treasury Instructions (1991) and the Archives Code (1992) had not kept pace with the changing conditions and hence needed to be revised.[622]

6.3.3. South Africa

The situation in South Africa as presented next is slightly different from developments in Botswana and Namibia. Unlike Botswana and Namibia, South Africa has amended its Archives Act to make specific provisions for the management and care of electronic records. For example, NARS Act of 1996, as amended in 2001, provides a definition of electronic record systems. Section 1 of the Act defines an electronic records system as:

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[621] 'FC 0000: Account books and records', Treasury Instructions issued in terms of Section 24(1) of the State Finance Act, 1991, Republic of Namibia.

[622] K Barata, R Bennett, P Cain and D Routledge, 'From accounting to accountability: managing financial records as a strategic resource, Namibia: case study', Report to World Bank infoDEV programme. Available at <http://www.irmt.org/download/DOCUME~1/DEVELO~1/RESEAR~1/NAMIBI~1.pdf>. Accessed 21 January 2004, p 10.

> *"any records system in which information is generated electronically and stored by means of computer technology".* [623]

The same section defines a record as:

> *"recorded information regardless of form and medium".* [624]

The definitions above clearly suggest that electronic records do exist alongside paper records and that they have to be properly cared for just like paper records. Section 13 (2) (b) (i) - (iii) of the NARS Act, as amended in 2001, provides for the National Archivist to determine conditions for electronic reproduction of records and the management of electronic records systems. In addition to the amended NARS Act, South Africa also has other acts which have a direct influence on the management of records in all formats and media. Some of these include: the Electronic Communications and Transactions Act (Act No 25 of 2002)[625], the Promotion of Access to Information Act (Act No. 2 of 2000)[626] and the Public Finance Management Act (Act No. 1 of 1999).[627]

Discussions with respondents from NARS revealed that the Electronic Communications and Transactions Act legalises electronic communications and transactions with a view to pave way for electronic commerce.[628] The Act promotes universal access to electronic transactions and develops a safe, secure and effective environment for use of such transactions. The Act does not discriminate between paper and electronic records as far as admissibility is concerned. This Act is important as it provides for the legal recognition of electronic records and their admissibility in legal proceedings. This, as the respondent further said, was important for government agencies who were only interested in keeping records in electronic format.

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[623] National Archives and Records Service of South Africa Act, (Act No. 43 of 1996) as amended by the Cultural Laws Amendment Act 36 of 2001, 'Section 1: Definitions', Republic of South Africa.

[624] National Archives and Records Service of South Africa Act, (Act No. 43 of 1996), 'Section 1: Definitions'.

[625] Electronic Communication and Transaction Act (Act No. 25 of 2002), Republic of South Africa.

[626] Promotion of Access to Information Act (Act No. 2 of 2000), Republic of South Africa.

[627] Public Finance Management Act (Act No. 1 of 1999), Republic of South Africa.

[628] Discussions on national archives' strategy for managing electronic records, with Deputy Directors, NARS, on 17 July 2003 at the offices of NARS, Pretoria, South Africa.

The Promotion of Access to Information Act (PAIA), on the other hand, gives constitutional right of access to any information held by the state and any information that is held by another person and that is required for the exercise or protection of any rights.[629] The Act is important as it sets out a wide range of provisions for accessing information and nothing in it prevents the giving of access to any record of a public or private body. Chapter 2 of the general application provisions clearly states that the Act applies to a record whenever it came into existence. Chapter 2, Section 14 (1) (d) is essential as far as recordkeeping is concerned, as it provides for the publication of a manual with sufficient detail to facilitate access such as record descriptions including their subjects and categories and an index to the records held. This is aimed at facilitating easy access to the records. Further, Chapter 3, Section (21) provides for the preservation of such records. The Act, however, provides grounds for refusal to access records if their disclosure contravenes privacy of individuals, confidential information, protection of law enforcement and legal proceedings.[630] As Mpho Ngoepe has observed, access to this information could only be achieved if sound records management programmes were put in place so that the right information was readily available whenever needed.[631] Despite its contents, Dale McKinley in a report on the state of access to information in South Africa has argued that some sections of PAIA present serious barriers to the full realisation of the right of access to information.[632] For example, Section 27 says that if an information officer fails to give the decision on a request for access with the prescribed 30 day period, then such a request is deemed a refusal.

Section 55 (a) of the Public Finance Management Act provides for the accounting authority who must keep full and proper records of financial affairs of public entities to be used for auditing.[633] Section 58 (2) (a) provides for the auditor to have access at

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[629] Promotion of Access to Information Act (Act No. 2 of 2000), Republic of South Africa

[630] Promotion of Access to Information Act, (Act No. 2 of 2000), 'Chapter 4 'Grounds for refusal of access to records', Republic of South Africa.

[631] M Ngoepe, 'Accountability, transparency and good governance: the National Archives and Records Service of South Africa's role in helping government to better service delivery to the South Africans'. Available at <http://www.liasa.org.za/conferences/conferences2004/papers/LIASA_conference_2004_Ngoepe.pdf>. Accessed 17 November 2004, p 8.

[632] D T McKinley, 'The state of access to information in South Africa', Unpublished report prepared for the centre for the study of violence and reconciliation.

[633] Public Finance Management Act (Act No. 1 of 1999), Republic of South Africa, 'Section 55 (a)'.

all reasonable times to the accounting records which may assist in investigations.[634] Further, the Act provides for exceptions to grant or refuse access to information depending on financial actions. According to the respondents, NARS would in the near future go into a process of aligning the NARS Act with other laws, for example, the Promotion of Access to Information Act and Public Finance Management Act and would, where necessary contribute towards improvements in those laws. There is still a challenge to match these pieces of legislation with the NARS Act.

South Africa, Namibia and Botswana are all facing similar challenges where electronic records are concerned. The role of the national archives of each of the three countries will, however, go a long way in guiding programmes for the management of electronic records and in ensuring that individual governments recognise the need to come up with policies and strategies for the management of electronic records.

6.4. Analysis of findings related to national archives' strategies and legislation for managing electronic records

This section discusses and analyses the data presented in sections 6.2 and 6.3 on strategies of national archives and role of legislation in managing electronic records in Botswana, Namibia and South Africa.

6.4.1. National archives strategies for managing electronic records

The new developments brought about by the use of ICT have affected the functions of the national archives in Botswana, Namibia and South Africa. Consequently, these national archives are faced with new responsibilities and challenging roles to play in developing strategies to ensure the management of records in the electronic environment.

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[634] Public Finance Management Act (Act No. 1 of 1999), Republic of South Africa, 'Section 58 (2) (a)'.

The way each of the three countries approaches the management of electronic records in general differs. From the data presented in sections 6.2.1 and 6.2.2, it has emerged that BNARS and NAN have not put in place any clearly laid out strategies to deal with the management of electronic records.

(a) Botswana National Archives and Records Service's (BNARS) strategy

For Botswana, it appears that the future of programmes for managing electronic records hinges on the proposed computerisation project by BNARS, which is expected to provide a solution for the management of electronic records in the country. The data in section 6.2.1 suggests that this project seems to provide a vision for BNARS to begin tackling the challenges of managing electronic records. However, one wonders how it will work in reality. During the interviews, the main respondent from BNARS appeared uneasy when explaining the kind of computerisation strategy they were proposing and how RMUs in different government agencies would be involved.[635] This seems to suggest that BNARS lacks confidence in its own approach. As the results in section 6.2.1 further indicate, records officers themselves appear not to be happy with BNARS's approach to the whole project. They want to be seen to play a major role but feel left out and insufficiently consulted, and feel that BNARS is wrong in dictating terms to government agencies. This gives the impression that BNARS wants to be in control of everything, including decisions on budgets for RMUs. While it is important that BNARS remains totally involved in records management activities in government agencies, it should allow the agencies to make contributions on decisions about their budgets for records management, and determine their own needs for the computerisation of recordkeeping. BNARS should, however, continue taking the lead in providing guidelines for electronic recordkeeping systems to be implemented. The SOUR document should, therefore, be used as a reference model for the agencies.

Regardless of how records officers feel, BNARS itself sees its approach as the only possible future strategy for the management of electronic records in the country.

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[635] Interview with the Senior Systems Analyst, BNARS, on 13 July 2004 at the offices of BNARS, Gaborone, Botswana.

BNARS's efforts in developing the computerisation project are, therefore, worth acknowledging. The viability of the project still has to be demonstrated and this can only be realised once implementation has started. In spite of all this, the computerisation project in itself is an important development as it seeks to provide a holistic approach to the management of records in all formats, something that has been lacking. This is expected to lay the foundation for controls required in the future.

The proposed project, however, appears to have a number of limitations. The issue of professional training for those who will be in charge of managing the records and how archival electronic records will be handled in the future has not been addressed. This is of specific concern given that records officers at the moment have no professional training in this area. The government's response to recordkeeping in the past has been fragmented and unrecognised with no attention paid to records officers. When the implementation of the project starts, BNARS will have to do a lot in terms of changing the attitudes of records officers towards accepting the new system, assuring them it will work and making them appreciate the new facilities and approach to managing records. These are officers who have grown up using the traditional way of and approach to managing records.

The issue of sustainability is also of particular concern and one wonders if BNARS will be able to sustain the system in all government agencies. The reaction of records officers to the proposed system is of concern as most indicated that the viability of the project was questionable.[636] At the moment, it appears that the current problems have not been addressed. Monitoring for completion of the different phases of the project is important as success of this project will be critical. Failure will only bring disillusionment to records officers and archivists. Reliance on consultants may lead to a situation where skills are not transferred and staff end up not understanding how the computer systems work. This means that BNARS has to ensure that consultants see through implementation and sustainability of programmes. Botswana's computerisation project will without doubt provide lessons for others in the region.

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[636] Discussion on the national archives' strategy for managing electronic records, with Records Manager, Ministry of Finance and Development Planning, on 30 March 2004, at the offices of Botswana Parliament, Gaborone, Botswana. Also interview with the Accountant General, on 28 September 2004, at the offices of the Accountant General, Ministry of Finance and Development Planning, Gaborone, Botswana.

For example, it can be used by Namibia as a learning experience and can help with the proper planning and involvement of others concerned or who will be affected.

(b) National Archives of Namibia's (NAN) strategy

Based on interviews and discussions with NAN staff, Namibia faces more challenges than Botswana and South Africa. Although the data in section 5.4.2 shows that these challenges are serious, they should not stop NAN from developing a strategy for the management of electronic records in the country. As mentioned earlier in section 6.2.2, NAN should work closely with the OPM and its parent Ministry of Culture and Arts to get top management support.

Three elements seem crucial to the success of a future strategy for the management of electronic records in Namibia. First, NAN needs "visionary" leadership and overall government commitment to records management. Second, NAN desperately needs financial and human resources and third, it needs to form partnership with its counterparts in the region from whose experiences it can draw lessons. Once these three elements are in place, a strong base would be available for the management of electronic records in the country. The recommendations of an e-governance conference in 2002 hosted by Namibia,[637] suggest that NAN will have to take the necessary measures that will ensure it plays a role in coming up with a strategy for the management of electronic records in the country. A working group formed following the conference to revise and update registry manuals, compile lists of other legislations influencing records management, and identify the training needs of records officers in various offices could be a good beginning for this. The recommendations should, therefore, be revisited to find ways of implementing them. Namibia has the potential to match its counterparts in recordkeeping.

(c) South Africa's National Archives and Records Service's (NARS) strategy

As the evidence in section 6.2.3 indicates, South Africa is ahead of the other two countries. The country has a strategy for the management of electronic records,

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[637] Electronic-based governance in the electronic age and electronic governance workshop (unpublished report), 'Resolutions and way forward', 26-27 November 2002, Windhoek, Namibia.

which is part of the electronic government (e-government) framework. Aligning itself to the e-government strategy has been a good approach, as it has ensured support for electronic records management programmes. South Africa, however, has to work hard to ensure that all government agencies develop the capacity to implement the recommended IDRMS, which the data suggests is still lagging behind in most agencies. While there seems to be enough evidence to suggest that NARS's strategy is working well, there are various aspects which could be improved. For example, the training of records officers could be made intensive and continuous. In spite of this, NARS seems to have done well in establishing partnerships which have benefited its strategy, aimed at managing electronic records. For example, it is currently in public-private sector partnership with the National Treasury to create the infrastructure that will enable it to take in and manage archival electronic records in the future.

Partnerships with GITOC and SITA have helped in advising NARS on the technology behind electronic applications. The data presented in section 6.2.3 clearly shows that these partnerships have also enabled NARS to participate in the process of drafting the IT policy for the public service. So NARS is playing an important role as a stakeholder in ICT development. For example, it is a member of GITOC, which plays a critical role in determining the Information Management, Information Systems and Information Technology strategy of the government. This is not the case in Botswana and Namibia, where it has emerged from the responses that the national archives of the two countries are not playing any role in ICT development. Working with GITOC and SITA has positioned NARS as a stakeholder in all processes relating to information management. For example, the National Archivist represents NARS in the policy committee of GITOC to guarantee inclusion of NARS requirements in the GITOC policy decision. NARS's partnership with SITA has ensured the preparation of a standard for the management of electronic records, the IDRMS. Further, cooperation with vendors in electronic records management and related fields, including supplies of approved products, has enabled NARS to

advise suppliers so that they do not contradict NARS's good recordkeeping requirement.[638] Suppliers are made aware of these requirements.

(d) The UK National Archives' strategy

A strategy used by The National Archives (TNA) of UK, which appears to be working well and from which Botswana, Namibia and South Africa can learn, is part of the e-government and modernisation strategy. As part of this strategy, TNA has a project with government departments backed by the UK government to encourage them to have electronic records management systems in place so that records are filed and preserved in electronic systems. Through this effort, TNA provides advice and guidance together with practical toolkits to help the agencies in developing electronic records management systems. The guidelines cover the management, appraisal and preservation of electronic records. TNA's programme has been going since 2000 and by May 2004 about 40% of the departments had implemented electronic records management systems.[639] The programme is still ongoing and hopefully all departments will eventually adopt the system. Since similar challenges on the management of electronic records arise globally, most of the projects seem to be addressing a global issue. On the basis of this, a strategy of the kind being pursued in the UK might work extremely well for the three countries. South Africa seems to be on the right track as it is following a similar strategy, and if it is working well for that country then the chances are that it would work for Botswana and Namibia. Where possible, the strategy can be modified to meet the needs of individual countries. The UK approach, therefore, seems to provide a good model.

(e) Strategy for the long-term preservation of electronic records

The long-term preservation of electronic records, though an important issue, has not been seriously addressed, especially in Botswana and Namibia, and appears not to be of major concern to the two countries at the moment. Further, no suggestions on

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[638] L Venter, 'Strategy for the management of electronic records in the public sector: boiling strategic alliances', paper presented at an electronic records management workshop, UNISA, South Africa. Available at <http://www.archives.org.za/venter.htm>. Accessed 5 September 2005, p 6.

[639] Interview with Director: Government and Archive Services, the UK National Archives, on 14 May 2004, at the offices of The National Archives, London, UK.

long-term preservation of archival electronic records have as yet been made. In South Africa, government agencies have not yet addressed the long-term preservation of electronic records, but NARS is taking the initiative and has started looking at options for the long-term preservation of electronic records. South Africa, however, is of the view that until the right strategy has been found, agencies should be left with the custody of electronic records.[640] It will take time to build infrastructure for managing electronically generated records.

The review of issues on the management of electronic records has revealed that the long-term preservation is still being debated internationally.[641] While some archival institutions prefer that government agencies maintain custody of archival electronic records,[642] others, especially those in developed countries, have put in place infrastructure to take in such records. National archives that have allowed government agencies to keep archival electronic records are those with no or limited infrastructure for the long-term preservation and access of such records. The data presented in section 6.2.3 suggests that while the options for the long-term preservation of archival electronic records are investigated, government agencies in South Africa should maintain custody of the records. The question of who can manage, and store such records most effectively still needs to be addressed. Claes Granstrom has raised an important argument that will have to be taken into consideration when deciding the options. For example, he posits that if care is left to government agencies, then there will a problem if an agency stops operating. In this case, what will happen to the future of the records?[643] The ICA has insisted that archivists must have the capability to preserve archival electronic records. This is because although a non-custodial approach may be acceptable if the agency has both

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[640] Interview with the Records Management Archivist, NARS, on 29 July 2004, at the offices of NARS, Pretoria, South Africa.

[641] See Chapter 2, section 2.2.2 (a).

[642] From the data collected, it has emerged that at least for now, Botswana, Namibia and South Africa prefer that creating agencies maintain custody of electronic records because they have limited infrastructure to take them in.

[643] C Granstrom, 'Relationship between creators, users and custodians of information' in *Proceedings of the DLM Forum on electronic records*, Brussels, 18-20 December 1996 (Luxembourg: Office for Official Publications of European Communities, 1997), p 40.

the will and ability to provide for the long-term preservation of its electronic records, few will do this as they will no longer need such records on a regular basis.[644]

The National Archives of Australia has a digital repository to ensure the preservation and accessibility of the country's digital heritage. It has developed policies, standards and guidelines under the collective title e-permanence to ensure the long-term preservation of electronic records.[645] This is based on the International Standard for Records Management, ISO 15489. The National Archives follows the custodial model and takes into custody all digital records that are required to be retained as archives under approved disposal authorities[646] The Public Record Office of Victoria (PROV) has developed digital archives and is encouraging agencies to transfer their digital records.[647]

As part of the United States National Archives and Records Administration (NARA)'s e-government initiative, an Electronic Records Archives (ERA) project was started in 1998 as a comprehensive means for preserving electronic records free from dependence on any specific hardware and software.[648] NARA will develop policy and technological guidance for electronic archiving.[649] NARA's aim is to have the programme operational in 2007. Currently, NARA provides a host of links on electronic records management, including requirements for the transfer of archival electronic records and managing web records. These provide tools for agencies to access transfer and access electronic records for as long as required.

[644] International Council on Archives committee on current records in an electronic environment, *Electronic records: a workbook for archivists,* Study 16, April 2005 (Paris: ICA, 2005). Available at <http://www.ica.org/biblio/Study1_6ENG_2.pdf>. Accessed 23 February 2006, p 47.

[645] H Heslop, S. Davies and A Wilson, National Archives of Australia: An approach to the preservation of digital records (Canberra: Commonwealth of Australia, 2002). Available at <http://www.naa.gov.au/recordkeeping/er/digital_preservation/Green_Paper.pdf /Green_Paper.pdf>. Accessed 30 March 2006, p 6.

[646] Links to more information on how the National Archives of Australia approaches digital preservation in practice is available on its web-site at <http://www.naa.gov.au/recordkeeping/preservation/digital/digital_repository.html>. Accessed 30 March 2006.

[647] PROV project is discussed in detail in Chapter 3, section 3.2.2 (a).

[648] 'National Archives and Records Service-Electronic Records Archives, the ERA'. Available at <http://www.archives.gov/era>. Accessed 31 March 2006.

[649] 'Records management: NARA electronic records management guidance on the web'. Available at http://www.archives.gov/records-mgmt/policy/erm-guidance.html>. Accessed 31 March 2006.

TNA has done three things as far as preservation is concerned. First, it has developed its own in-house digital preservation system, which allows it to take in digital records and store them. Second, it has developed a database to record information about file formats so that when it is known that a particular format becomes obsolete, it is migrated. Third, TNA is preserving government web-sites because these are important sources of information.[650] In future, TNA will be able to deliver electronic records over the Internet. From this, it appears TNA of the UK has developed the capacity to change with the technology and meet the challenges ahead. Botswana, Namibia and South Africa can draw from experiences in the UK, Australia and USA as they forge ahead.

6.4.2. Scope of the archives acts and legislation for the management of electronic records

National Archives Acts provide essential frameworks which enable records and archives services to operate with acceptance and authority. As such, they must either be kept up-to-date or further instructions issued and communicated when new situations arise. The mandate, mission and scope of national archives activities in Botswana, Namibia and South Africa are declared by the national archives acts. However, while in Botswana and Namibia archives and records are defined by one act, The National Archives Act, in South Africa this is defined by two acts, the National Archives and Records Service Act and the Promotion of Access to Information Act (PAIA).

National Archives Acts in Botswana and Namibia, as reported in sections 6.3.1 and 6.3.2, remain broadly similar with few variations. In fact, the acts are old and have not kept pace with new changes in technology and information management. The acts in the two countries appear "vague" about the management of records as they do not give the legal definition of electronic records and other electronic transactions as is the case with the act in South Africa. The fact that these acts define records as recorded information regardless of form and characteristics, suggests that they

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[650] Interview with Director: Government and Archive Services, the UK National Archives, on 14 May 2004, at the offices of The National Archives, London, UK. There is a host of guidance provided by TNA on long-term preservation at <http://www.nationalarchives.gov.uk/preservation/digital.html>. Accessed 31 March 2006.

incorporate electronic records into their records management and archival framework. However, the respondents are unaware that they are meant to cover electronic records. As the data seems to suggest, the archival legislations in Botswana and Namibia, are not enough to meet of archivists and records officers in managing electronic records. The acts at the moment do not allow the national archives to fully advise on the management of electronic records and recordkeeping systems. However, with the growth of electronic systems and their impact on organisations, it is desirable to expand the acts in all parts or to issue further instructions to make specific reference as to the proper creation, care and custody of electronic records.

In fact, D Wallace has found that while several countries have explicitly revised their archival legislation, others rely on broad definitions of records.[651] Further, a survey conducted in the EU in 2001 found that archive laws in the EU are media "neutral" and that there is no separate legislation governing archiving of electronic records.[652] These records are covered within the broad framework of general archival legislation. In the computerised world, such acts should be amended and kept up-to-date or further instructions issued to accommodate new demands for the management of records and information. Failure to do this will be one of the impediments to the proper management of electronic records as it will leave uncertainties as to what constitutes the emerging new forms of records, and will leave record creators and legal officers uncomfortable with the use of such records as evidence because of their unclear status. Such records will not have the force of legislation and will make assessing and auditing compliance difficult. Shepherd and Yeo[653] and the ICA[654] have found that in the last few years, many countries have modified their legal framework to admit electronic records as evidence. As Shepherd

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[651] D Wallace, 'Custodial theory and practice in the electronic environment', paper presented during the electronic records workshop, UNISA, South Africa, 21-22 February 2002. Available at <http://www.archives.org.za/wallace.htm>. Accessed 2 September 2005.

[652] K Schurer, 'Better access to electronic information for the citizen: the relationship between public administration and archives services concerning electronic documents and records management' (Luxembourg: Office for Official Publications of the European Communities, 2001), p 15.

[653] E Shepherd and G Yeo, Managing records: a handbook for principles and practices (London: Facet Publishing, 2003), p 22.

[654] International Council on Archives committee on current records in an electronic environment, Electronic records: a workbook for archivists, Study 16, April 2005 (Paris: ICA, 2005). Available at <http://www.ica.org/biblio/Study1 6ENG 2.pdf>. Accessed 23 February 2006, p 34.

and Yeo further argue, the trend is away from insistence on paper as the only acceptable medium, towards acceptance of new technology.[655]

In contrast, the data in section 6.3.3 clearly shows that the archival legislation in South Africa makes specific reference to the management of electronic records, as it does to paper records. The amended legislation specifically requires government agencies to provide infrastructure and other competencies for the management of electronic records. This legislation addresses the realities of government recordkeeping systems, including those for records generated electronically. For example, the NARS Act empowers the National Archivist to regulate recordkeeping in the public service and determine conditions subject to which electronic recordkeeping systems should be managed.[656] In addition, the Electronic Communications and Transactions Act in South Africa has been a major development. The Act has encouraged the use of electronic records, digital signatures for authentication, and confidentiality of personal information.[657] Botswana and Namibia need such an act to provide legal certainty and confidence in relation to electronic transactions and communications. The two countries might need to consult with South Africa, which has been successful in developing its own legislation. In fact, South Africa seems to have followed the European model because the provisions of its act are similar to the requirements set out in the European Directive on a Communications Framework.[658] This clearly indicates that South Africa was drawing on experiences from elsewhere and indeed the other two countries could do the same.

Apart from the national archives acts in each of the three countries, it has emerged from section 6.4.2 that several other acts and regulations have a bearing on recordkeeping, for example the Public Service Act (Act No. 13 of 1998), Copyright and Neighbouring Rights Act (2000), Evidence in Civil Proceedings (Act No. 26 of

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[655] E Shepherd and G Yeo, *Managing records: a handbook for principles and practices* (London: Facet Publishing, 2003), p 40.

[656] National Archives and Records Service of South Africa Act (Act No. 43 of 1996), as amended by the Cultural Laws Amendment Act 36 of 2001, Chapter 13, Section 2 (b) (iii), Republic of South Africa.

[657] Interview with the Records Management Archivist, NARS, on 29 July 2004, at the offices of NARS, Pretoria, South Africa.

[658] G Elliot, 'The electronic communications and transactions legislation in South Africa: an opportunity for harmonisation of law in the region', unpublished paper presented at a seminar on Professional Education Project of the Faculty of Law, University of Cape Town, South Africa, May-June 2002.

1977) and Financial Regulations in Botswana the Treasury Instructions of 1991 and the Archives Code of 1992 in Namibia and the Electronic Communications and Transactions Act (Act No 25 of 2002), the Promotion of Access to Information Act (2000) and the Public Finance Management Act (Act No. 1 of 1999) in South Africa. Each of the three countries should make the necessary efforts to align these acts with their respective national archives acts to get rid of existing contradictions, especially as far as access to records is concerned. A survey conducted by the IRMT consultants in a study commissioned by the World Bank in March 2001 in Namibia has recommended that other legislations impacting upon records in Namibia should be updated, and where practical aligned with other acts and legislations that have a bearing on how records should be handled.[659] Where, for example, Freedom of Information Acts exist, these should be assessed to ensure they do not overrule the access rules provided by national archives acts. As is the case in South Africa, the NARS Act prescribes a 20 year period for release of information to the public. The Promotion of Access to Information Act (PAIA), on the other hand, has no such time limitation on access. The NARS Act and PAIA have to be matched to clear the contradictions that exist.

The approach pursued in the UK could be used as a learning example. In the UK plans are at an advanced stage in developing a new legislation that will replace the Public Records Act of 1958 that was passed when most government records were paper-based. The new act is expected to provide for the management of digital records, including e-mails, and provide for their long-term preservation.[660] This follows increasing demands generated by the spread of electronic recordkeeping. The act will harmonise the archives act with other legislations that impact on records.[661] For example, issues dealing with access to information will be left to the Freedom of Information Act to avoid any conflicts in the two legislations. The consultative process involved the Interdevelopmental Archives Committee (IDAC),

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[659] K Barata, R Bennett, P Cain and D Routledge, 'From accounting to accountability: managing financial records as a strategic resource, Namibia: case study', report to World Bank infoDEV Programme. Available at <http://www.irmt.org/download/DOCUME~1/DEVELO~1/RESEAR~1/NAMIBI~1.pdf>. Accessed 21 January 2004, pp. 14-15.

[660] National Archives (UK), 'Proposed national records and archives legislation: proposal to change the current legislative provision for records management and archives, Consultative paper, CP 03/01, August 2003.

[661] Interview with Director: Information Management and Legislation Unit, the UK National Archives, on 27 May 2004, at the offices of The National Archives, London, UK.

the National Council on Archives (NCA) and the Local Government Association (LGA) as well as the records and archives community and users of archives.[662] The cross-government working group which is preparing the new legislation produced a document which as at 2006 was, waiting for ministerial approval. However, the working group will recommend future action once the process has been completed.

Archival institutions in Botswana and Namibia will have to participate in ICT committees to be able to influence or be involved in developments related to ICT in government to see how these affect recordkeeping. Their participation in ICT issues will help in forming partnerships that would enable them make contributions to ICT laws that impact on records. This may also help Botswana and Namibia in developing policies for the management of electronic records. NARS has benefited from its involvement in ICT issues in the country. Hopefully, with plans underway to amend the acts in Botswana and Namibia to make specific provisions for the management of electronic records, these will meet the recordkeeping needs of the 21st century. It is, however, not clear as to when these amendments will be made. The process appears to be slow. The national archives will, however, have to work in consultation with lawyers to ascertain the legal status of electronic records.

NAN's acting Director suggested that lessons on drawing up new legislations could be drawn from seeking collaboration at the international level, citing acts from the Canadian Archives and the National Archives of Malaysia. Namibia should, however, focus first in the region by looking at the new legislation from South Africa as others may not be appropriate for the Namibian setting (cultural, legislative and historical). Consultations with other countries in the region will also be necessary.

6.5.   Summary

This chapter has presented and discussed the findings of the data collected on the national archives' strategies and role of legislation in managing electronic records in

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[662] Liverpool University Centre for Archives Studies (LUCAS), 'Resource archival awareness: understanding the legal and regulatory framework'. Available at<http://www.liv.ac.uk/lucas/archaware/legal.pdf>. Accessed 8 January 2006, p 9.

Botswana, Namibia and South Africa. The investigation has provided the data on national archives strategies and scope of archives acts for the management of electronic records. From this it has emerged that only South Africa had a well defined strategy in place for the management of electronic records. Botswana is at the preliminary in developing a strategy while Namibia is lagging behind and has to make more effort. South Africa emerged as the only country amongst the three which had an updated legislation covering the management of electronic records. Botswana and Namibia should either update sections in their archival legislations or otherwise issue instructions and regulations on how records in electronic format have to be treated. While archives and records management is developing, it is far from the expectations of the archival and records management practitioners. In spite of the administrative bottlenecks and legislative handicaps, there is still an opportunity for the ICT and electronic records management to progress faster.

The data showed that national archives in Botswana and Namibia needed to be more proactive in the way they influence the management of electronic records in government agencies. The way each of the national archives is involved differs, with Botswana taking total control of records management activities in government agencies, and Namibia and South Africa playing an advisory role in these activities. In theory, Botswana's approach is good but many records officers showed frustration with its implementation and administration. In contrast, the approach in Namibia and South Africa was well received. With regard to archival legislation, this is as yet unamended to make provision for non-paper records in Botswana and Namibia and seems to have a bearing in the slow developments in the management of electronic records. The fact that South Africa has amended its legislation to cover electronic records and has implemented programmes for their management shows that legislation is an important factor in speeding up modernisation in recordkeeping. However, the way national archives will do this depends on the kind of leadership they have as leadership is important in decision and policy making processes. Specific recommendations for addressing the challenges of ICT in recordkeeping practices are presented in Chapter 7.

CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

7.1. Introduction

This chapter concludes the research work undertaken in this study and presents specific recommendations necessary for ensuring the effective management of electronic records in Botswana, Namibia and South Africa. It also makes suggestions for future research in this field of study. Section 7.2 draws the main research conclusions from the presentation and analysis of the data in Chapters 4 to 6. Section 7.3 presents recommendations and gives suggestions for future work. Section 7.4 presents the final remarks on this study.

7.2. Research conclusions

7.2.1. ICT development in Botswana, Namibia and South Africa

One of the objectives of this study was to explore Information Communication Technology (ICT) developments in Botswana, Namibia and South Africa. This objective was important in understanding the developments in ICT, which enable the capture and management of electronic records. The objective was addressed through four main themes: (a) coordination and implementation of ICT initiatives, (b) ICT infrastructure availability and accessibility, (c) facing the challenges in ICT development and (d) the ICT industry and knowledge of recordkeeping.

(a) Coordination and implementation of ICT initiatives

It has become clear from this study, as reported in Chapter 4, that while there has been remarkable progress in ICT development in Botswana, Namibia and South Africa, there are still a number of challenges, such as digital divide, training, and basic costs of ICT implementation to be overcome in each of the three countries. The

analysis of the results in section 4.6 indicates that the development and implementation of ICT policies should be priorities for Botswana and Namibia. It has also emerged that expansion of ICT would be best accomplished if the governments would undertake further liberalisation of the ICT market. This would encourage private service providers to expand their services to rural areas where services are very poor and, if possible, improve on services in urban areas. On the other hand, the role of national development "visions", the private sector and overall commitment of national leaders in each of the countries have also emerged as important factors in the growth of the ICT industry. However, as argued in section 4.6.1 (c), a great deal has to be done in Botswana to realise the objectives of the "vision" as the study has revealed that its impact is not being felt.

Although governments in the three countries are in charge of ICT development in the public sector and in the community at large, they have encouraged private sector participation. This study has shown that, besides government support, the private sector has helped with deployment of facilities, although this has not met the ICT infrastructural needs due to limited financial investments. This is especially true in Botswana (see section 4.2.1), where the respondents have called for aggressive participation from the private sector. However, there appears to be a tremendous potential in all three countries to upgrade and expand ICT facilities in rural areas as part of future government development plans. Lack of education and training has hampered the public's ability to utilise the technology. The need to educate and train the public in the use of the technology has been taken for granted, and it appears that assumptions have been made without any regard as to whether they address user needs. Above all, in order to ensure proper coordination and implementation of ICT initiatives, governments should continue to work with the private sector and the two should share the responsibility of expanding ICT projects in rural areas, educating and training people to meet the skills requirements.

(b) ICT infrastructure availability and accessibility

Rural areas lag behind urban areas in ICT initiatives. As seen in section 4.3, ICT infrastructure is available in almost all urban areas in the three countries, providing a sharp contrast to the situation in remote and rural areas. It has clearly emerged that

no matter how much the governments of the three countries try to optimise facilities, they are still falling short of what is needed, especially in rural areas where ICT infrastructure is currently very limited, as opposed to the urban areas. Clearly, if governments are to be seen to be actively involved, they have to do more in providing access to this neglected population. The establishment of community centres and access funds, though important, as shown by the data from South Africa presented in section 4.3.3, has not made much impact in that country, as the majority of people still have no access to ICT facilities. Nevertheless, as discussed in section 4.6.3 (b), these facilities have an important role to play and should also be established in Botswana and Namibia. As revealed in this study, where telephones and computers are available in rural areas, they are unreliable (see section 4.3.1). Maintenance and upgrading work is needed on these facilities if they are to give reliable performance in these areas. Current government plans are inadequate in tackling the real problem of availability and access. Future government plans should not only pay lip service but seriously address the issue.

(c) Facing the challenges in ICT development

Computer illiteracy, low levels of education, the high cost of technology, lack of awareness of the public in the use of technology, limited infrastructure and unavailability of power are central concerns in Botswana, Namibia and South Africa, as they have hindered ICT development and utilisation (see section 4.6.3). In spite of financial investments by individual governments to tackle these problems, they still remain unresolved. Ideas have been put forward in section 4.6, which the three countries can use to address some of these problems. The high cost of technology comes out clearly as one problem that governments have not managed to address, and what they can do about the problem is still limited. This cost has been increased by the tax regimes which make the technology more costly. Although independent regulators are responsible for regulating charges, regulation has not met the expectations of the consumers.

Part of the setback to ICT development, as reported in sections 4.4.2 and 4.6.2, is that provision of basic telecommunications services in Botswana and Namibia is monopolised by BTC and Telecom, which is hindering the contribution of private

service providers like mobile operators. Governments need to do more to increase access to basic telecommunications infrastructure. As suggested in section 4.6, this could be done by privatisation and opening up the market for the provision of basic telecommunications facilities. Further, as discussed in section 4.6.3 (a), the available training which is essential to ICT development has had little impact in producing the desired expertise. The fact that the three countries rely on expatriate ICT personnel suggests that they are attracting skilled ICT workers from outside their borders. But they still need to train citizens (locally or abroad, through long or short courses) to create a pool of expertise locally (see section 4.6.3 (a)). Besides training, governments need to pay better salaries comparable to those paid in the private sector if they are to retain skilled ICT personnel. This is a big challenge in a region which has scarce resources.

(d) ICT industry and knowledge of recordkeeping

The results presented in section 4.5 have shown that the ICT industries in Botswana, Namibia and South Africa know of electronic recordkeeping and appreciate its role. This finding may seem surprising to some researchers who may have done consultancies in this region in the past.[663] But this does suggest that a lot has changed in the region since recordkeeping consultancy visits in the 1990s, as the role of recordkeeping is being appreciated outside the recordkeeping profession. The ICT industry is doing a good job in encouraging deployment of ICT in government agencies and needs the national archives and recordkeeping professionals in the three countries to guide it in ensuring the proper management of electronic records. Without involvement from these professionals, there will be no proper controls for records management. In spite of this, no efforts have been made by archivists and records officers in Botswana and Namibia to initiate cooperation and form partnerships with the ICT industry in contrast to the case in South Africa (see section 6.4.1(c)).

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[663] This conclusion is drawn from personal communication with Piers Cain, on 28th April 2006, London, UK. Cain is one the consultants who has done research work in Namibia as part of the IRMT team. His view was that the ICT industry in Namibia was ignorant of the role of NAN and records management in organisations. But the data obtained from Namibia in 2003 and 2004 suggests that in fact the ICT industry appreciate the role of NAN in recordkeeping in the country.

7.2.2. Impact of ICT on recordkeeping in Botswana, Namibia and South Africa

A further objective of this study was to assess the impact of ICT on recordkeeping practices in Botswana, Namibia and South Africa. It addressed the following themes: (a) ICT use and impact on government agencies; (b) current electronic recordkeeping practices, (c) policies and procedures for the management of electronic records; (d) the involvement of national archives in managing electronic records within government agencies; and (e) staffing levels and the availability of professional training.

(a) ICT use and impact on government agencies

ICT use in government agencies in Botswana, Namibia and South Africa has influenced the ability of the agencies to create, receive and manage electronic records. However, as indicated in Chapter 5, government agencies which had advanced computerised systems in place, such as those observed in South Africa, also had well-established management programmes for electronic records. This suggests that the ability of government agencies to develop ICT infrastructure significantly influences their ability to develop systems for managing electronic records. Most records management units (RMUs) in government agencies in South Africa had computers to support their recordkeeping functions. In contrast, these were lacking in most agencies in Botswana and Namibia (see section 5.2). In spite of this, the information technology units in government agencies have provided technical support to government agencies and to RMUs which have computers in their offices. This has been particularly important in helping with recordkeeping functionalities. The results from South Africa, as presented in section 5.6.2 have revealed that ICT service providers have helped with training, which would be costly if provided privately.

While great importance has been attached to the computerisation of government services, the majority of employees and the general public still cannot access the services electronically either because they have no access to the facilities in their

areas or because they are not trained to use the technology. As the responses suggested, the general trend in government has been to computerise with little consideration for ensuring accessibility (see section 5.2.1). As mentioned earlier, it still remains a challenge for governments to ensure utilisation by the general public. This will be important for people as they will feel empowered to fully participate in the information society. Unless this is done, many will be left out from economic opportunities. Further, most RMUs in Botswana and Namibia are not computerised, yet they are expected to offer guidance on the management of records generated electronically. Government agencies should prioritise computerisation of RMUs and ensure that records officers are equipped with the necessary skills to utilise the technology effectively in recordkeeping. However, care should be taken not to computerise disorganised manual systems, as this will only increase the problems in the management of records.

Although web-sites existed in most agencies that had computerised services in Botswana and Namibia at the time of the author's field study, these had insufficient information (see section 5.7.1 (a)). In most cases, the available web-sites were not up-dated and links to alternative information were not working. For other links, no information was available to download. Government agencies should do more to ensure that the web-sites have adequate information and that Internet usage is not hampered by network failure or traffic congestion. This will promote access to information and transparency.

(b) Current electronic recordkeeping practices

Current electronic recordkeeping practices in the study area were also investigated (see section 5.3). The results showed comparable recordkeeping practices in government agencies in the three countries. It can be concluded from this that similar approaches may be necessary to address recordkeeping practices in the three countries. Since it emerged that all the computerised business processes were generating electronic records, computerisation of the RMUs will build their capacity to manage such records. Further, the importance of training records officers, to enable them to guide government agencies in the management of these records, has emerged as a significant factor. In addition, policies for the management of e-mails

to ensure that they are captured in the organisation's recordkeeping system and are managed and preserved like other records, has been realised as a necessity. Most existing organisational e-mail policies seem to focus on regulating use and fail to provide measures that guarantee the capture and proper management of e-mail messages generated.

It has been observed from the results presented in section 5.3, that it is mainly financial records which exist in old electronic systems. There were, however, plans in place in each of the countries to migrate these records to newer systems, to ensure their continued use. It is clear, therefore, that government agencies are concerned about the need to provide access to electronic records of value in future. As compared to South Africa, Botswana and Namibia are still lagging behind in designing and implementing file plans, classification, retention and disposal systems for records that exist in both paper and electronic form (see section 5.7.2 (d)). As argued in section 5.7, integrated programmes should be put in place to ensure the management of both paper and electronic records.

Physical and intellectual access to electronic records has been taken seriously in the three countries and efforts have been made to put in place measures to safeguard such records from unauthorised access. The measures observed differed slightly from agency to agency (see section 5.3). An analysis of the experiences of records officers in producing electronic records as evidence in courts of law revealed that Botswana and Namibia, as compared to South Africa, have not put in place measures that allow such records to be produced and admitted as evidence. However, as more and more records emerge in electronic form, the two countries need to be prepared for this eventuality. Central to much of the literature on the management of electronic records is the fact that many countries are changing archival and judicial legislation to accept electronic records in evidence.

(c) Policies and procedures for the management of electronic records

This study has revealed that Botswana and Namibia have no policies and procedures issued or approved by their national archives for the management of electronic records (see sections 5.4.1 and 5.4.2). The two countries depend on old 'registry'

manuals and other guidelines originally prepared for the management of paper records. The literature reviewed in Chapter 2 has highlighted the importance of policies and procedures in guiding the proper management of electronic records as tools for ensuring transparency and good governance. As this study has demonstrated (section 5.7.3), the development of policies and procedures in Botswana and Namibia should be of major concern and need immediate attention. In contrast, the study has shown in sections 5.4.3 and 5.7.3, that South Africa has developed many of the necessary policies and procedures for the management of electronic records government-wide.

The study has found that in Botswana, some government agencies are drawing up their own policies and procedures for the management of electronic records without involving BNARS (see section 5.4.1). For as long as BNARS delays the development of policies and procedures, this situation will continue and its role will be disregarded in guiding the management of public records. This is putting pressure on BNARS to take a more proactive role and guide agencies in preparing policies, procedures and other guidelines. In Namibia, as shown in section 5.4.2, policies for the management of electronic records are non-existent. Among the most important issues, the national archives in Botswana and Namibia have to offer practical advice to government agencies on how best to handle electronic records. Policies and procedures in South Africa provide a good model for Botswana and Namibia to draw on.

(d) Involvement of the national archives in recordkeeping practices within government agencies

From investigations of the involvement of national archives in recordkeeping practices in government agencies, the findings in sections 5.5.1 and 5.5.2 show that this needs to be improved in Botswana and Namibia. As indicated in section 5.7, the kind of support that the national archives in Botswana and Namibia are giving the RMUs falls short of providing the needed guidance in a modern recordkeeping environment. If these national archives do not begin taking the management of electronic records seriously, these records will not be well managed anywhere in government. The national archives have to work more closely with RMUs and

government agencies to draw up plans for managing electronic records. Although the respondents reported that the involvement of the National Archives in Namibia was minimal, this involvement was nevertheless appreciated by government agencies. In contrast, South Africa's involvement has been noted as encouraging. As demonstrated in section 5.5.3, NARS has aligned its programme to the overall e-government strategy and this has helped it get the government support and commitment. As a result, NARS has been able to facilitate the implementation of electronic records management systems in government agencies and has received consistent cooperation from the agencies and in publicising the contribution BNARS can make to efficient and effective management.

Although national archives have the primary responsibility for records management in government agencies, imposing decisions on the agencies without proper consultation is not a good approach. This study has revealed that records officers in Botswana are not happy with BNARS's approach, as they believe it is imposing decisions on them. Records officers are seconded to government agencies, but there is no proper coordination of their operations (see section 5.5.1). Record officers in Botswana expressed frustration with BNARS. This situation leads to the conclusion that BNARS needs to change its approach: it should be persistent and efficient in its administration of records management activities in government agencies. It needs to reach out to the agencies and publicise its role so that they appreciate it. There is wide-spread agreement amongst record officers in government agencies that BNARS should indeed change its approach (see section 5.5.1). It was emphasised during the interviews that BNARS should only guide the management of electronic records in agencies. The findings of this study have demonstrated that national archives leadership in Botswana and Namibia needs to be visionary and more effort should be put into the running of records management activities in government agencies.

(e) Staffing levels and the availability of professional training

The results of this study as presented in section 5.6 and analysed in section 5.7.5 strongly indicate that staffing levels and professional training for the management of electronic records are unsatisfactory in Botswana, Namibia and South Africa.

Although it was discovered that RMUs are important in managing records, most of these units are not adequately staffed to cope with recordkeeping demands in their agencies. Further, records officers either have no or limited professional training to perform this important task. Clearly, records officers cannot manage electronic records in the same way they have managed paper records. They need to be trained to acquire new skills to work in an environment where records are generated electronically. From the results, it has emerged that training in records management has not been taken seriously in the past and this seems to have impacted negatively on the current training trends in the three countries. This has resulted in a situation where most records officers have to rely on experience to manage records (see section 5.7.5 (b)).

National archives in Botswana, Namibia and South Africa, working with local universities, have to ensure that effective training programmes are developed, so that record officers become familiar with how ICT is impacting on their work and how they can manage electronic records. The kind of training in archives and records management in this region must change to meet the recordkeeping needs of the information age. Further studies should investigate the viability of shared training programmes and exchange of staff with universities that have well established programmes for the management of electronic records.

7.2.3. National archives' strategies and role of legislation in managing electronic records

Another objective of this study was to examine the strategies of the national archives in Botswana, Namibia and South Africa and the role of legislation in managing electronic records. This objective was realised through the two main themes: (a) national archives strategies for managing electronic records and (b) scope of the national archives acts and legislation for managing electronic records.

(a) National archives strategies for managing electronic records.

The study has demonstrated that in comparison to South Africa, the national archives in Botswana and Namibia lack strategies to help them cope with the pressure of

managing electronic records (see sections 6.2 and 6.4.1 (a), (b) and (c)). Clearly, South Africa has emerged as a success story in the region in terms of the development and implementation of electronic records management systems. The country has taken advantage of the e-government strategy to get recognition and support. Lack of strategies in Botswana and Namibia mean that they are failing in their duty to manage electronic records. Aligning the role of the national archives with government national priorities and e-government strategies can help the two countries build a strong case for getting recognition and support in terms of resource allocation. Further, the use of the ICA's workbook[664], which offers valuable practical guidance on electronic records, can help the countries with strategies for the management of such records. In South Africa, NARS has succeeded in aligning its objectives with e-government strategy and it has drawn heavily on the UK's TNA in terms of policies, procedures and standards for guiding the management of electronic records. This strategy is good, as it has avoided a situation where government agencies procure computers and software without a clear plan of what they are to be used for and who is going to provide the training and technical support during implementation. Further, involving systems suppliers as partners in the management of electronic records has afforded NARS the opportunity to advise on recordkeeping requirements. The role of partnerships has, therefore, been realised as vital. Having considered the positive aspects of this strategy, its adoption is advocated for Botswana and Namibia.

Although the results of this study suggest that BNARS' proposed National Archives and Records Service System (NARMS) discussed in sections 6.2.1 and 6.4.1 (a) seems impractical, it cannot be concluded that it will not work until it has been tested. In contrast, Namibia has no government-wide records management programme and it is intended that future plans will focus on its creation. This will, however, be determined by the availability of financial and human resources. Botswana and Namibia should work closely with South Africa from whose experience they can learn. The overall commitment of government in recordkeeping has up to this time been minimal, partly because of the lack of appreciation of the

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[664] International Council on Archives: Committee on current records in an electronic environment, *Electronic records: a workbook for archivists*, Study 16, April 2005 (Paris: ICA, 2005), Available at <http://www.ica.org/biblio/Study16ENG_5_2.pdf>. Accessed 23 February 2006.

role that records play in ensuring accountability and good governance. It can still be concluded, however, that South Africa has been more successful than Botswana and Namibia, as its government has shown some appreciation of the role that electronic records play in achieving accountability and good governance.

The long-term preservation of electronic records has emerged as an important issue needing further attention, especially in Botswana and Namibia. (see section 6.4.1 (e)). In contrast, South Africa is taking the long-term preservation of archival electronic records seriously and is investigating best options for addressing it. The discussion in section 6.4.1 has revealed that Australia, USA, Canada and UK have put in place programmes for ensuring the long-term preservation of electronic records in their archival institutions. Botswana, Namibia and South Africa should study developments in these countries, as they can learn a lot from their experiences. Clearly, from the literature review in section 2.2 (a), long-term preservation is problematic. Without doubt, both developed and developing countries are equally troubled by the issue of preservation and this shows that the challenges are not only acute in the developing regions. While the debate on long-term preservation rages on, it is clear that migration is a favoured option. However, finding a working solution is not straightforward and archival institutions will have to adopt solutions that work for them regardless of their limitations in other settings. Future research should focus more on the implementation of currently available solutions.

(b) Scope of the national archives acts and legislation for managing electronic records

One of the challenges facing Botswana and Namibia is outdated archival legislative provision. Legislation in the two countries still focuses on paper archives and records as used in traditional archival practices. While the responses have shown that the archival legislation in Botswana and Namibia lack specific focus on electronic records and electronic recordkeeping systems (see sections 6.3 and 6.4.2), it cannot be concluded that these records are excluded from the provisions of current legislation. However, the respondents suggested that the Archives Acts in these two countries need updating, so that they make reference to the ways in which electronic records should be managed and treated. At the moment, there is nothing that

regulates responsibilities for the management of electronic records anywhere in government. This study advocates immediate amendment of current legislation or issuing of additional regulations and instructions to make clear provisions for the management of electronic records, so that users understand that the term 'records' includes electronic and born digital records, as it does other forms of records. This should be one of the priorities for the two countries. They should work closely with South Africa on this, as the country has already updated its legislation to cover electronic records (see section 6.3.3).

7.3. Recommendations and future work

7.3.1. Recommendations

The recommendations made in this section are drawn from the findings of this study as presented and analysed in Chapters 4 to 6. These recommendations will centre on strategies that now seem essential for ICT development and the management of electronic records in Botswana, Namibia and South Africa.

1. ICT development in Botswana, Namibia and South Africa

This study has shown that a good foundation has been laid in Botswana, Namibia and South Africa for ICT development. However, to improve on this infrastructure, the following recommendations are made:

This study recommends that Botswana and Namibia should speed up development and implementation of ICT policies as these will be important in guiding ICT infrastructure development in the two countries. The discussion of findings on ICT policies in section 4.6.1 (a) has shown that national ICT policies in Botswana and Namibia are still to be developed or implemented. At the regional level, there is a need to harmonise ICT policies in the region to establish a regional policy framework for telecommunications issues. There is also a need to cooperate at regional level to share training opportunities, as the available training in individual

countries, especially in Botswana and Namibia, cannot cope with demands in the ICT market.

There is an urgent need for further liberalisation of the ICT market in each of the three countries. Liberalisation of this market will promote competition in provision of ICT facilities and services, which will result in greater choices in services available. This will further encourage more widespread use and ensure sustainability of the market. Further, government investments and subsidies cannot be enough to sustain infrastructure development. There is a need for combined public-private sector partnerships.

To help deal with accessibility in rural areas, all three countries should install more telephone and Internet lines across urban-rural divides and expand universal access and services in rural areas. Higher investment will narrow the gap between urban and rural areas. In addition, there is a need for Botswana and South Africa to work on cost reduction of ICT facilities and services (such as subscription, connection fees and telephone dial-up) to ensure affordability to all, especially to the poor in South Africa. This means that South Africa has to formulate and support rural based connectivity projects. The country could do more in utilising the Universal Service Fund for rural connectivity, which, as mentioned in section 4.3.3, has been established to subsidise provision of services in rural areas. The discussion in section 4.6.3 has shown that the idea of using a fund has worked well in Chile, Venezuela, Malaysia and Cote d'Ivoire and can be expected to be equally successful in South Africa.

2. Creating awareness of the importance of electronic records

It is essential for every country to institute measures for the proper management of electronic records in accordance with best practice. Any efforts in Botswana, Namibia and South Africa to tackle the management of electronic records government-wide should start with creating awareness and sensitising senior management to the importance of such records. This will create an understanding of the importance of records among senior managers and encourage them to embrace such records as vital tools for transparency and good governance, and in turn, view

electronic records management as a corporate function. Senior managers are the most important people to support programmes and they cannot support electronic records management unless they see the benefits. As part of creating awareness, national archives in Botswana and Namibia should, through their RMUs, undertake surveys to establish how senior managers in government agencies perceive electronic records and recordkeeping. From the results of these surveys, national archives should use campaigns and events such as launches to raise awareness. As respondents from Namibia suggested, creating awareness among senior government officials would help national archives and RMUs to get support and commitment in any planned developmental projects in the area of electronic records management. Once management is convinced of the importance of electronic records, then it will be committed to the effective management of such records and make it part of governments' e-strategies. The need for proper recordkeeping will then be seen as a matter to be addressed and resources will be made available.

Although the three countries are getting support from their respective governments, the funding needed by their national archives for staff, equipment for records storage and infrastructure for the preservation of archival electronic records is still limited. The national archives have to compete with other departments, such as those dealing with prioritised areas of health and drought, which always get larger resource allocations. It is, therefore, recommended that the national archives in Botswana, Namibia and South Africa use the arguments of benefits arising from good electronic records management practices and also the dangers that may result from neglecting these practices to be able to build credible cases for getting the resources they need. The management of electronic records can help organisations in saving on the cost of storage and staff time and can also contribute to efficient operation achieved through easy and quick retrievals of information. On the other hand, neglecting proper management of such records can lead to risks of increased litigation claims resulting from non-compliance with good practice. The guidelines produced by TNA on the realisation of benefits from electronic records management can be helpful in

presenting arguments for resources.[665]. This guideline is recommended for reference and use in each of the three countries

3. Policies and procedures for the management of electronic records

Policies and procedures are important in guiding the proper management of electronic records from creation to disposition. Without them, it will be difficult to manage records in an electronic environment. Yet, this study has found that such policies and procedures are non-existent in Botswana and Namibia. (see sections 5.4.1 and 5.4.2) It is recommended that the national archives in Botswana and Namibia develop national policies and procedures for the management of electronic records. Once these are developed, government agencies could use them as guidelines to develop their own policies specific to their own needs, but consistent with the national policies suggested by the national archives. The proposed policies and procedures should, where appropriate, draw from the South African model but with additional elements that may be necessary. Once developed, these policies and procedures should be followed by immediate implementation to ensure that electronic records do not continue to suffer neglect. Further, as the national archives in Botswana and Namibia work on electronic records management policies, they should link these with ICT policies and further relate them to broader national objectives. As has happened in South Africa, this will help programmes for the management of electronic records in Botswana and Namibia to get more recognition and support.

It has also emerged from this study that it is difficult to manage e-mails and monitor their use because of their informal style and the absence of policies on their management (see section 5.3). Most existing organisational e-mail policies seem to concentrate on regulated use to prevent abuse and not on the management of resulting records. This study recommends that the policies to be developed by the national archives in Botswana and Namibia should accommodate the management of e-mails. These policies should clearly state how the e-mails are to be disposed of or captured in the organisations' recordkeeping systems. Users must be made aware of

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[665] I Macfarlane, *Guidelines on the realisation of benefits from electronic records management*, (London: The National Archives, 2004).

these policies and strict measures put in place for adherence. This will ensure that e-mails are properly managed and that they fit within the organisations' decision-making process. However, it is important that the national archives work closely with other agencies such as IT departments, to ensure that the uniform policies they have on management of e-mail are observed in terms of information security and strict business use.

4. Staffing, education and professional training

Currently, staffing levels in RMUs in Botswana, Namibia and South Africa are insufficient and cannot meet the records management needs in government agencies (see Tables 5-2 to 5-4). In Namibia, for example, there are no record officers in government agencies. The agencies use control officers as the point of contact for NAN. With this situation, there is no way that NAN can effectively implement electronic records management programmes. It is, therefore, recommended that capacity be created for records management tasks so that officers recruited to these posts are made purely responsible for records management in government agencies. These officers need to be trained in records management and to work closely with NAN. This will help NAN to build the capacity it needs to plan, develop and implement a government-wide electronic records management programme. In South Africa, capacity need to be created and/or increased in government agencies for handling existing electronic records management programmes. Further, NARS has to recruit more records managers, as the sole records manager it has cannot cope with demands to provide guidance to all RMUs across the country. Although the results of this study showed that Botswana had inadequate staffing levels, Table 5-2 shows that in fact the country has more records officers than Namibia or South Africa, and if it cannot get more staffing it should strategise its use of the existing records management staff. It is recommended that the available records officers be introduced to professional development to promote a dedicated work culture. This should be done by improving on the schemes of service to enable their progression to senior positions.

The results presented in section 5.6 have shown that IT technicians in government agencies are overworked and, therefore, are not able to meet technical demands in

the agencies. This study recommends that national archives in each of the three countries should work with IT departments and units to identify IT staff dedicated to RMUs to cope as more technicians are trained to help maintain and sustain the electronic records management systems.

This study has also established that no or insufficient professional training for the management of electronic records exists in Botswana, Namibia and South Africa. As revealed in Chapters 5, respondents indicated that they had no professional training and only depended on either basic training on general records management practices or long years of experience in handling paper records. Whatever training and knowledge is available has not provided the required skills for electronic records. Archivists and records officers can no longer afford the luxury of limiting their skills to paper records management only, since they have to use computers in their day to day operations. Training is needed to address the electronic records management skill demands.

First, this study recommends that the departments offering archives and records management courses at the universities of Botswana, Namibia and South Africa need to restructure and strengthen existing courses to provide appropriate level of detail and areas of subjects in the management of electronic records. Second, short courses should be introduced at the regional level to cater for professional accreditation. In both situations, universities in each of the three countries should work closely with national archives, government agencies, the ICT industry, other training houses and professional associations to identify the needs and issues to be included in the curriculum for the kind of training to be provided in each setting. An agreed training curriculum is needed. This calls for more detailed discussions with stakeholders regarding issues to be included. Further, it is recommended that the departments offering archives and records management courses in the three countries work with departments of Computer Sciences to allow records officers to take some modules on technical issues. Basic training on recordkeeping should also be offered to ICT professionals.

Since the IRMT is planning to develop web-based training materials for professionals in the ESARBICA region as part of its distance learning programme[666], the three countries should take advantage of this opportunity and work closely with the IRMT and its network of UK and other professionals. Through this approach, educators and trainers from universities within the region would be used, combining the different perspectives and practices of archives and records management in the region. The IRMT project is expected to develop training modules in an electronic environment and case studies. Although generic training modules are to be developed, each country should follow a pathway tailored to meet its national needs. This kind of approach has been demonstrated in the E-term project reviewed in Chapter 3. However, while efforts by the IRMT have been useful and are most welcome, donor agencies should do more by sponsoring local research initiatives to be carried out by local academics and practitioners more familiar with the local environment and circumstances. This will go a long way in coming up with solutions more suitable and more relevant to the local context and will help Botswana, Namibia and South Africa come up with strategies for the management of electronic records.

Universities in the three countries should also establish working relations amongst themselves and with international institutions such as the Association of Commonwealth Universities (ACU), to share expertise and experiences. The ACU, which brings together 500 universities drawn from the commonwealth, helps the institutions build on their historical links, shared traditions and common purposes to further collaboration.[667] Botswana, Namibia and South Africa should take advantage of their membership of ACU and identify institutions facing similar challenges and with whom they can collaborate. A survey made by the ACU in 2005 has established that there are already a number of different projects and collaborations between UK and African higher institutions.[668] This provides a good opportunity for future trends

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[666] P Van Garderen, 'Evidence-based governance in electronic-age: records management capacity framework', May 2003 Progress report, p 3. The unpublished report was presented to the author of this thesis during a visit to the IRMT offices on 19th May 2004.

[667] Association of Commonwealth Universities. Available at <http://www.acu.ac.uk/cgi-bin/frameset.pl?ml=membership&sl=membership&select=members>. Accessed 19 June 2006.

[668] J Kubler, *African and UK universities partnerships*. London: Association of Commonwealth Universities, 2005. Available at <http://www.acu.ac.uk/cgi-bin/targettop.pl?ml=policyandresearch&sl=policyandresearch&select=policy&page=policyandresearch>. Accessed 19 June 2006.

in archival and records management training, research, education and from which the three countries can benefit. Further, seminars and workshops should be used for continuing education and these should be offered at both national and regional levels. The training should produce highly skilled graduates able to meet national demands who will not simply be part of the brain drain. These graduates should be paid competitive salaries in the professional market. They should be provided with tools and resources to improve on their working conditions. Further, career prospects should be developed to enable their progression to positions of responsibility. They should also be allowed to attend refresher courses, international conferences and workshops to provide them with valuable experience and help them develop an understanding of international perspectives in recordkeeping practices.

5. The role of national archives leadership

The role of national archive leadership is important in guiding the management of electronic records in government agencies. This study, however, found that the management of the national archives in Botswana and Namibia lack the visionary leadership which is necessary to influence decision-making processes that affect archives and records in government (see sections 5.7.3 and 5.7.4) In Botswana, BNARS was said to be showing no interest in the work of records officers seconded to government agencies. This has contributed to slow development in archives and records management in the two countries. It is recommended that directors of the national archives in all three countries, particularly in Botswana and Namibia, be more efficient and focused in getting the role of national archives recognised. Directors must understand that archival practice is a global practice, not only one for their countries. They should learn about perspectives, experiences, trends and technologies applicable to recordkeeping and their approach to archival practices. Most importantly, they should interact with foreign colleagues as equals.

The governments in the three countries should develop mentoring and networking schemes to be provided through leadership courses which focus on strategising and communication skills, and inspirational abilities with global awareness. This should involve personal interaction with other leaders as this will help them learn what is required in terms of global leadership in archives and records management. Further,

they should be supported through infrastructure development and provision of resources. This will help the leadership to understand technological and policy issues to be able to push forward reforms.

6. Wider-cooperation and partnerships

It has emerged from the review of electronic records management projects in Chapter 3 and also from the results of the field study in South Africa as presented in sections 5.6.3 and 6.4.1 (c) that the ICT industry is an important partner in the management of electronic records. As further discussed in Chapter 6, ICT and recordkeeping professionals need each other, as they can benefit from such a relationship through exchange of information and expertise. While this study has found that the ICT industry in Botswana and Namibia appreciates the role of recordkeeping and has no objection to working with records professionals, in practice there is no cooperation between the two professions. This is, however, essential to enable the proper management of electronic records. It is up to the records officers and archivists in the two countries to initiate the relationship and strengthen it. This study, therefore, recommends that the ICT and recordkeeping professionals establish an official relationship to ensure cooperation and partnership. This cooperation is important for national archives, as it would ensure that the ICT policies in Botswana and Namibia are linked to the management of electronic records by harmonising aspects dealing with the management of records and information. Once this partnership is established, the archives and records professionals should participate actively in ICT programmes and use existing platforms of information and ICT councils to move their agenda forward to ensure that electronic records management issues are supported by the ICT industry. Cooperative structures are vital as they can provide the necessary expertise, organisation and leadership. National archives need to be strategic partners in government and should advocate for embedding best practice in electronic recordkeeping for the management of good governance of organisations which are implementing e-governance and e-business.

7. Developing a regional framework

The discussion in Chapter 3 has shown that countries in Europe have succeeded through efforts such as the DLM-Forum in tackling some of the challenges of managing records in the electronic environment. In recognition of the achievements of the DLM-Forum, this study recommends that Botswana, Namibia and South Africa should form a multi-disciplinary forum similar to Europe's DLM, to bring together professionals in the three countries concerned with ICT development and management of records and information. This forum should encourage strategic alliances between institutions in the region needed for the management of electronic records. This will be key to harnessing the potential in the region to develop programmes for the management of electronic records.

Without doubt, Botswana, Namibia and South Africa need each other at all levels of development including archives and records management. Although each country has a unique development path to follow, broader objectives should also be initiated at the regional level to create a harmonised and coordinated approach. Clearly, the results of this study show that Botswana, Namibia and South Africa cannot be self-sufficient in ICT and records management: they need to cooperate (see Chapters 4 to 6). This study further recommends that the three countries investigate the possibility of sharing resources and provision of funding at the regional level. This would encourage wider adoption of standards in the region and from this the countries will be able to share experiences, solutions and risks

This study also recommends that ESARBICA develop a regional plan, which can be used to seek support from SADC, NEPAD and AU, and use this support as a platform for getting recognition for programmes and resources. This study has in fact shown that these institutions are committed to archives and recordkeeping in the region (see section 1.1). Steering committees responsible for archives and records management should be formed within the auspices of SADC, NEPAD and AU as part of building the capacity for electronic records management. Further, governments in Botswana, Namibia and South Africa, in the framework of SADC and NEPAD might consider the launch of programmes for the management of electronic records as part of modernisation of public administration. Such

programmes would support their national archives by increasing their financial capacity for managing electronic records. Furthermore, NEPAD and AU should revisit their recommendations (mentioned in section 5.7.5 (b)) and give attention to implementation of their agenda to help build the capacity for managing archives and records in the region.

7.3.2. Future work

Although it is hoped that this study will have contributed to the management of electronic records in Botswana, Namibia and South Africa by identifying the need for policies, procedures and human capacity development, there is a need for further research to be carried out in the future. This section will outline what is needed for further and more detailed research on unresolved issues.

1. Only those agencies that responded positively and were willing to provide data were included in this study. Further, only respondents who were delegated by their respective agencies provided the data. For a more thorough examination of recordkeeping practices in government agencies in the three countries, a future study should include more agencies and more respondents in each of the agencies.

2. A future study should look at the issue of training in detail, covering both recordkeeping professionals and technicians and provide a comprehensive model of training programmes designed after intensive discussions with relevant stakeholders including professional regional associations.

3. A future study should also cover a larger area, possibly the whole area that embraces the ESARBICA region, to establish a regional picture of recordkeeping practices in the electronic age.

4. This study used predominately qualitative data. A future study should consider the use of quantitative data to which statistical analysis may be applied. This might provide additional solutions to the problems faced in the management of electronic records in Botswana, Namibia and South Africa.

7.4. Final conclusion

This study has looked at the opportunities and challenges in the management of electronic records in Botswana, Namibia and South Africa and found that ICT has impacted positively on recordkeeping practices in each of the three countries. Without doubt the choice to study Botswana, Namibia and South Africa was thoughtful. It provided a wide and varied data base and also the opportunity for significant lessons to be learnt by each of the countries. This was realised in Botswana's NARMS project, Namibia's human resources challenges in recordkeeping and South Africa's advanced electronic records management programme.

In improving overall ICT use, more efforts are needed in rural areas which are lagging behind urban areas. Even though South Africa is ahead of Botswana and Namibia in ICT usage, all share similar experiences but in varying degrees. Specific concerns are seen to remain in the areas of policy development and training. These areas should be given priority, as they are important in implementing and sustaining effective systems for ICT development and the management of electronic records. With appropriate strategies in place, ICT can be used effectively to improve recordkeeping practices in each of the three countries. The management of electronic records has been found to be a big challenge for Botswana and Namibia, which do not have clearly laid out policies and procedures. These two countries must, therefore, challenge the leadership of their national archives to take an active lead in making the most of the opportunities of ICT and in tackling the challenges of managing electronic records.

There is still a need for concerted and coordinated efforts from governments of the three countries towards improved ICT and electronic records management. While the three countries are clearly seen to be committed to tangible results, they should incorporate experiences from the developed countries in their future endeavours. However, these experiences should be modified to address local needs in the most effective way possible. It is also clear from this study that governments in the three countries need to be partners with the private sector if they are to effectively tackle

the challenges in the management of electronic records in their countries. Unless this is done, there will be little change.

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APPENDIX A

Questionnaire A

BACKGROUND TO ICT DEVELOPMENT IN BOTSWANA, NAMIBIA AND SOUTH AFRICA

Personal Details:

Please state your occupation: _____

How long have you been in that occupation? _____

Name of employer: _____

How long have you worked for that employer? _____

ICT issues and government policy on ICT

1. What attempts have been made so far to implement and coordinate development of ICT initiatives in government?

_____

_____

2. To what extent does the use of ICT in government agencies support the delivery of quality public services?

_____

_____

3. In which areas of the country is the use of ICT facilities and services (e.g. Internet, computers and phones) available?

_____

_____

4. What factors are likely to restrict access to technology especially in rural areas?

_____

5. What is being done to give access to poor and rural communities?

6. How many cellular operators have been licensed to operate in the country? What significant role are they playing in the development of the ICT industry in the country?

7. What is the extent of the private sector's role in promoting ICT use in the country (by both government and the people)?

Challenges to ICT development

8. What is being done to ensure that dial up and telephone charges do not pose a hindrance to ICT development?

9. What ICT training programmes are available for employee competence, for example technicians, web managers and computer programmers?

10. Are there any collaborative training projects, for example with non-governmental organisations, the private sector and neighbouring countries?

_____

_____

11. How will the country ensure that skilled ICT workers do not emigrate in search of better opportunities in other countries?

_____

_____

_____

END!

Thank you for taking time from your busy schedule to complete this questionnaire.

APPENDIX B

Questionnaire B

IMPACT OF ICT DEVELOPMENT ON RECORDKEEPING PRACTICES IN BOTSWANA, NAMIBIA AND SOUTH AFRICA

Personal Details:

Country of Residence:_____

Please state your occupation: _____

How long have you been in that occupation? _____

Name of Employer: _____

Impact of ICT on recordkeeping practices *(please note that "electronic records" as used in this questionnaire means public records that have been generated and stored in electronic form)*

a) Record creation

1. Are ICT infrastructures (e.g. computers) used in your organisation to support electronic recordkeeping? If so, how?

   _____

   _____

2. Are there any policies and procedures used to support creation and management of electronic records in your work? If so, what are they?

   _____

   _____

3. Has the use of ICT improved records and information management services in your organisation? If so, how?

_____

_____

4. Has ICT affected the traditional recordkeeping practices in your organisation? If so, how?

_____

_____

5. Is any training provided to staff (at all levels e.g. administrators, technicians) for the management of electronic records? If so, what?

_____

_____

6. Who provides the training?

_____

_____

7. Is the national archive involved in the design of the record creating process in your organisation? If so, in what way?

_____

_____

8. Taking into account fast developments in ICT, how will your organisation meet the future demands for managing electronic records?

_____

_____

b) *Relations with the national archives*

9. How do you view the role of the national archives with regard to the management of electronic records in government agencies?

_____

10. Is there a policy in place for the transfer of electronic records to the national archives? If so, what is it?

11. Do you have any suggestions for improving the transfer of electronic records to the national archives?

c) *Legal context*

12. What issues relate to the legal status and evidential values of electronic records? (*"evidential values" is used here to mean those values of records that can be used as proof or to establish truth or falsehood e.g. in a court of law*)

13. Are the challenges of reliability and authenticity in electronic records being addressed in your organisation? If so, how? (*"reliability and authenticity" are used here to mean the ability of the record to be trusted as genuine and original*)

END!

Thank you for taking time from your busy schedule to complete this questionnaire.

APPENDIX C

Questionnaire C

NATIONAL ARCHIVES' STRATEGIES AND ROLE OF LEGISLATION IN MANAGING ELECTORNIC RECORDS IN BOTSWANA, NAMIBIA AND SOUTH AFRICA

Personal Details:

Country of Residence:_____

Please state your occupation:_____

How long have you been in that occupation? _____

Name of Employer: _____

The role of the national archives

a) Policies

1. What policies and strategies does the national archive have in place to respond to the challenges of managing electronic records?

   _____

   _____

2. Does it have to change its conceptual thinking about records and information in view of the recent developments in ICT?

   _____

   _____

3. Have electronic records management guidance and procedures been instituted by the national archives for government agencies? If so, what are they? How effective are they?

_____

_____

4. Could you identify organisations which could be (or are already partners) in accomplishing the strategies for managing electronic records?

_____

_____

5. Which alliances are in place and which ones do you think are missing but are necessary or could be useful?

_____

_____

_____

b) Scope of the archives act and other legislations

6. To what extent does the existing archival legislation cover electronic records?

_____

_____

_____

7. What improvements do you suggest on other existing laws that may affect the management of, or access to, electronic records?

_____

_____

8. Has legislation specifically relating to electronic records management been planned or introduced in your country?

_____

_____

c) *Organisational structure, national archives activities and competencies*

9. Has the introduction of ICT redefined the role of the archivist in your country? If so, how?

10. What organisational changes are necessary in the national archives to support management of electronic records?

11. Many people think that the national archives should be involved in the whole life cycle of records (the records continuum). If you agree, what steps are you taking in your approach to this?

12. What competencies (e.g. skills and resources) does the national archive have to fulfil its tasks relating to electronic records? Are these competencies sufficient?

13. Will the national archives be involved in the design of automated systems for use in government agencies? If so, how?

14. Will the government make resources available to the national archives for electronic records management?

_____

_____

_____

15. How is professional and vocational training in this field being provided?

_____

_____

16. How will long-term preservation requirements of electronic records be addressed?

_____

_____

17. How efficient are the manual systems in the management of records?

_____

_____

18. How are they being reconciled with electronic systems?

_____

_____

19. How will an integrated system for both paper and electronic records be implemented?

_____

_____

20. Do staff of the national archives have access to the Internet? Do they have e mail accounts?

_____

_____

21. Does the national archive currently provide public access to access electronic records? If so, are they accessed from outside, for example at school and community telecentres?

_____

_____

22. How do you keep up to date with developments in electronic records management in other parts of the world? Are you drawing any lessons on experiences from elsewhere?

_____

_____

23. Do you have any representation in the ICA committee on automation?

_____

_____

24. If so, how have you benefited from this?

_____

_____

25. What are the future prospects for managing electronic records in your country?

_____

_____

END!

Thank you for taking time from your busy schedule to complete this

questionnaire.

APPENDIX D

FOLLOW UP INTERVIEW QUESTIONS – PERSONAL INTERVIEW SCHEDULE

A. Background to ICT development in Botswana, Namibia and South Africa

1. ICT Issues & Government Policy on ICT

a) What nation-wide policies are in place to support ICT development?

b) To what extent does the use of ICT in government agencies support the delivery of quality public services?

c) Does the country have a national strategy on ICT?

d) If it has, what aspects does it cover?

e) Which coordinated national programmes or public sector reforms promote ICTs?

f) How does the government long term "Vision 2016" tie into the overall development of ICT in the country? (Botswana).

g) How much do you think the vision has achieved so far? (Botswana)

h) What attempts are being made so far to implement and coordinate development of ICT initiatives in government?

i) What factors are likely to restrict access to technology especially in rural areas?

j) What is being done to give access to poor and rural communities?

k) How many cellular operators have been licensed to operate in the country? Are they playing any significant role in ICT development in the country?

l) What is the role of the Government Computer Bureau in ICT development? (Botswana)

m) How is the new Ministry of Communication, Science and Technology intended to develop the ICT industry? (Botswana)

n) What partnerships and collaborations are available in the development of ICT?

f) Is any training provided to staff (at all levels e.g. administrators, technicians) for the management of electronic records? If so, what?

g) Who provides the training?

h) Is the national archives involved in the design of the recordkeeping systems in your organisation? If so, in what way?

i) Taking into account fast developments in ICT, how will your organisation meet the future demands for the management of electronic records?

3.1 Relations with the national archives

j) How do you view the role of the national archives to the management of electronic records in creating agencies?

k) Do you have any suggestions for improving the transfer of electronic records to the national archives?

l) What ideas do you have for the transfer of electronic records to the national archives?

3.2 Working with the national archives

m) What ideas do you have for the transfer of electronic records to the national archives?

3.3 Legal context

n) What legal demands concerning official documents does your organisation (have to) comply with?

o) What issues relate to the legal status and evidential values of electronic records?

p) Are the challenges of reliability and authenticity in electronic records being addressed in your organisation? If so, how?

4. The role of the national archives

4.1 Policies

a) What policies and strategies does the national archives have in place to respond to the challenges of managing electronic records?

b) Does it have to change its conceptual thinking about records and information in view of the recent developments in ICT?

c) Have electronic records management guidance and procedures been instituted by the national archives for government agencies? If so, what are they? How effective have they been?

d) Could you identify organisations which could be (or are already partners) in accomplishing the strategies for managing electronic records?

e) Which alliances are in place and which ones are missing but are necessary or could be useful?

4.2 Scope of the Archives Act and other legislation

f) To what extent does the existing archival legislation cover electronic records?

g) What improvements do you suggest on other existing laws that may affect the management of, or access to electronic records?

h) Has legislation specifically relating to electronic records management been planned or introduced in your country? If so, what?

4.3 Organisational structure, national archives activities and competencies

i) Has the introduction of ICT redefined the role of the archivist in your country? If so, how?

j) What organisational changes are necessary in the national archives to support the management of electronic records?

k) Many people think that the national archives should be involved in the whole life-cycle of records (records continuum). If you agree, what steps are you taking in your approach to this?

l) What competencies (e.g. skills and resources) does the national archive have to fulfil its tasks relating to electronic records? Are these competencies sufficient?

m) Will the national archives be involved in the design of computerised systems for use in government agencies? If so, how?

n) Will the government make resources available to the national archives for electronic records management?

o) How is professional and vocational training in this field being provided?

p) How will long-term preservation requirements of electronic records be addressed?

q) How efficient are the manual systems?

r) How are they being reconciled with electronic systems?

s) How will an integrated system be implemented?

t) Do staff of the national archives have access to the Internet? How about e-mail accounts?

u) Does the national archives currently provide access to electronic records? If so, can it access them from outside, for example at school and community telecentres?

v) How do you keep up-to-date with developments in electronic records in other parts of the world? Are you drawing any lessons on experiences from elsewhere?

w) Do you have any representation in the ICA committee on Automation?

x) If so, how have you benefited from this?

y) What are the future prospects for managing electronic records in your country?

Appendix E

List of respondents to questionnaires, discussions and interviews

Questionnaire responses and discussions

<u>Botswana</u>

Questionnaire A: ICT issues and government policy on ICT

Advisor ICT Strategy, Government Computer Bureau, September, 2003.

Chief Systems Analyst, Government Computer Bureau, July 2003.

Director, Market Development and Analysis, Botswana Telecommunications Authority, July 2003.

Marketer, Botswana Telecommunications Authority, July 2003.

Senior Manager-Engineering, Botswana Telecommunications Authority, July 2003.

Questionnaire B: Impact of ICT on recordkeeping practices

IT Manager, Botswana National Archives and Records Service, July 2003.

Records Managers, Teaching Service Management, July 2003.

Record Manager, Botswana National Archives and Records Service, July 2003.

Record Manager, Attorney General's Chambers, July 2003.

Record Manager, Ministry of Local Government, July 2003.

Records Manager, Ministry of Finance and Development Planning, March 2004.

Questionnaire C: Role of the national archives in managing electronic records

National Archivist, Botswana National Archives and Records Service, July 2003.

Archivist, Botswana National Archives and Records Service, July 2003.

Assistant Archivist, Botswana National Archives and Records Service, July 2003.

Principal Archivists, National Archives of South Africa, July 2003.

Interview responses

Botswana

Theme 1: ICT issues and government policy on ICT

Government Chief Systems Analyst, Department of Information Technology, 23rd September 200404

Senior Market Analyst, Botswana Telecommunications Authority, 10th September 2004

Manager: Broadcasting and Regulation, Botswana Telecommunications Authority, 10th September 2004.

Theme 2: Impact of ICT on recordkeeping practices

Records Manager, Ministry of Finance, 13th August 2004.

Principal Records Officer, Department of Public Service Management, 15th July 2004.

Principal Records Officer, Ministry of Health, 14th July 2004.

IT technician, Ministry of Health, 16th July 2004.

IT technician, Ministry of Health, 16th July 2004.

Deputy Attorney General: Civil and Prosecution, Office of Attorney General, 29th September 2004.

The Accountant General, Department of Accountant General, 28th September 2004.

Theme 3: Role of the national archives in managing electronic records

Senior Systems Analyst, Botswana National Archives and Records Service, 13th July 2004.

Archivist, Botswana National Archives and Records Service, 13 July 2004.

Namibia

Theme 1: ICT issues and government policy on ICT

Chief Engineering Technician, Namibia Communications Commission, 18 August
2004.

Deputy Director: Public Service Information Technology Management, 20th August
2004.

Theme 2: Impact of ICT on recordkeeping practices

Under Secretary: Administration and IT Management, Office of the Prime Minister,
18th August 2004.

Deputy Director: Public Service Information Technology Management, 20th August
2004.

Records Manager, St. Mary Hospital, 19th August 2004.

Records Officer, Office of the Ombudsman 18th August 2004.

Analyst Programmer, Ministry of Finance, 18th August 2004.

Theme 3: Role of national archives in managing electronic records

Acting Director, National Archives of Namibia, 16th August 2004.

Archives Assistant, National Archives of Namibia, 16th August 2004.

South Africa

Theme 1: ICT issues and government policy on ICT

General Manager: Telecommunications, Department of Communications, 3rd August
2004.

Systems Analyst: State Information Technology Agency, 8th October 2004.

Theme 2: Impact of ICT recordkeeping practices

Records Manager, Department of Justice, 30th July 2004.

Records Officer, Department of Public Enterprise, 3rd August 2004.

Records Officer, Department of Public Enterprise, 3rd August 2004.

Systems Analyst / Archivist, South African History Archive, 4th August 2004.

Theme 3: Role of the national archives in managing electronic records

Records Management Archivist, National Archives and Records Service, 29th July 2004.

Deputy Director, National Archives and Records Service, 29th July 2004.

Director, South African History Archive, 29th July 2004.