

PRESERVATION OF ELECTRONIC RECORDS

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Summary

The Israel State Archives (henceforth – the Archives) is the archives of the State of Israel, and is a department within the Prime Minister's Office. The deposit of archival material in the State Archives is for perpetuity (subject to limitations that the State Archivist is authorized to stipulate in the regulations). Electronic records are archival material for all intents and purposes, and their care and disposal must accord with the Archives Law, 1955, and the regulations issued under its power.

Although in the 1990s there was a technological revolution in information sciences, and most documents are now created and managed in computerized systems, the State Archives has not published guidelines regarding the preservation of electronic records, as necessitated by their special characteristics. The State Comptroller's Office revealed that since 1992, when the State Archivist stipulated in the Archive's Manual for the Disposal of Archival Material that disposal of electronic records must be carried out in accordance with the law and regulations, he has not set the necessary detailed guidelines.

Given the lack of guidelines, most government ministries have not transferred to the Archives any computerized archival material (records, documents and databases created and administered in computerized systems, such as the Population Registry and the Companies Registry), but have kept them in their own possession. The storing of this material in the ministries cannot be considered preservation for the future, since many do not have the capability of locating and retrieving a document after a certain period of time. Also in ministries in which records are kept on magnetic media, it will not be possible to peruse them if the hardware and the software enabling access are not maintained. In practice, many ministries destroy material when it is no longer necessary for their current needs.

During the past decade the State Archives, government ministries, and the Civil Service Commission, have established committees to deal with various aspects of the management of electronic records and procedures for their preservation. In practice, nothing has been done regarding the matter, and no solutions have been provided for the problems raised by the committees.

The preservation of audio-visual materials raises a similar problem, in that all filmed material should be converted to digital media and upgraded regularly, in order to ensure proper preservation. Due to budgetary limitations, the State Archivist has not undertaken such actions, and has not even prepared a computerized catalogue of all the audio-visual material in his possession.

In November 2002, a commercial company offered to preserve all the audio-visual material in the Archives and in public archives, at its expense, with no direct outlay from public funds. In exchange for this service, the company requested the production and broadcasting rights of documentary films that would be produced based on the material. To the end of the audit period in August 2003, a contractual agreement had not yet been approved.

In 2001-2002, the government decided on the implementation of national projects in the area of information technology. Among other things, the government decided to assign the Chief Scientist in the Ministry of Science to prepare a detailed proposal for establishing a national [computerized] network for purposes of research, education and culture: to implement "Project TAMAR",¹ designed to enable citizens and civil servants to file forms using electronic signature; to implement "Project MERKAVA,"² a government-wide computerized system for the efficient management of state assets and resources. The audit found that the State Archivist was not included in the process of defining priorities towards the carrying out of these projects.

¹ TAMAR – Hebrew acronym for "Public Key Infrastructure."

² MERKAVA – Hebrew acronym for "lateral computerization system in government ministries." This is a project for developing a comprehensive intra-governmental system, whose aim is the creation of a uniform computerized infrastructure for government bodies.



1. The State Archives (henceforth: the Archives) is the repository for archival material of the State of Israel, and operates under the Archives Law, 5715-1955 (henceforth – the Law, or the Archives Law) and the regulations enacted in accordance with it. According to the Law: "All archival material of state institutions which preceded the establishment of the State of Israel, and all archival material of any of the institutions of the State, or of any a local authority, which has ceased to exist ... and such other material of any of the institutions of the State or of any local authority as is no longer required for use and is not permitted to destroy under the Regulations, shall be deposited in the State Archives." "The deposit of archival material in the State Archives is permanent."

The Law further states that, "Archival material shall not be destroyed in any of the institutions of the State or in a local authority otherwise than in accordance with the regulations." The Archives Regulations (Disposal of Archival Material in State Institutions and Local Authorities), 5746–1986 (henceforth: the Regulations) stipulate rules for the disposal of routine documents, as well as rules for the disposal of archival material.

According to the Law, archival material means "any writing on paper or on other material and any sketch, diagram, map, drawing, label, file, photograph, film, gramophone record and the like – (a) which are in the possession of any of the institutions of the State, or a local authority, except material which has no source value; (b) which are situated anywhere and which are relevant to the study of the past, the people, the State or society or associated with the memory or activities of persons of note." Electronic records also fall under the definition of archival material, and therefore must be treated like any other archival material.

In addition to the State Archives, there are some 50 other public archives. The Law defines "public archive" as "archives owned or managed by a body not having as its object the achievement of profits, which are operated in accordance with rules prescribed by regulations and which have been approved by the Government, by notice published in *Reshumot* [the Official Gazette of the Israel Government], as public archives."

2. The State Archives is a unit in the Prime Minister's Office. The director of the Archives is the State Archivist. According to the Law, "The State Archivist shall

supervise the modes of operation of the archives in the institutions of the State, and in the local authorities, and the preservation and destruction of archival material therein." The State Archivist is appointed by the government in consultation with the "Higher Archives Council," established by the Law. The budget of the Archives for 2003 was NIS 19.504 million and for 2002 - NIS 19.181 million; the actual expenditure for 2001 was NIS 20.643 million. Some 60 employees work at the Archives, 30 of them in staff positions and the rest are employees of manpower companies and are engaged in temporary work.

3. In accordance with the Law and Regulations, the State Archivist published guidelines for the maintenance, preservation and disposal of archival material (henceforth – the guidelines) for administrative units in state institutions. The guidelines were intended to streamline processes for the disposal of archival material in state institutions, and were last updated in 2002. The Archivist also published a "Manual for the Disposal of Archival Material" that stipulates arrangements and procedures that will assist state institutions to locate valueless archival material for disposal, and interprets and complements the Law, Regulations and guidelines (henceforth - the Manual).

The Manual, published in 1992, explicitly dealt with electronic records for the first time. In the chapter "Archival Material on Magnetic Files," the Archivist wrote, that, "the proliferation of computer use leads to the creation of much archival material that is recorded on magnetic media (films, hard disks, floppy disks, etc.). According to the Archives Law, magnetic records – no matter the medium – are archival material for all intents and purposes. The erasure of a record from a magnetic file is similar to the disposal of regular files or data-cards. Just as the disposal of printed matter must be reported to the Archivist or requires his permission, the erasure of computer records must be treated similarly." Therefore, disposal of electronic records must be carried out in accordance with provisions of the Law and the Regulations.

In the past, the State Comptroller has published audit findings on the State Archives and on topics relating to archiving, and recently - in a report regarding "preservation of maps and aerial photographs."³

³ Annual Report 51b, State Comptroller (2001), p. 295 (Heb.)

From February through August 2003, the State Comptroller's Office examined, intermittently, the arrangements in the Prime Minister's Office and in the State Archivist for the archiving of electronic records created in government institutions. The inspection took place in the State Archives in Jerusalem and at the Prime Minister's Office. Supplementary inspections were performed in the Finance Ministry and in the Israel Film Service.

Management of Electronic Records

Guidelines for the Management of Electronic Records

1. Electronic records are essentially different in nature from printed records. Due to the fact that electronic records have particular characteristics, special guidelines are required for their preservation. The dynamic technological changes and the growing extent of the creation of electronic records in state institutions require periodic examination of the guidelines and their adjustment to the changes that have occurred.

The characteristics of electronic records are as follows:

(a) Electronic records are records that can be read only by means of a computer. Due to the rapid changes in computer technology, archival material preserved on magnetic media of the last generation cannot be read again or retrieved without being updated to the new technology.

(b) The meta-data, the information regarding computerized data, is an essential tool for the preservation and retrieval of electronic records. The information regarding electronic records must include, *inter alia*: operating instructions for the software; internal codes; a mapping of the files and libraries where they are located; creation of links between documents. When software for retrieval and appropriate hardware are lacking, electronic records cannot be accessed and retrieved, even if the medium on which they are recorded is preserved (i.e. hard disks, CDs and floppy disks).

(c) It is extremely difficult to monitor the completeness or reliability of computerized information, since at every stage of work the information can be modified without leaving a trace. A record can be destroyed when it is no longer needed for current work purposes, in a manner that cannot be monitored; preservation of the final document alone makes it impossible to trace its evolution.

(d) The separation of archival material that must be stored and that which may be disposed of, is more complex with electronic records than in the case of printed records. Distinguishing material in electronic records requires expertise.

(e) Preservation of the magnetic medium is likely to require special environmental conditions in order to prevent quality damage and for the preservation of characters and symbols. For example, careful maintenance of appropriate heat and humidity, protection from dust and magnetic fields, and transfer from CDs, floppy disks, and film whose lifespan is limited.

(f) Since the introduction of electronic mail (e-mail), an additional aspect has been added to the problem of preserving computerized information. Documents are transferred from one computer to another via e-mail, including documents that include decisions, instructions and considerations, and are therefore eligible to be considered as archival material.

(g) The administrators of records in government ministries must be knowledgeable in electronic records management and information technology, in addition to their professional training.

The State Archivist, in cooperation with government institutions, must evaluate and determine how to manage, upgrade and preserve electronic records so that essential archival material will not be lost in the present, and for historical research in the future. Guidelines must be published for government ministries in the following areas: conditions for physical storage of material; a standard structure for electronic records and standardized software for document management, such that not only the creator of the file will know how to locate it, but that in the future as well, it will be possible to access the electronic records; rules for the preservation, archiving and upgrading of electronic records and electronic mail. In addition, those involved in this area must be instructed so as to ensure that the managers of records will be knowledgeable in the area of information technology, in addition to their knowledge of archiving.

2. It became apparent to the State Comptroller's Office, that since 1992 the State Archivist neither expanded nor updated the chapter in the Manual

dealing with electronic records. Aside from stipulating, as noted, that the disposal of electronic records must be done in accordance with the provisions of the Law and Regulations, the State Archivist did not determine in his guidelines nor in the recommendations, the procedures regarding the manner, format, and type of materials appropriate for the deposit of electronic records, if defined as archival material appropriate for archiving; the State Archivist also did not determine the need to use records management software, and provided no guidelines for the disposal of electronic records.

Given the lack of such guidelines, most government ministries have not deposited any computerized archival material with the State Archives, but rather, have kept them in their own possession. Storing the archival material in the ministries cannot be considered as preservation for the future, since many ministries do not use document management programs, and therefore, are unable to locate and retrieve a document after a certain period of time. Even in ministries in which the magnetic medium containing the records has been preserved, it will not be possible to view the records if the hardware and software that enable access and retrieval have not been preserved, or if the quality of the medium has not been maintained. Moreover, many ministries dispose of material when it is no longer necessary for their current needs.

The State Archivist informed the State Comptroller's Office that "there has been a blunder of the first degree, and there is no answer to the question as to what happens with all the computerized material in the State"; "Since the 1970s, the State has been producing computerized material, but to date, not even a single diskette has been deposited with the Archives, and certainly not a hard disk"; "Given the lack of uniform standards and regulations, every ministry has a number of computerized environments. The ministry may or may not preserve material, according to as it sees fit"; "If there were a standard, there would not be tens and hundreds of different kinds of programs in the ministries, and it would be possible to avail ourselves of a company's upgrade services..."; "Every organization has tremendous knowledge that is not used because there is no access to it"; "The State Archives has no system that can upgrade the material from one technological generation to another, and if they do not act now, it could all become 'dead' material (as has been the fate of material from the 1970s)."

These matters are very grave, particularly in light of the importance of preserving the material in the Archives, as the State Archivist described in his explanation of the master plan:⁴ "The Archives is the highest-ranking of collective 'memory agents' in society, the main infrastructure for researching the past and for the creation of the totality of its representations, a 'laboratory' of its identity and memory and one of the most important socialization⁵ agents that functions within it. So is the case in almost every society based on democratic foundations and self-awareness, particularly in a society in which present and future are intertwined to such a great extent with a promise that is rooted in the past."

Committees that Discussed the Preservation of Electronic Records

Committees During the Years 1994-2001

1. In Annual Report 44⁶ the State Comptroller determined that "the State Archives has not provided sufficient guidelines for the government institutions regarding the handling of computerized material and electronic mail, and has not prepared itself for the intake and handling of archival material of this type." Following the report's findings, the State Archivist at the time appointed a staff team for the management of electronic records.

In 1996, the staff team recommended that the Archivist hire an external consultant on the topic of the management of electronic records. In addition, it was proposed that the Archivist specify standards, procedures and guidelines for the government ministries, in light of technological changes, in order "to assure the reliability, integrity, preservation and accessibility of the records collected through electronic means." Appended to this proposal was a suggested version for regulations based on a translation of the regulations of the United States National Archives. The State Archivist at the time did not take steps pursuant to the proposal, and did not publish guidelines for the government ministries that might advance the topic.

⁴ In July 2002, the State Archivist published a multi-year master plan for developing the archive system in Israel. See below.

⁵ Socialization – the process of fashioning an individual's characteristics and behavior patterns by his/her social environment and the inculcation of its values and rules, a process that makes the individual part of society.

⁶ Annual Report 44 of the State Comptroller (1994), p. 109 (Heb.)

2. In 1997, the Minister of Justice established the "Committee to Examine the Amendment of the 'Evidence Regulations (Photographic Copies), 5730-1969'," for the purpose of recommending suitable legislation for the approval of new technologies in the realm of electronic archiving. The committee published its conclusions in November of that year and stated that, "the archival regulations do not permit the use of electronic archival systems, but only old technologies. Many organizations in the country have taken an interest in the results of the committee's work since they are interested in initiating projects involving computerized archival systems."

Regarding this matter, the committee wrote: "In our opinion, electronic archival technologies cannot be implemented in a government institution as stated, unless a similar principle to that determined in the proposed regulations is also stipulated in the context of the Archives Regulations [emphasis in the original]... The question must be examined whether the principle stipulated in the Archives Law, according to which everything must be preserved and only that which is permitted by the regulations can be disposed of, is compatible with the developments in information technologies. Literal interpretation of this article could lead to an information 'explosion' and the collapse of systems in the public service."

This indicates that already in 1997, the Ministry of Justice had pointed out the need to issue new, updated regulations regarding electronic archives in the context of the Archives Regulations

3. In March 1998 the government decided that, "every government ministry shall prepare an operational plan for the handling of ministry records, in accordance with the State Archivist's guidelines, which shall include provisions... [regarding] the management of the ministry's electronic records, and their relation to printed records." As stated, the State Archivist did not publish guidelines regarding electronic records management.

4. In 2000, the Ministry of Finance sent a consultant on its behalf to the State Archives. Representatives of the Archives and the consultant prepared a document whose purpose was to formulate and implement "procedures for the creation, preservation, [and] disposal of electronic material in the various government

ministries." The document stated, *inter alia*, that "a special unit whose task is the handling of electronic records should be established in the State Archives. This unit will include computer personnel whose function is to create the most efficient standards for the transfer of electronic material to the Archives, its preservation and accessibility to the user."

To the end of the audit period in August 2003, no unit whose role is the handling of electronic records was established in the Archives.

In its response of December 2003, the Prime Minister's Office informed the State Comptroller's Office that in September 2003 two tender notices for filling central functions in the computer system of the State Archives - the director of information systems and the director of technologies - were published.

5. At the beginning of 2001, a committee was formed in the State Archives with the participation of consultants from the Ministry of Finance in order to determine the basic requirements of the ministries regarding the management and preservation of electronic records. The committee prepared a document that included the basic requirements for electronic records management, and decided to run an experimental program in a number of ministries. The purpose was to examine whether by maintaining those basic standards, it would be possible to transfer electronic material to the State Archives.

At the end of the audit period, two years after the decision had been made, the State Archivist had not activated the experimental program; according to the Ministry of Finance, this was because it had not been budgeted.

Committees During the Years 2002-2003

1. In September 2001, the present State Archivist was appointed.⁷ Immediately upon assuming his position, he established 13 committees that included employees of the State Archives and external experts, in order to deal with the rules of preservation

⁷ The archivist in office at the time of the audit.

and disposal. The minutes of the committee discussions indicate that the topic of computerization in general, and specifically the matter of electronic records, was raised repeatedly.

The committees met for the last time in July 2002, but their conclusions have not been formulated and solutions for the problems discussed have not yet been raised. According to the State Archivist, he instructed the committees to cease working until he would prepare a written summary of their work to that stage, including conclusions, examples and proposals to begin handling the issues. To the end of the audit period, the State Archivist had not finished writing the conclusions, and although the topic of electronic material and its preservation was raised numerously in the discussions of the various committees, the State Archivist did not publish guidelines for the management and preservation of electronic records.

2. In April 2002, the Finance Ministry wrote to the State Archivist that solutions for appropriate documentation in keeping with "technological advances" must be found. The Ministry presented an example from a solution implemented in the Finance Ministry itself: any electronic correspondence filed "in the organizational documents pool," is defined as "a source document not to permitted to be erased," and is stored "in the digital archives over a period of time."

The Finance Ministry informed the State Comptroller's Office that any government ministry was eligible to receive the software, developed in the Finance Ministry for the management of documents, without charge. Many government ministries chose not to work with this software since it required them to replace the extant infrastructure in their ministry.

Job Definition for Those Responsible for Records in Government

The Civil Service Regulations stipulate that the person responsible for records in a ministry shall prepare mandatory procedures for records management in the units under his supervision, shall serve as coordinator of the committee for the disposal of archival material, and shall take steps to dispose of material that no longer needs to be maintained."

In March 1998, the Assistant Commissioner of the Civil Service Commission appointed a professional committee to examine the system for records management

in government institutions, *inter alia*, in order to respond to the technological revolution in this area. In May 2000, the committee submitted the report to the Civil Service Commissioner. The committee stated, among other things, that "appropriate preparation of the government ministries and receiving assistance from professionals in the computerization and information technology fields requires the training of those responsible for records management in understanding the technologies, and imparting to them the appropriate information.

In February 2001, the State Archivist informed the Civil Service Commissioner that "to date, we have unfortunately received no response to the report of the committee" appointed by the acting Civil Service Commissioner. On July 7, 2002 the employee responsible for records management in the Finance Ministry wrote to the Archivist that "the conclusions and recommendations of the committee were placed on the table of the Commission two years ago, but since then, they have not been implemented for various and sundry reasons."

It was found that to the end of the audit period, no solution had been provided for the necessary preparations of government ministries in the area of information systems and electronic archiving.

In December 2003, the Civil Service Commission informed the State Comptroller's Office that in May 2003 it had prepared, in conjunction with the State Archivist, "a model for the functioning of records administrators, with a special emphasis on computerization and information systems...A job description was prepared that raised the level of the position from coordinator to director of records management on the social science academic scale... However, [as far as] implementation of the model... and the broad-scale ramifications for hundreds of other employees, it remains a fact that due to budgetary constraints, its implementation is difficult."

In December 2003, the Prime Minister's Office wrote in response to the State Comptroller's Office that "the various government ministries work with their own computerization systems, without any coordination with the State Archives, and they do not adapt the manner in which records are managed in the various ministries as necessitated by the computerized systems used in their offices, in an era of electronic archiving. For this reason the State Archivist contacted the Civil Service Commission for the

purpose of creating updated job definitions relating to government records preservation. At present, the process of formulating a model for the definition of the functions in their new format is being completed. After the Commission's approval, the model will be defined as a new obligatory standard [emphasis in original] for government ministries.

Development of a Computerized Information System for the Management of the State Archives

1. Until 1998, the State Archives had no computerized system adapted to its needs. Most of the material (paperwork and files) sent to the Archives by government ministries, was recorded by the Archives and filed manually, and in order to retrieve it, employees were forced to review the handwritten lists and to locate the container in which it was stored. In 1999, the new computerized system, developed expressly for the State Archives by an external firm, was completed. The system encompasses all Archive activities, and includes the recording of significant information regarding items in the Archives, and the location of information via a text retrieval system.

There are four levels of intake of both printed and electronic material from the ministries in the computerized system: Level A - basic intake for the creation of a database; Level B - preparation of a synopsis from the material located in the container and its important documents; Level C - computerized scanning of documents in the container; Level D - intake of a computerized file from the government ministry directly into the computerized archiving system.

Some 85% of material in the Archives is received only at the first, lowest level. The ministries attaches a "list of deposit" to the material sent to the Archives (list of files, descriptions, number, and any other data that may assist the Archives in the reception process), but the deposit lists are not computerized, and the Archives must type them into the computerized system. Only some 15% of the material that reaches the Archives is taken at the second level. Until the end of the audit period, only 700,000 documents (from tens of millions) were taken in at the third level; they were scanned into the computer as part of an experiment performed in the Archives in 2003.

In the Archives, there is no intake of electronic records - the fourth level. As a result, during the last decades during which the state has been operating

computerized information systems and creating records some of which are preserved only in computerized data files, they are not being deposited in the State Archives. The significance of this is that if one wishes to review, for example, the Population Registry of 2001 or 2002, or the Companies' Registry of 2001, or to view the statistics of the last census, one cannot do so at the State Archives.

2. The State Archives is a unit within the Prime Minister's Office, and the director-general of the Prime Minister's Office (henceforth: the director-general) is in charge of it as with other units of the Office. In May 2002, the State Archivist wrote to the director-general that he was working on a "multi-year program for developing and upgrading the Israeli archives system," and requested his comments and approval to continue. The Archivist stated that his goals were to completely computerize the state and public archives of Israel, and to establish a mandatory national policy regarding preservation of computerized documentation; to assure upgrading of computerized documentation from one technological generation to the next, and to assure, "among other things, the conversion of the huge state investments in the archives system of each ministry, to electronic archives – computerized archives".

3. In July 2002, the State Archivist published the multi-year plan he had prepared for developing an archiving system in Israel (henceforth – master plan). The master plan comprises four main points: (a) "records management" – national standardization and the updating of legislation in the area of records management in government ministries and in the State Archives, the establishment of a computerized system for managing and preserving electronic records, and the establishment of an internet network to provide access to information; (b) "the establishment of an archival network in Israel" – establishment of a centralized operational system for all public archives, and making it accessible to the public through the internet; (c) "the establishment of a national archiving and preservation center in the Negev" – establishment of five regional centers for the reception and handling of material prior to its being archived, and the establishment of a central archives in the Negev for the permanent preservation of printed records; (d) "the establishment of a permanent home for the State Archives" – establishing a National Memory Pavilion and a permanent home for the State Archives and the Central Archives of the History of the Jewish People.

4. In August of the same year, the Archivist asked the director-general, *inter alia*, to extend the engagement of a private company that had been the computerization consultant for the Archives, given the lack of an information systems unit in the Archives; to establish a information systems unit in the Archives with its own director; to conduct a thorough review of the computerization needs of the Archives. In December of that same year, the Archivist sent the director-general a "draft for government decision" regarding the master plan for establishing an archives system in Israel. He noted that his plan had earned the support of the Prime Minister's Office, the Ministry of Finance, and the Ministry of Justice, and he informed the director-general that the Assistant Accountant General had approved the structure of the proposed unit. The Archivist attached a detailed work plan to his letter.

5. In March 2003, The Archivist requested the Prime Minister's Office to budget the "information technology and communications projects in the State Archives." The document, which he prepared together with the director of the Information Technologies Division in the Prime Minister's Office, includes the budgetary requirements for 2003-2005, totaling NIS 22.1 million, for implementing the information systems project of the master plan. This sum also includes the cost of building technological infrastructures, development of methodologies for the management of electronic records, establishment of an Israeli archives network, and the scanning of ten million documents.

The director-general did not respond to even one of the Archivist's appeals. Moreover, the information systems budget of the Prime Minister's Office grew from NIS 1.8 million in 2002 to some NIS 13 million in 2003, while the budget for information systems in the State Archives grew in said period from NIS 1.1 million to only 1.3 million. Due to the lack of assistance from the director-general, to the end of the audit period, there has been no progress in implementation of the master plan.

5. In June 2003, the Archivist wrote to the Prime Minister's Office that there was a gap "between what is possible and should have been done long ago... and the blunders... backwardness and shameful state of affairs existing today in this area in the State of Israel," which takes expression, among other things, in the fact that [even though] "he [the Archivist], is the advocate of computerized documentation, since the 1970s and through to the present, not even a single diskette has been taken in by

the State Archives."

Audio-Visual Material

State Archives: In addition to printed material, the State Archives possesses much audio-visual material, including celluloid film and videotapes, audiotapes, photographs and negatives (including glass negatives). In order to preserve these materials, they must be stored in an atmosphere with controlled temperatures and humidity, film must be re-rolled at a certain frequency so that it does not become stuck to itself, and tapes must be re-taped due to the deterioration of the magnetic material.

A special room was constructed in the Archives for the preservation of audio-visual material, but this alone is insufficient. According to the Archivist, the re-rolling of film is not performed at the necessary frequency.

According to the Archivist, it would be appropriate that the permanent preservation of audio-visual material be done by converting all photographic films and video tapes to digital media, and they be updated in keeping with technological developments, in light of the fact that photographic films and video tapes are media with a limited lifespan. Due to the lack of budget, the Archivist has not performed these functions, and has not even prepared a computerized catalogue of all the audio-visual material in his possession.

The Israel Broadcasting Authority: In the months January-April 2002, the Archivist performed a survey of records management in the Israel Broadcasting Authority. The survey revealed, among other things, that "since the establishment of the State, the Broadcasting Authority deposited only 192 containers in the Archives – an infinitesimal quantity relative to the great amount of material that, according to law, should have been deposited. In fact, with the exception of daily news and news summaries, there have been almost no deposits." As for the disposal of archival material, it was found that "while in the 1980s requests [for the disposal of archival material] were submitted consistently, since the beginning of the 1990s the number of requests has declined, to the point where between the years 1995 and 1998, only

five requests were submitted, and beginning in 1998, not a single request was submitted to the State Archives for the disposal of any material."

The survey also reported "the Broadcasting Authority regularly disposes of most of the audio-visual material in its possession. New programs are recorded on earlier cassettes, and in this fashion, documentation that is invaluable in terms of research and history is erased... despite that most of the material was meant to have been preserved for perpetuity, meaning 110 daily hours of broadcasts, including the five radio stations of the "Voice of Israel." Film is sent to the archives at a rate of only 3,000 filmstrips per year... The conditions under which its films are stored are poor, and today more than 10,000 filmstrips are in danger of being ruined."

In the responses of the Prime Minister's Office and the Broadcasting Authority to the State Comptroller's Office in December 2003, it was stated that during 2003, the State Archivist met with the Director of the "Voice of Israel" and the Director of [Israel] Television. Following these meetings, a tender notice for the digitalization of the archives, including audio-visual documentation, was published. The Broadcasting Authority also stated that since the Archivist's audit in April 2002, it had made decisions in all that relates to the handling of archival material. Among other things, the "Voice of Israel" would no longer dispose of audio or written material. The audio material would be sorted in order to determine what should be preserved for perpetuity and what should be destroyed; at the end of the digitalization process, all audio material would be taken in and preserved, also solving the problem of live broadcasts, which comprise 90% of the network broadcasts. In addition, the "Voice of Israel" would soon appoint an official responsible for records management.

The Israel Film Service has been in operation since 1956, as a government production company on topics of Israel and Jewish society, culture, art and history. Over the years, the film service has produced thousands of films and clips ordered by government institutions; it also produced, at its own initiative, documentary films, which it has sold to the television stations in Israel, and to a small extent abroad. According to the Director of the Film Service, their archive is a "great treasure, a repository of the collective memory of Israeli society and the Zionist enterprise."

1. Celluloid, the raw material of the films, deteriorates naturally, and therefore requires, as mentioned, special environmental conditions for its preservation.

It was found that since 1996, there has been no official in the Film Service in charge of the management and ongoing upkeep of the film collection, even though as a result, the filmed material is in danger of being destroyed forever. It was also found that only during 2001 did the Film Service begin taking care of the films: rusted film boxes were replaced, and films contaminated with "acidification syndrome" (a chemical process destructive to film) were isolated to prevent their "contaminating" other films.

At the time of the audit, since mid-2003, the Film Service's buildings – cabins on a Jerusalem building site – were not an advisable and appropriate site for the preservation of a film archives. At the time of the audit, the Film Service made various contacts in order to find a more suitable site to house its film archive.

In its response of November 2003 to the State Comptroller's Office, the Israel Film Service management stated that in October 2003, a film collection was deposited with the Jerusalem Cinematheque, and that the video collection would be deposited in the new home of the Film Service.

2. A review of files in the State Archives found that in April 1994, the person who during the audit served in the role of Director of the Film Service, conducted a survey of film archives in Israel, initiated by the Public Council for Culture and the Arts adjacent to the Culture Administration of the Ministry of Education, Culture and Sports. The conclusions of the survey are that in the dozens of national, public and private archives and institutions in Israel, there are thousands of cinematic films dating from the beginning of the 20th century; for the most part, they are not maintained under conditions that ensure their preservation for the future.

Following the survey, the Department of Cinema and Television adjacent to the Public Council for Culture and the Arts established a committee "for the preparation of a program for the preservation of Israeli films," headed by the official responsible for the State Archives. In March 1996, the committee submitted to the directorate of the Public Council for Culture and the Arts and to the Israel Film Service "a proposal for a cinematic film preservation project in Israel." The proposal included, *inter alia*, a recommendation to transfer the films from the various sites where they had been stored to two film archives recognized as "public archives"; the preservation project would be under the jurisdiction of the Culture Administration and the rights to the films would remain in the hands of the depositors. According to the proposal, the

Culture Administration would be in charge of determining the administrative, budgetary and legal frameworks of the project.

In April 1999 the State Archivist at the time warned in a letter to the then Director of the Culture Administration that the last time the committee for the preparation of a program for the preservation of Israeli films had convened was three years ago, and "various recommendations were submitted, which as far as is known did not materialize." In the letter, the Archivist proposed, "to establish an institute for the preservation of Israeli films... with appropriate technological means and a professional management." He also suggested that the Israel Film Service would serve as the basis for the institute.

It became apparent to the State Comptroller's Office that the recommendations of the committee and the new proposal of the then Archivist were discussed but not implemented: the project was not carried out, and the films have remained dispersed among the various archives across Israel.

Overall Solution for the Preservation of Audio Visual Material

1. In November 2002, the directors of a commercial body in the communications field contacted the Archivist with a proposal for the preservation of audio-visual material at their expense, at no direct cost to the public coffers. According to the proposal, they would, among other things, perform the following: digitalization of the entire film collection of the Archives and of any other public archive; indexing and cataloguing of the films; making the collection available to the public via the internet; at the end of the process, transfer of the digital media and the information regarding the computerized data (meta-data) in its possession to the Archives for use as it saw fit based on its needs. In exchange, the company asked for the production and broadcast rights of documentary films based on this material.

In December of that year, the Archivist requested from the legal adviser's unit in the Prime Minister's Office to examine the proposal. He wrote that the practical implications of such action is the rescue... of hundreds of thousands of audio and video cassettes, as well as filmstrips in various formats - that are found in the various archives in a state of deterioration and disintegration.

In January 2003, the assistant to the Legal Advisor in the Prime Minister's Office informed the Archivist and the director-general that "I see no reason for their not being given to an external body for conversion, in exchange for services, broadcasting rights and use of the films... ". In her written opinion, the assistant enumerated the conditions and limitations of the proposal and added that, if additional bodies were capable of and interested in carrying out the project, "the issuing of a tender would probably be required."

The Archivist sent the opinion to the directors of the commercial body and received an answer in January 2003 that the main points of the legal opinion were acceptable, and a contract specifying the relationship between the parties could be prepared. The Archivist requested the director-general's approval to proceed.

The director-general did not respond to the Archivist's requests, and in March 2003 the Archivist again impressed upon him the possibility that the opportunity to save the documentation might be lost. The director-general did not respond to this appeal.

2. In June 2003, the Archivist wrote to the Prime Minister's Bureau that "the Archives is also the main advocate for the basic documents created in the development towns and cities, cooperative settlements and kibbutzim, of deteriorating celluloid films, including the disintegrating audio and video films in their possession, and no one is looking out for most of them or championing their cause."

It was found that to the end of the audit period in August 2003 no contractual agreement was approved, and no alternatives were considered.

In its response of December 2003, the Prime Minister's Office informed the State Comptroller's Office that in September 2003, after the completion of the audit, the bids committee authorized publication of an official public notice in the media regarding a computerization project for the collection of audio-visual documentation. After publication, the Prime Minister's Office would decide on the form the contractual agreement would take.

Government-Wide Computerization Projects

National Network for Research, Education and Culture

For a number of years, the Ministry of Science and Technology (formerly the Ministry of Science, Culture and Sport; henceforth - Ministry of Science) has been working on plans for a project to establish a national network for purposes of research, education and culture. The Ministry appointed a staff team for the planning of the project, headed by the Ministry's Chief Scientist. This network aims to serve institutions of higher education, and at a later stage, the national libraries and archives.

In December 2001 the government decided to charge the Chief Scientist in the Science Ministry with the task of preparing a detailed proposal for decision in conjunction with the Ministry of Finance for the establishment a national network for research, education and culture.

From September 2001 until January 2002, the Archivist repeatedly appealed to the Ministry of Science – both orally and in writing – and presented his master plan for the establishment of a network for Israeli archives; the Archivist requested that “the funds that the state in any case intends to make available for the computerization of archives in Israel, be allocated towards the improvement and adaptation of the existing software,” and “for the entry of the important information stored in the archives into computerized data-bases.”

Despite his requests, the Archivist was not included in the national network project.

In her response of December 2003 to the State Comptroller's Office, the director general of the Science Ministry stated that at the present stage, there was still no project to be spoken of, but rather “a national committee, which must define priorities for the carrying out of future projects.” Therefore, “in my opinion, it is not fitting to involve the State Archivist in the project, since as of yet there is no such project.” Nevertheless, it was stated that the Archivist's proposal would be raised in the committee in its upcoming discussions, and it was decided with the archivist to hold a meeting regarding the digitalization of scientific and cultural treasure.

In the opinion of the State Comptroller's Office, it would be appropriate to include the Archivist in the national committee based on the definition of his function and due to the status of the State Archives as stipulated in the Archives Law.

Project TAMAR (Public Key Infrastructure)

In May 2002, the government decided "to establish an overall infrastructure for carrying out a 'government accessibility' project in Israel." The project is designed to enable citizens to download forms from government ministry Internet sites, and to fill them out and submit them on-line, without having to come to the ministries themselves.

In this context, the government decided, "to establish identification and electronic signature systems in government via Project TAMAR (Public Key Infrastructure)." The goal of Project TAMAR is to enable both citizens and civil servants to place electronic signatures on forms, on-line, through identification of the signatory and in a manner that would prevent error and forgery. Important official electronic documents, signed by civil servants using an electronic signature, must be archived according to the Archives Law.

In March 2002, the Archivist informed the Finance Ministry, which was spearheading the project, that electronic signatures are an example of the problems inherent in the management of electronic records and their long-term preservation. And therefore, "it is imperative to assure the preservation of the list of codes for the electronic signatures... in the State Archives. Without the list of codes, it would not be possible to define the signatories to an electronic document in the future... [Consideration of] all that is involved for long-term preservation of documentation in this area requires systems-wide preparation and arrangements, of which the Archivist and the State Archivist must be a part."

To the end of the audit period, the Finance Ministry had not included the Archivist in Project TAMAR. The Prime Minister's Office too, whose representative was a participant in the project, did not include the Archivist in project TAMAR.

In its response of November 2003 to the State Comptroller's Office, the Finance Ministry stated that, "participation in project TAMAR was and remains open to any ministry that requests to be part of the staff."

Project MERKAVA (the government-wide computerization project)

In May 2002 the government decided to base the actualization of a "government accessibility" project between and within government ministries, via the establishment of Project MERKAVA (lateral computerization of government ministries). The government decision stated that project MERKAVA is "an organizational infrastructure project that encompasses the entire government system, for the purpose of presenting an effective solution for the management of state assets and resources." Representatives of the Finance Ministry related to the State Comptroller's Office that the goal of the project was to assimilate systems that would enable government ministries to transmit electronic material between each other (to "speak the same language" and to be interconnected), mainly in the financial area.

The State Comptroller's Office found that Project MERKVA, whose cost is meant to be hundreds of millions of shekels, did not include instructions for the transfer of electronic material at the conclusion of the process, for electronic archiving in the State Archives, although the broad-based computerized infrastructure planned for the future in this project, could constitute a basis for the advancement of electronic archiving.

In its response of November 2003 to the State Comptroller's Office, the Finance Ministry stated that, "project MERKAVA is being run as a pilot scheme... which in these ministries includes, at this stage, only two models, the financial model and the logistics model. According to the Archives Law, the information included in the pilot scheme does not need to be transferred to the Archives." It was also stated that according to the project's original plan, the handling of documents would not take place through the MERKAVA system itself, but through an external mechanism for documents and information management. Close to the time of the Finance Ministry's response, a main tender for information management, was in its concluding stages, and a representative from the State Archives was included among the staff preparing it. The Finance Ministry stated that following publication of the list of winners of the bid, "the appropriate tool would be selected and integrated into MERKAVA with the

participation of representatives from the State Archives.”

The difficulty in managing and preserving electronic records produced by government authorities and in assuring access to them, is a challenge that requires appropriate preparation and organization. The difficulties increase as rapid changes continue to take place in software, hardware, and storage systems for electronic information. The increasing quantity of important information, and the immense number of records maintained and managed by computer, augments the urgency and the need to deal with the challenge that this phenomenon presents.

Insufficient attention to its effects could lead to a future situation in which access to an enormous quantity of important government records could be denied. As a result, much state information could be lost forever, which could be truly damaging in terms of both the fulfillment of the goals of such laws as the Archives Law and the Freedom of Information Law, 5758–1998, and historical research of the people and the state.

The issues raised in this report indicate the need for inter-ministerial collaboration for the creation of the necessary infrastructure for the preservation of electronic records. It would be proper for the government to address this matter.