

National Policy on Digital Preservation for India

A Basic Framework

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Presentation Agenda

- ▶ Background to digital preservation policy
- ▶ Model digital preservation policy elements
- ▶ Role of NDPP
- ▶ Wrap-up

*Source UK Web Archiving Consortium

Well-known individual examples of loss or near loss, BBC Domesday Disks

BBC Domesday, Camileon Project:
<<http://www.si.umich.edu/CAMILEON/domesday/domesday.html>>

Several threats

- ▶ **Media decay and failure**
 - ▶ Massive storage failures, Bit rot, outdated media
- ▶ **Access Component Obsolescence**
 - ▶ Outdated formats, applications & systems
- ▶ **Human and Software errors &**
- ▶ **External Events**

Information Deluge

Present & Future Projections

Yawning gap between

- ▶ Our ability to create digital information and
- ▶ Our infrastructure and capacity to manage and preserve it over time
- ▶ Likely cumulative effect of this as a future "digital dark ages".

Challenges in digital preservation, if not addressed at the Ernst are an obvious and insidious peril to the future of our enduring value of cultural heritage & knowledge resources.

<http://www.sims.berkeley.edu/how-much-info-2003>

[http://www.ecs.soton.ac.uk/~ajgh/DataDeluge\(final\).pdf](http://www.ecs.soton.ac.uk/~ajgh/DataDeluge(final).pdf)

Digital Preservation Program(DPP)

Digital preservation is a complex, many layered activity – involving technical and administrative charter

- the escalating scale and complexity of digital resources to be curated and preserved,
- the subsequent urgency of developing
 - a critical mass of expertise,
 - shared services &
 - tools for long-term digital preservation
- Require a step change in developing strategies and approaches

In general

- The policies for ensuring
 - long-term storage,
 - maintenance,
 - migration &
 - access to digital materials, at various levels,
- Confusion about the most appropriate practices and methods,
- lack of a consensus, shortage of good models for digital preservation
- Hence the need for defining policies is increasing at the same degree of the growth of the digital heritage, and
- a concerted national direction is necessitated.

Policy

Digital Preservation

Organi-
zation

Techn
ology

Resou
rces

Defining the significant properties that need to be preserved for particular classes resources

Assisting agencies in designing digitization programmes

Ensuring digital materials available for current and future use and during use

Providing a comprehensive statement on the digital preservation

Preservation Policy Statement

A declaration by an entity (organisation, state, country, etc) about its role/purpose, beliefs and its commitment to pursue certain aims.

A statement of management intent

EXAMPLES:

'[The National Library of Australia] ... will endeavour to preserve in original or surrogate format all materials for which it accepts responsibility under the DNC.' (NLA, 2001?)

'[The National Archives of New Zealand's] ... main concern is to ensure the survival of permanently valuable material and

Mission

to secure the preservation of digital resources in the
COUNTRY and to work with others (international)
so as to secure our global digital memory and knowledge base 1997

Strategy covers the aspects of digital heritage for both digitally born and digitised material - different areas of responsibility

Preservation Policy

An authorised, formal, statement that sets out (among other things) what is - & as importantly - what is not to be preserved within an entity, for how long, the priorities and accountabilities

Forms an integral part of the overall policy of an entity. Takes account of an orgn.'s philosophy, risk profile, users' needs and its context within state, national and - sometimes - international frameworks

Provides clear, high-level, long-term direction (over 5,10 or more years)

Demonstrates benefits
Practicable, achievable and adaptable

Regularly reviewed to remain relevant



Preservation procedure detailing guidelines for operational activities to implement the strategy

A model policy may not suit everyone: it's a thought starter

Preservation Strategy

Positioning of policy development for digital preservation involves several relevant factors and requirements such as

- ➔ Legal
- ➔ Financial
- ➔ Business
- ➔ Technical
 - ◆ Maintenance pro
 - ◆ Preservation str
 - ◆ Technology fore

Principles

- ➔ Openness
- ➔ Collaboration
- Collective benefit
- Neutrality
- Membership

Commitment to promoting & disseminating information and sharing outcomes

No single organisation can address all the challenges alone.

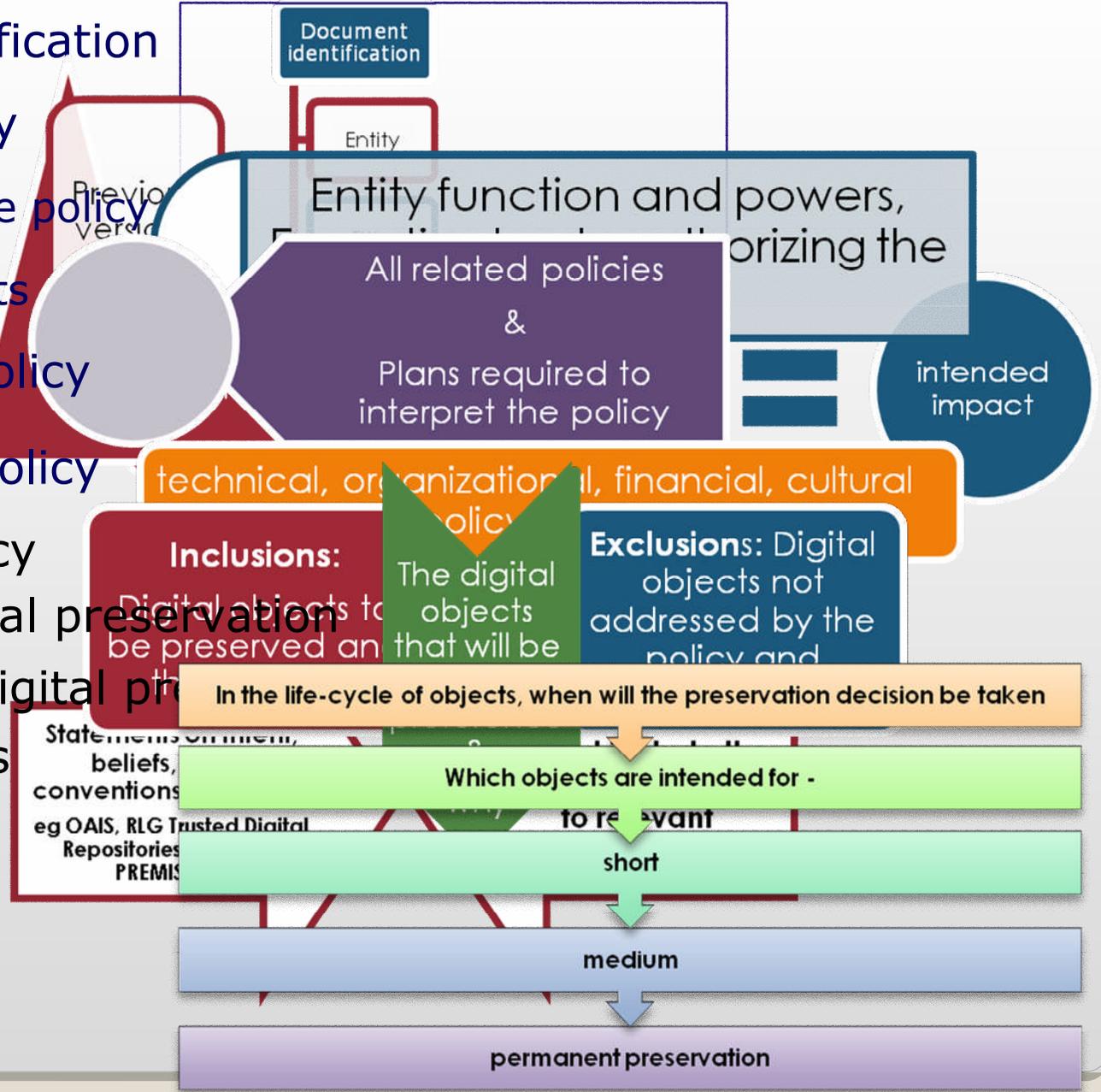
Cross-Sectoral activities supported by resources from its membership must be of common interest and benefit.

The goals -generic and neutral Supporting the development of standards and generic approaches to digital preservation

Cross-Sectoral Membership

Model Digital Preservation Policy Areas

- ▣ Document identification
- ▣ Document history
- ▣ Authorities for the policy
- ▣ Related documents
- ▣ Purpose of the policy
- ▣ Benefits of the policy
- ▣ Scope of the policy
- ▣ Priorities for digital preservation
- ▣ Timeframes for digital preservation
- ▣ Policy statements



☐ Definitions **Definitions of terms used in the policy but not in general usage**

☐ Roles & responsibilities **Which role(s) is responsible for implementing/monitoring the policy**

☐ Digital object creation

☐ Digital object management (DOM)

☐ Digital object storage

☐ Disaster preparedness

☐ Control of digital preservation

☐ Security Planning

☐ Technology watch

The stakeholders in the digital preservation process occupy

Technical spec (r

Rules for physical digital object storage

What disasters are envisaged - how does

the
(What) control measures for monitoring, auditing, benchmarking

How will the Org./body get and stay informed on the obsolescence of data formats

Levels of security

how does the org./body aim to achieve them

preservation service providers such as including national bodies, who provide the technical tools and infrastructure for digital preservation.

Other parties not directly involved in institutional digital preservation nevertheless play a contributory role, such as funding bodies, archives, etc

☐ Resourcing Digital Preservation

The Costs carry on - a primary role in the developing of digital preservation policies. Cost factors like :

Technical infrastructure

Equipment purchases, maintenance and upgrades
Software/hardware obsolescence monitoring/review
Network connectivity

Human Resources

Staffing infrastructure
hiring/training
Outsourcing

Financial sustainability

Developing financial plan for long-term funding
Working out strategy & methods

~ Institutional commitment

Some of these costs may be too heavy for an organization, hence cost-benefit analysis is also necessitated



~ Cooperation

☐ Review & Monitor position on cooperation and collaboration

Monitoring and reviewing needs to be conducted on routine basis to address - A special area should be dedicated to the cooperation between institutions in the policy process; technological changes, new standards, in response to internal or external stimuli or both cooperation regarding archives, libraries, museums or other repositories, can be at different levels

Issues concerning - local, national or even international - How body will undertake reviewing of the policy, frequency and role(s)...

~ Agreements

☐ Implementation Under what circumstances will the org./body enter into agreements with others for the long-term preservation of digital objects

✓ The implementation programme will

~ Research & Advisory Role

Org/Body undertake research / provide advice to others



DP



Administrative Responsibility

Mandate Objectives

- OAIS compliance
- Scope
- Operating principles
- Roles & responsibilities
- Selection & Acquisition
- Access & Use
- Challenges
- Procedures, protocols, documentation
- Technical & archival skills

Procedural Accountability

Requirements

Resources

Audit and transparency
Policy framework administration



Technological / Procedural suitability



Definitions
Funding Options
References
Institutional commitment
Cooperation and collaboration

Legal Framework

Delivery of Books Act

The delivery of Books (Public Libraries) Act, 1954: No. 27 of 1954
Amended -Amendment Act, 1956: No. 99 of 1956

The Press and Registration of Books Act, 1867

Copyright Act (1957)

Amended – 1983, 1984, 1992, 1994, 1999

4 legal deposit copies from printed publications :

4 copies:

- National Library, Kolkata
- Asiatic Society of Bombay
- Connemara Public library, Chennai
- DPL, Delhi

Legislation related to legal deposit (providing guidelines)

Legal Deposit Act

The legal deposit legislation of various forms and media will require special attention and collective efforts, both at individual as well as national level in India. As India has got rich cultural heritage of literature, music and various art forms, which is being produced and preserved in electronic forms, there is an urgency for doing this. If not, it will be beyond control; and in words of Jules Larivière, *at the point of no return.*

Order for Providing Legal Deposit Copies

Considerations for Amending the Act:

- ▶ **Type of documents to be incorporated in the Act .**
- ▶ **Decision regarding the document appearing in many formats and media**
- ▶ **Defining the publisher for various forms,**
- ▶ **The depositories to be nominated for the task**
- ▶ **Set up of the infrastructure for the actual work**
- ▶ **Organization of the material**
- ▶ **Identification of the services and the users**
- ▶ **Provision for the castigation/ penalty**

Ensure (in the long run)

- ▶ **Starting point for systematic monitoring, collecting, archiving and bibliographic description process of resources**

The purpose of collecting publications

- ▶ **Deposit copies are collected with the aim to compile a complete collection of publications as an essential part of the national cultural heritage, their bibliographic registration, statistical analysis and public accessibility for art and research purposes**
- ▶ **The acquisition and archiving of deposit copies guarantee national preservation and protection of national publications (including born digital ones)**

is the National Library or ?)

Integrating National Registry Schema with Digital Preservation Systems

- Focus on Designing a registration system somewhat akin to CNRI registration system
- Implementation of National Registry System (NRSI-DD- National Registry System for India for Digital Documents) or NDPP-RIS (National Digital Development Programme-Registry information System) for all the digitized documents that would ensure persistence, avoid duplication
- The registry attributes would broadly address several important issues like –Persistence Unique identifiers; Trustworthy content; Identifies source of information; Coverage; Publicly discoverable, ideally Machine processable.
- Such a system in short may lead to the development and implementation of electronic record -keeping systems.
- NRSI-DD or NDDP-RIS may provide a gateway for information on work directed at the preservation of the documentary heritage in India and assign some unique number to all such documents coming under its ambit.
- The assigning of registry system may be made mandatory for all such documents, being digitized or already in digital form, that will ensure their visibility, validity, authorization and the like.
- This effort will enable the discovery and reuse of learning content held in repositories distributed across the country. This would also ensure consistency and quality control across applications; business models; and specific application tools
- The NDPP may also explore feasibility of collaborating with CNRI.

NDPP Role

Through representative stakeholders devise Policy & Practice statement focusing on- -

1. Investigate current and proposed digital archival practice and policy

2. Identify good practice and gaps in knowledge

3. Devise guidelines on practice and a digital preservation policy

4. Infrastructure

5. Collecting policy variety of approaches to selecting and archiving

6. Selection guidelines value of the content dominant factor influencing a selection decision

7. Access Cataloguing of online resources carried out in accordance with the some Archive Electronic Cataloguing Manual
(<http://pandora.nla.gov.au/manual/cattoc.html>) MARC Format

8. Cataloguing

9. Persistent Identifiers **Implement a system of persistent identification and resolution for all titles archived**

10. Archiving

11. Permission to archive

12. Quality of archive

Archiving to be carried out in accordance with

Should have some kind of manuals to follow, ensuring that only resources for which permission has been received are added to the Archive, and that gathering filters and quality checking processes are used effectively to this end

NDPP Role

13. Preservation

Purpose of Archive is to provide long-term access to heritage published on the Web. The contents of the Archive will be preserved according to the Digital Preservation Policy. As hardware and software changes and the need arises for preservation action to be taken on files

14. Promote Collaborative Endeavors

14.1 Policy of Cooperation

14.11. Cooperating with other Indian collecting & data creating agencies

14.12 Cooperating with overseas collecting agencies :
International Internet Preservation Consortium

- ✓ Promote education and training
- ✓ Require specific skills
- ✓ Provide a suite of manuals detailing with archiving procedures and the use of the software

16. Awareness Raising

NDPP's strategy to recognize the need for development of software and management tools to support digital preservation within the proposed national infrastructure of digital repositories. This may a priority and key deliverable in achieving aim 'to deliver innovative and sustainable ICT infrastructure, services and practice that support institutions in meeting their missions'.

Lead to

- Establishing national strategies for long term preservation & deposit
- Discussion with stakeholders on ways that existing preservation services can be made available to third parties
- Having an established legislative or other effective framework in support of digital preservation
- Discussion by stakeholders with concerned authority on extension of legal deposit to cover digital resources
- Encouraging cultural institutions to implement relevant technical standards for digital preservation within the organisational workflow of digitisation

- Ensure (for Digital Preservation & Access) fostering, developing , and supporting collaboration among all stakeholders
- Ensure the preservation of the published and documentary record in all formats, &
- Provide enduring access to scholarly information;
- Help in setting broad framework and guidelines &
- Standards for undertaking such jobs.
- Bring out (timely)reports on various aspects of long-term preservation, - pointers to technological initiatives of relevance to digital collections and digital libraries, relevant standards and formats and any such useful new applications that are relevant to digital preservation.
- Existing sub-groups of the stakeholders of NDPP
 - white papers
 - within a given time-frame

Wrap Up

A digital preservation policy must for all organizations that create, manage or collect digital information or objects

Basics

Includes

Not only technological specifications but also organizational, financial & cultural aspects impacting on the life cycle of digital

Benefits

Developing a digital preservation policy brings multiple benefits
Ultimately ensuring digital materials are available for current & future use

A DPP defines the –

- types of digital objects that will & will not be preserved
- for how long
- principal methods to be used

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- ri
- h
- w

- Policy Development Benefits

- Builds DP team (organizational and technological)

- Defines institutional commitment

- Confirms understanding of issues & challenges

- Raises awareness in & around organization

- Informs and extends stakeholders

- Manages expectations: producers & consumers

- Meets requirements: transparency & audit

• Impact

→ Awareness

- Demonstrating

→ Credibility:

- a successful model
- ongoing collaboration with other organizations

→ Tangible Outcomes

community

- Mind the gap
- Best practice

→ Technology/Research

- Better/viable models
- Responding to the technological advances
- Increase chances of longevity

A policy whose implementation is feasible

quality & progress is monitored (through various distributed centres)

so that a huge national corpus of cultural & intellectual heritage is in place

Provides a launch pad for more detailed investigations into any of the issue areas which the framework addresses, so as to formulate a robust national policy

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