



REPORT NO.

393

PARLIAMENT OF INDIA
RAJYA SABHA

**DEPARTMENT-RELATED PARLIAMENTARY STANDING COMMITTEE
ON TRANSPORT, TOURISM AND CULTURE**

THREE HUNDRED NINETY THIRD REPORT

**From Manuscript to Mission: Preserving, Mapping and Sustaining India's Cultural
Heritage in the Age of Artificial Intelligence**

(Presented to the Rajya Sabha on 12th August, 2026)

(Laid on the Table of Lok Sabha on 12th August, 2026)



Rajya Sabha Secretariat, New Delhi
August, 2026 / Shravan, 1948 (Saka)

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**RAJYA SABHA SECRETARIAT
NEW DELHI**

August, 2026 / Shravan, 1948 (Saka)

C O N T E N T S

	P A G E S
1. COMPOSITION OF THE COMMITTEE	i
2. PREFACE	ii
3. ACRONYMS	iii
4. REPORT	1-22
5. SUMMARY OF RECOMMENDATIONS	23-24
6. *MINUTES	

*To be appended

**COMPOSITION OF THE COMMITTEE
(2025-26)**

(Constituted on 26th September, 2025)

- 1. Shri Sanjay Kumar Jha - Chairman**

Rajya Sabha

2. Shrimati Sudha Murty*
3. Shri Golla Baburao
4. Shri Mohammed Nadimul Haque
5. Shri Jaggesh
6. Shri Kesridevsinh Jhala
7. Shri S. Kalyanasundaram
8. Shrimati S. Phangnon Konyak
9. Shri Surendra Singh Nagar
10. Shri Imran Pratapgarhi

Lok Sabha

11. Shri Mian Altaf Ahmad
12. Shri Pradan Baruah
13. Shri R. K. Chaudhary
14. Shri Anil Firojiya
15. Shri Tapir Gao
16. Shri Vishweshwar Hegde Kageri
17. Shri Rahul Kaswan
18. Shrimati June Maliah
19. Shri Ajay Kumar Mandal
20. Shri K. E. Prakash
21. Shri Rajiv Pratap Rudy
22. Dr. M. P. Abdussamad Samadani
23. Kumari Selja
24. Shri Avimanyu Sethi
25. Shri Anurag Sharma
26. Shri Suresh Kumar Shetkar
27. Shri Tangella Uday Srinivas
28. Shri Devesh Chandra Thakur
29. Shri Amarsing Tisso
30. Shri Manoj Tiwari
31. Shri K. C. Venugopal

SECRETARIAT

Dr. Kushal Kumar Pathak, Joint Secretary
Shrimati Monica Baa, Director
Shri T. Kennedy Jesudossan, Deputy Secretary
Shri N. Romesh Singh, Deputy Secretary
Ms. Arshi, Senior Secretariat Assistant

**Nominated as Member w.e.f. 15.12.2025 in lieu of Dr. Faiyaz Ahmad*

PREFACE

I, the Chairman of the Department-related Parliamentary Standing Committee on Transport, Tourism and Culture, having been authorised by the Committee to present the Report on its behalf, do hereby present this Three Hundred Ninety Third Report of the Committee on the subject “FROM MANUSCRIPT TO MISSION: Preserving, Mapping and Sustaining India’s Cultural Heritage in the Age of Artificial Intelligence”, pertaining to the Ministry of Culture.

2. The Committee selected the subject for detailed examination having regard to the moment at which the Gyan Bharatam Mission for the survey, documentation and conservation of the manuscript heritage of the country has placed before the nation a rapidly growing corpus of manuscripts and a technology stack capable of reading them, and to its assessment that the pace of this advance called for an early and considered examination of the standards, the safeguards and the uses to which this corpus, and the wider mapping of the country’s living heritage, should be put.

3. The Committee heard the Secretary and senior officers of the Ministry of Culture in oral evidence at its sittings held on 9th September, 2025, 11th February, 2026 and 24th June, 2026, respectively upon the National Mission on Cultural Mapping and promotion of local and indigenous art, Assessing the impact of encroachment on protected monuments with a focus on the National Capital Region, Reviewing the progress of anthropological research in documenting India’s population genetics; and Integrating Artificial Intelligence for cultural interpretation and heritage preservation.

4. In formulating this Report, the Committee has relied upon the presentations and background notes furnished by the Ministry of Culture, the depositions made before it in oral evidence, the study material and documentation placed before it, including the compilation of repositories of Indian manuscripts in India and abroad, the suggestions received thereafter for incorporation in the Report, and the verbatim record of its proceedings.

5. The Committee considered the draft Report and adopted the same at its sitting held on 11.08.2026.

6. For facility of reference, the recommendations of the Committee have been printed in bold letters in Chapter Five and have also been reproduced, in condensed form, in Chapter Seven of the Report.

7. The Committee places on record its appreciation of the assistance rendered to it by the officers of the Rajya Sabha Secretariat attached to the Committee.

NEW DELHI

August 11, 2026

Shravan 20, 1948 (Saka)

SANJAY KUMAR JHA

Chairman,

Committee on Transport, Tourism and Culture,

Rajya Sabha

ACRONYMS

Sr. No.	Acronym	Full Form
1	AI	Artificial Intelligence
2	ASI	Archaeological Survey of India
3	AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy
4	CE	Common Era
5	GPT	Generative Pre-trained Transformer
6	GPU	Graphics Processing Unit
7	HTR	Handwritten Text Recognition
8	IGNCA	Indira Gandhi National Centre for the Arts
9	IIIF	International Image Interoperability Framework
10	MeitY	Ministry of Electronics and Information Technology
11	ML	Machine Learning
12	NMCM	National Mission on Cultural Mapping
13	NMM	National Mission for Manuscripts
14	OCR	Optical Character Recognition
15	ONDC	Open Network for Digital Commerce
16	PIB	Press Information Bureau
17	PM	Prime Minister
18	Rs.	Rupees
19	TKDL	Traditional Knowledge Digital Library
20	UNESCO	United Nations Educational, Scientific and Cultural Organization
21	ZCC	Zonal Cultural Centres

REPORT

CHAPTER ONE: THE SUBJECT AND ITS MOMENT

1.1 What a manuscript can do

1.1.1 The Committee begins with a proposition that governs everything which follows in this Report: a manuscript is not a relic. It is an instrument, and history shows that it keeps working centuries after its maker has gone, provided each generation brings to it the best instruments of its own time.

1.1.2 India's own record supplies the proof. The Bakhshali birch-bark folios carry the oldest written zero, the dot from which the arithmetic of the modern world descends. The Bower manuscript carried the documented history of Indian medicine back by centuries. The Gilgit manuscripts, the oldest surviving in the country and inscribed on the UNESCO Memory of the World register, reshaped the understanding of Buddhist textual transmission. The manuscripts of the Kerala school preserve Madhava's infinite series for π , results the rest of the world reached only some two hundred and fifty years later, and which survived on palm leaf by the thinnest of margins. A surgical technique recorded in the Sushruta tradition, observed in India in 1794, seeded modern reconstructive surgery. The decipherment of the Brahmi script in 1837, read together with the chronicles preserved in Sri Lanka, restored the Emperor Ashoka to history after fifteen centuries of silence: the greatest ruler of ancient India was recovered from text. And in the present generation, the Traditional Knowledge Digital Library, compiled from precisely such texts, successfully defended turmeric and neem against foreign patent claims. The manuscript, in that instance, defended the future.

1.1.3 The wider world tells the same story. The erased mathematics of Archimedes returned under light beyond the visible; a lost language of the Caucasus rose from the scraped parchments of a desert monastery; scrolls carbonised in 79 CE are now read unopened by X-ray scanning and computation, the very title of a lost work recovered in 2025; and handwriting analysis restored the identities of two scribes to a two-thousand-year-old scroll. In each case the text had waited. What changed was the instrument brought to it.

1.1.4 Two further uses of such material point forward rather than back. Records of eclipses preserved in old texts are used today to measure the slowing of the rotation of the Earth, a series in which India's rich astronomical record is yet to take its due place. Chronicles, temple registers and almanacs preserve centuries of monsoon, famine and flood observations of a kind now sought by climate science the world over. The corpus whose assembly this Report examines is therefore not an archive alone. It is an instrument for sciences that do not yet know they need it.

1.1.5 The Committee draws one conclusion from this record and states it at the outset, because it is the sentiment of every recommendation that follows: a flat photograph would have found none of the discoveries described above. What a nation recovers from its manuscripts is decided by what it brings to them.

1.2 The moment

1.2.1 The Committee selected this subject at a moment without precedent in the history of the field. The Union Budget 2025-26 announced the Gyan Bharatam Mission for the survey, documentation and conservation of the manuscript heritage of the country. The Mission has been sanctioned an outlay of Rs. 491.66 crore for the period 2025-2031, the largest

commitment ever made to Indian manuscripts. The Prime Minister launched the Gyan Bharatam portal on 12 September 2025 at the Gyan Bharatam International Conference in New Delhi, and on 13 September 2025 that conference adopted a national declaration, the Gyan Bharatam Sankalp Patra or Delhi Declaration, including the resolve to acquire and repatriate original manuscripts or to secure their digital copies from abroad.

1.2.2 In the months that followed, the Mission moved with a speed the Committee wishes to record. A national manuscript survey conducted between March and June 2026 drew entries for 2.25 crore manuscripts, of which 1.16 crore were verified and taken into the national database, each geographically tagged; by the end of July 2026 more than 1.19 crore manuscripts stood reported. About eight lakh manuscripts stand digitised. Machine reading of handwritten Indian scripts has been demonstrated at 90 to 91 per cent accuracy. Two conversational platforms are live upon the portal. Seventy-two graphics processing units have been furnished by the Ministry of Electronics and Information Technology, and the capability was demonstrated before the Prime Minister, the President of France and the Secretary-General of the United Nations at the India AI Impact Summit 2026 in New Delhi. In the same period, the Bhagavadgita and the Natyashastra entered the UNESCO Memory of the World International Register, taking India's inscriptions on that Register to thirteen.

1.2.3 The Committee places on record its appreciation of this body of work, and does so without reservation. A heritage described for a generation by an estimate has been enumerated. A technology stack that did not exist at the Committee's first sitting was operational by its third. The question this Report addresses is therefore not whether the Ministry is moving. It is how a nation that has built this engine now steers it to the largest possible result, so that expenditure incurred once yields discovery for a century.

1.3 The evidence and the approach

1.3.1 The Committee heard the Ministry of Culture at three sittings: on 8 January 2025 upon the digital preservation of ancient Indian manuscripts and documentation of artefacts; on 9 September 2025 upon the National Mission on Cultural Mapping and the promotion of local and indigenous art; and on 24 June 2026 upon the integration of artificial intelligence for cultural interpretation and heritage preservation. Chapter Two summarises that evidence. Chapter Three analyses the figures placed before the Committee and in the published record, and draws from them the findings on which the recommendations rest. Chapter Four states the principles the Committee has applied. Chapter Five contains the twelve recommendations of the Committee, arranged in the five movements of the single programme they form. Each rests on findings recorded earlier in the Report and cited in place, is stated in bold, and is explained in ordinary language together with the result the Committee expects from it. Chapter Six draws the movements together and records the Committee's concluding view.

1.3.2 The Committee has confined its factual material to the record before it and to official sources: the documents furnished by the Ministry, the replies given to Parliament, the publications of the Press Information Bureau, the Union Budget, and the published instruments and portals of the Government. The application of artificial intelligence to monuments and site museums, on which the Archaeological Survey of India also placed a concept before the Committee, raises questions of a different order, and the Committee proposes to examine that subject separately.

CHAPTER TWO: THE EVIDENCE BEFORE THE COMMITTEE

2.1 The sitting of 8 January 2025: the inheritance

2.1.1 At its first sitting the Committee heard the Secretary, Ministry of Culture, on the work of the National Mission for Manuscripts since its establishment in 2003. The Mission's account of two decades was substantial: metadata documented for about 52 lakh titles; preventive conservation of the order of nine crore folios and curative conservation of about 2.8 crore folios; about 3.3 lakh manuscripts digitised, of which 76,000 stood in the public domain; and 112 books published. The Ministry stated with candour the constraints of the earlier design, including the absence of a completed national survey and of a settled framework of public access, and placed before the Committee the architecture of the proposed relaunch: a national digital repository with a preservation copy held apart from the public copy, trained facilitators in the districts, online registration, partnership with private custodians upon a revenue-sharing principle, and the use of advanced computation for digitisation at scale. The Ministry further placed before the Committee a compilation of the repositories of Indian manuscripts in India and abroad. That compilation lists fifty-four institutions in twenty-three countries and, on the Committee's tabulation of it, more than two lakh Indian manuscripts held outside the country.

2.1.2 Members raised, among other matters, the manuscript wealth of the Mithila region including the Pandu lipis in Mithilakshar and the genealogical records of the Panji tradition, the position of South Indian collections, access for university researchers, and the means by which a citizen holding a manuscript may reach the Mission. The Committee recommended at that sitting the creation of a national digital repository, the use of advanced technologies for digitisation, and a nationwide mapping of cultural assets. The Committee notes with satisfaction that each of these directions has since taken institutional form.

2.2 The sitting of 9 September 2025: the living heritage

2.2.1 At its second sitting the Committee examined the National Mission on Cultural Mapping and its central programme, Mera Gaon Meri Dharohar, implemented through the Indira Gandhi National Centre for the Arts. The Ministry reported village profiles uploaded for about 6.23 lakh of the 6,38,365 villages identified, together with 750 village videos and 1,550 block videos, and described the improvements then in hand: the shift of the unit of collection from the village to the Gram Panchayat, validation in association with the Ministry of Panchayati Raj, a simplified survey instrument, a Contribute facility for citizens, and machine-assisted checking of incoming data. The Committee regards the candour of this account, and the design corrections adopted, as a model of how a national mission should learn.

2.2.2 On the promotion of local and indigenous art, the Ministry and the Zonal Cultural Centres placed before the Committee the enhancement of the folk artist honorarium from Rs. 800 to Rs. 3,000 with travel by third air-conditioned class, direct transfer of Guru-Shishya Parampara assistance to the accounts of gurus and shishyas, the documentation and support of 359 vanishing art forms through 359 gurus and 2,049 shishyas with assistance of Rs. 4.93 crore since 2015, the revival of the Kamba Ramayanam oral tradition, and a new resolve, stated in evidence, to move from patronage to market access: the opening of sale at national galleries, and agreements under which ninety-five per cent of digital platform revenue is to flow to the artist.

2.2.3 Members pressed upon the Ministry the questions that animate several recommendations in this Report: the market linkage on which the survival of living art depends; the position of endangered languages, including languages spoken by a handful of

persons; the connection of the missions to the district and to elected representatives; and the recording of oral traditions before their last bearers pass. The Committee notes that the Scheme for the Protection and Preservation of Endangered Languages of the Ministry of Education has identified 117 languages spoken by fewer than ten thousand persons, against 2,843 mother tongues returned in the Census of 2011, and that convergence between that scheme and the cultural missions is a standing opportunity. The Committee returns to these matters at Recommendations 10 and 11.

2.3 The sitting of 24 June 2026: the engine

2.3.1 At its third sitting the Committee examined the Gyan Bharatam Mission in operation, and records the substance of the evidence because the recommendations in Chapter Five build directly upon it.

2.3.2 The national survey, conducted between March and June 2026 through the States, the districts and partner institutions, drew entries for 2.25 crore manuscripts. The Mission verified the entries and took 1.16 crore into the national database, each tagged by geographic coordinates: an exercise of quality control at national scale which the Committee specifically commends, and to which it returns in Chapter Three. Digitisation proceeded in parallel, with about eight lakh manuscripts digitised and a target of twenty lakh by 31 March 2027 stated in evidence. The holdings extend from great institutional libraries to sixteen to seventeen thousand private custodians, in some cases of one or two manuscripts.

2.3.3 The Ministry described a four-stage pipeline: enhancement of the image; conversion to machine-readable text through handwritten text recognition and optical character recognition, at an accuracy of 90 to 91 per cent; correction by scholars, with corrections fed back to improve the models; and transliteration with extraction of meaning across languages. Machine learning models have been trained to follow the evolution of scripts across centuries. About 250 manuscripts had at that date passed the full pipeline and stood open to conversation on the portal, where the Committee itself heard a Sanskrit medical text render its content in Maithili upon request. Two platforms, Gyan Mitram and Bharatiya GPT, are live; colophons, the scribal notes recording author, place and date, are captured into the database; and answers are drawn only from the verified corpus, a design principle the Committee endorses.

2.3.4 The Ministry described an open ecosystem of partners selected through a national challenge, working with the Centre for Development of Advanced Computing, the Indian Institute of Technology Delhi and the Indian Institute of Information Technology Hyderabad among others, with seventy-two graphics processing units furnished without cost by the Ministry of Electronics and Information Technology, of which fifty-two stood allotted among five technology partners; intellectual property arising from work on the allotted units remains with the Government of India. The Secretary stated that the Ministry binds itself to no single company and takes along whoever innovates, a posture the Committee commends. The Ministry further stated its intention to place a unified, artificial-intelligence-driven search across the Ministry's roughly seventy digital platforms, and informed the Committee of the demonstration of the Mission before the Prime Minister and visiting Heads of State and of interest in cooperation with institutions in France.

2.3.5 Members' interventions at this sitting supplied the sharpest questions in the whole record, and the Committee has treated them as terms of reference: how the authentic text is established where manuscripts differ; how a machine reading of a medical formulation is to be kept distinct from the statutory pharmacopoeia; whether the original and its rendering may be downloaded for study and teaching; how provenance and dating are established and displayed; the position of scripts of administrative record such as Kaithi, in which the land records of Bihar are written and which few can now read; and the security of the digital corpus itself. Chapter Five answers each.

2.3.6 The Committee thereafter visited the site of the Yuge Yugeen Bharat National Museum in the North and South Blocks and was apprised of the two-phase programme of restoration and adaptive reuse. The Committee will examine the museum programme separately and confines the present Report to manuscripts, cultural mapping and living traditions.

CHAPTER THREE: WHAT THE RECORD SHOWS

3.0.1 In this chapter the Committee sets out, from the record and from published official sources alone, the analysis on which its recommendations rest. Each section closes by naming the recommendations to which it leads. The Committee has invented no figure; where a projection appears, it is the arithmetic of the Ministry's own stated targets.

3.1 The staircase of value

3.1.1 The figures before the Committee arrange themselves into a staircase. Entries were reported in the national survey for 2.25 crore manuscripts. Of these, 1.16 crore were verified into the database. About eight lakh stand digitised across the country. More than 3.90 lakh are open to public view on the portal. About 250 were, at the date of the third sitting, machine readable and conversational.

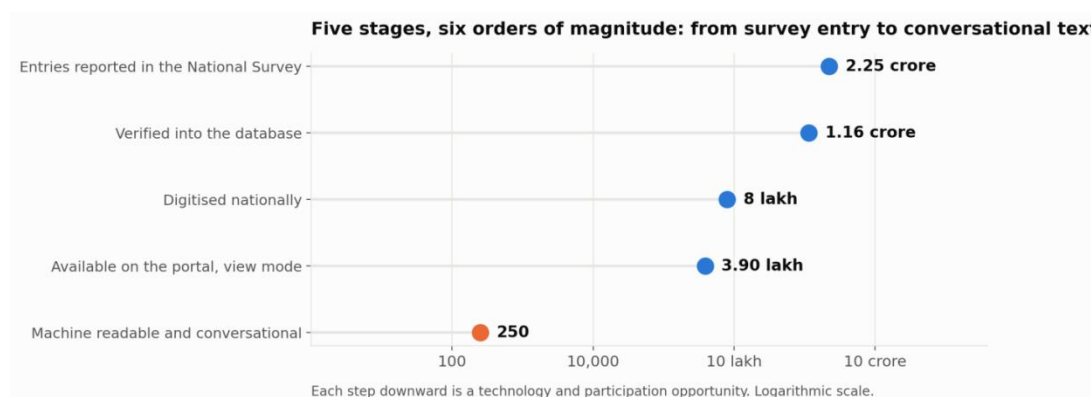


Figure 3.1. The five stages of the corpus, on a logarithmic scale. Sources: evidence of 24 June 2026; reply to the Lok Sabha, 27 July 2026 (as per the latest figures available).

3.1.2 The Committee draws two conclusions. First, the verification stage is a distinction of quality: the Mission examined what came in and admitted only what it could verify, which is the discipline on which every later use of the corpus depends. Second, each step of the staircase is a defined opportunity: between the digitised image and the readable text stands the work of recognition and correction; between the readable text and knowledge stands the work of scholarship. The technologies and the participation structures recommended in Chapter Five are addressed, step by step, to this staircase. Recommendations 3, 4 and 9 carry that work.

3.2 The arithmetic of ambition

3.2.1 The Government has stated the ambition of digitising one crore manuscripts within five years, and the evidence before the Committee recorded a target of twenty lakh by 31 March 2027. The achieved pace, computed from the Ministry's successive official statements, has been of the order of a third of a lakh each month. The pace the targets ask for is of the order of one and a half lakh each month.

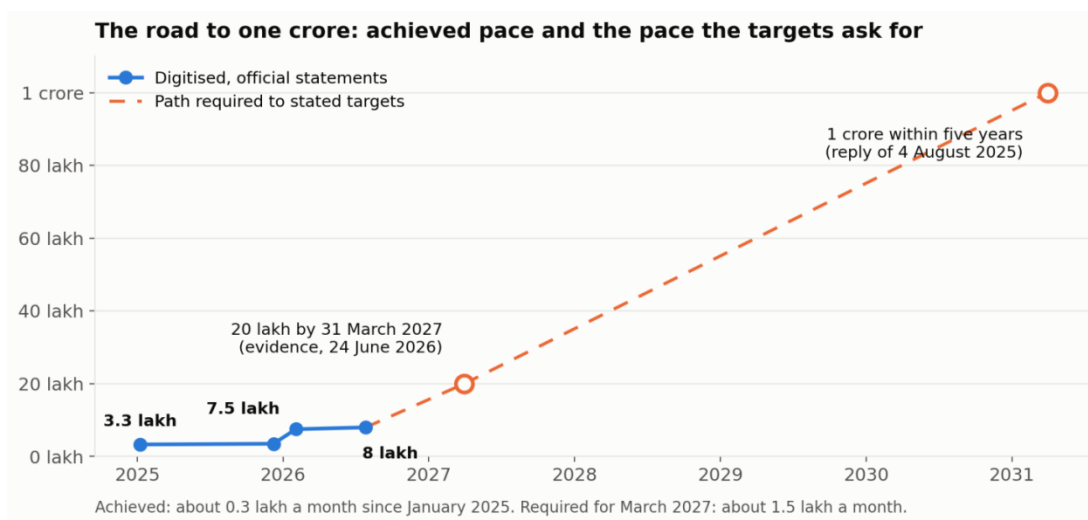


Figure 3.2. Digitisation achieved, against the trajectory the stated targets require. Sources: material before the Committee, January 2025; replies to Parliament of 8 December 2025, 2 February 2026 and 27 July 2026; target statements of 4 August 2025 and 24 June 2026 (as per the latest figures available).

3.2.2 The Committee does not read this arithmetic as a caution. It reads it as a specification: the targets are attainable precisely if, and only if, force multipliers are brought to bear that change the slope of the line. Citizen participation at national scale, capture standards that avoid rework, and machine assistance directed at the narrowest bottlenecks are those multipliers. Recommendations 1, 3 and 4 supply those multipliers.

3.3 Commitment rising

3.3.1 The financial commitment to the Mission has risen from Rs. 3.50 crore sanctioned in 2024-25 to Rs. 15 crore in 2025-26 and Rs. 60 crore in 2026-27, within a sanctioned outlay of Rs. 491.66 crore for 2025-2031. A seventeen-fold rise in the annual sanction within three years is the fiscal signature of a national priority.

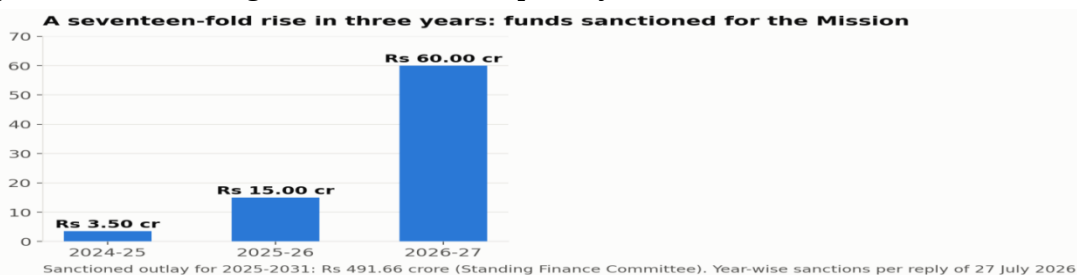


Figure 3.3. Funds sanctioned for the Mission, year-wise. Source: reply to the Lok Sabha, 27 July 2026 (as per the latest figures available).

3.3.2 The Committee draws the practical conclusion that the recommendations of this Report do not, in the main, ask for new money. They ask that expenditure already provided buy the maximum that current technology allows: that every rupee of scanning also purchase the spectral image where one is needed, the materials signature, the provenance record and the training data, since the marginal cost of capturing everything at first handling is a fraction of the cost of a second national mobilisation. Recommendations 1, 2 and 9 rest on this reasoning.

3.4 Access accelerating

3.4.1 Public access has moved decisively. From 76,000 manuscripts in the public domain reported at the first sitting, and 77,152 on the earlier national portal in April 2025, the collection open to view reached 1.29 lakh in February 2026 and more than 3.90 lakh by July 2026, a three-fold rise in five months.

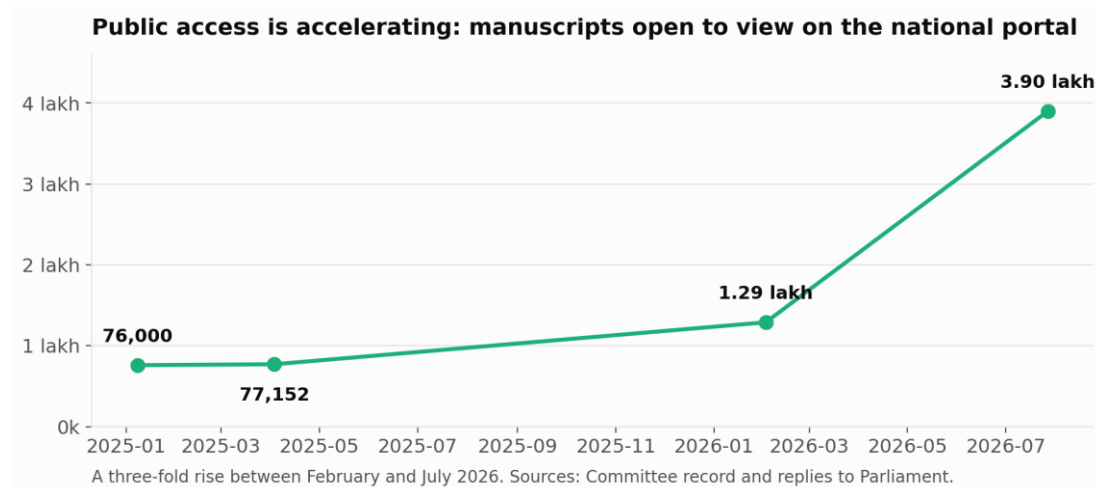


Figure 3.4. Manuscripts open to public view. Sources: material before the Committee, January 2025; replies to Parliament of 3 April 2025, 2 February 2026 and 27 July 2026 (as per the latest figures available).

3.4.2 As access grows, the manner of access grows in consequence. A collection viewed by lakhs of citizens and cited by scholars across the world requires the citation-grade standards, the travelling provenance labels and the community protocols recommended in Chapter Five. Recommendation 9 answers this requirement.

3.5 The ledger built before the scanner

3.5.1 Two decades of the National Mission for Manuscripts produced metadata for about 52 lakh titles against 3.3 lakh titles digitised by January 2025. The ledger, in other words, was built ahead of the scanning, and it is a national asset of the first order: it is the sampling frame from which the corpus can now be prioritised by textual value rather than by convenience of location.

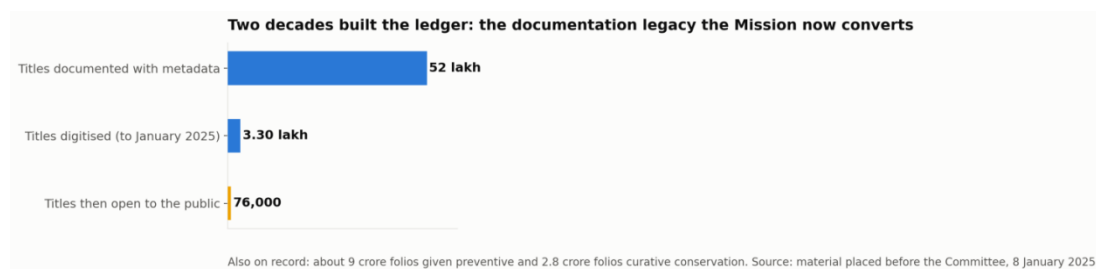


Figure 3.5. The documentation legacy, in titles. Source: material placed before the Committee, 8 January 2025.

3.5.2 The conservation legacy recorded at the same sitting, of the order of nine crore folios treated preventively and 2.8 crore curatively, equally awaits its modern instruments: condition information gathered by the survey can now order the conservation queue nationally. Recommendations 1, 3 and 12 put the ledger and the legacy to work.

3.6 The map approaches completion

3.6.1 The cultural mapping of villages moved from 4.5 lakh profiles reported in February 2025 to 6,23,449 by December 2025, against the identified universe of 6,38,365 villages: coverage of 97.7 per cent. Validation of the collected profiles, in association with the Ministry of Panchayati Raj and the Gram Panchayats, proceeds alongside, with the design corrections already noted at paragraph 2.2.1.

3.6.2 A map that is substantially complete is ready for a second life beyond publication: as a layer in the nation's planning systems, as the register to which the artisan's authenticity mark points, and as the frame within which every school child can find and enrich the record of their own village. Recommendations 11 and 12 give the completed map that second life.

3.7 The capability in hand

3.7.1 The Committee tabulates the capability the Mission has assembled, as stated in the record.

Capability	Position on the record	Source
Recognition accuracy, handwritten Indian scripts	90 to 91 per cent, refined by scholar correction	Evidence, 24 June 2026
Languages of interaction on the portal	22 Indian languages, with select foreign languages	Evidence, 24 June 2026
Scripts under active model development	13 Indic scripts with one partner, further scripts with others	Evidence, 24 June 2026
Sovereign compute	72 GPUs from MeitY, of which 52 allotted among five partners	Evidence and concept note, 24 June 2026
Centres onboarded	47 (29 Cluster and 18 Independent)	Reply to the Lok Sabha, 27 July 2026
Intellectual property from allotted compute	Remains with the Government of India	Evidence, 24 June 2026

Sovereign compute for heritage: allocation and headroom

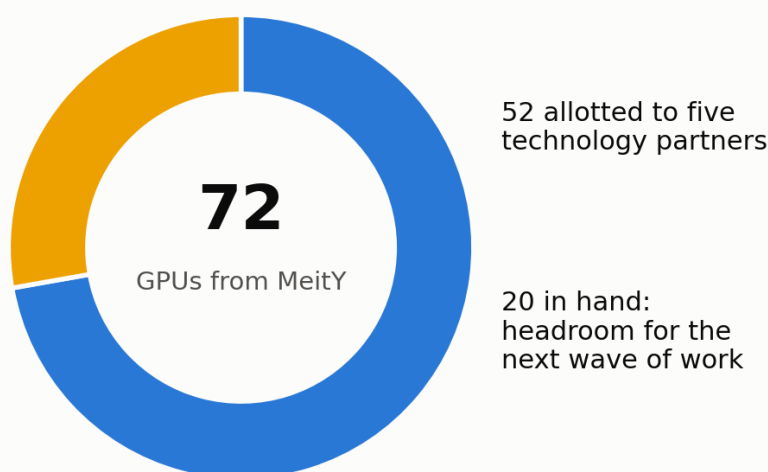


Figure 3.7. Sovereign compute: allotment and headroom. Sources: evidence and concept note, 24 June 2026.

3.7.2 Twenty of the seventy-two units stand in hand: headroom for the next wave of work, including the recognition of further scripts and the scientific applications recommended in this Report. Recommendations 4 and 6 draw on this capability and this headroom.

3.8 The living heritage baseline

3.8.1 For the living traditions, the record supplies the baseline on which the Committee builds: 359 vanishing art forms documented and supported through the Zonal Cultural Centres since 2015, with 359 gurus and 2,049 shishyas; the revival of the Kamba Ramayanam tradition; conventions and honours for endangered languages through the Sahitya Akademi; 117 endangered languages identified under the Scheme for Protection and Preservation of Endangered Languages; and thirteen Indian inscriptions on the UNESCO Memory of the World International Register, the Bhagavadgita and the Natyashastra having entered in 2025. The September evidence further recorded the enhancement of the folk artist honorarium from Rs. 800 to Rs. 3,000, the opening of sale at the national galleries, and the Ministry's stated intention that ninety-five per cent of digital platform revenue flow to the artist: the beginnings of a market architecture to which the Committee returns at Recommendation 11.

3.8.2 The registers exist. What the technologies of the present decade add is the capacity to record not merely the fact of an art form but the embodied technique of its master, not merely the name of a language but the living speech of its last speakers, and not merely the location of a script but its usability on every telephone in the country. Recommendations 10 and 11 supply those instruments.

CHAPTER FOUR: THE COMMITTEE'S APPROACH

4.1 Four principles govern the recommendations in Chapter Five.

4.2 **Capture once, capture completely.** Each manuscript will be physically handled once under the Mission, and in many private homes once in a generation. Whatever information current science can draw from that handling, the image beyond the visible spectrum, the surface relief of the incised leaf, the materials signature, the provenance record, must be drawn then, because the second visit may never come. The cost of complete capture at first handling is a fraction of the cost of return.

4.3 **The corpus is an instrument, not an archive.** The purpose of the expenditure is not the possession of images but the production of knowledge: history, science, medicine, language and livelihood. Every recommendation asks of a technology one question only: what does it cause the corpus to yield?

4.4 **Jan Bhagidari is the force multiplier.** The arithmetic of Chapter Three is answered not by machines alone but by the participation of citizens, students, scholars and custodians at national scale, on platforms designed for them. The nation that wrote these manuscripts is the nation that will read them.

4.5 **India sets standards, it does not merely adopt them.** With the largest manuscript corpus on earth, the choices India makes on capture, provenance, access and machine learning will become reference points for the world. The recommendations are framed so that each Indian choice is exemplary.

4.6 The twelve recommendations are arranged in five movements: the corpus captured, the corpus converted, the corpus yielding, the conditions of trust, and the living inheritance guarded. Each is a single decision with an accountable owner; where a recommendation carries parts, the parts are limbs of that one decision. None requires a new institution, and none displaces work the Ministry has in hand. Their cost, and the partnerships they require across Government, are addressed plainly in Chapter Six.

The shape of the Committee's programme

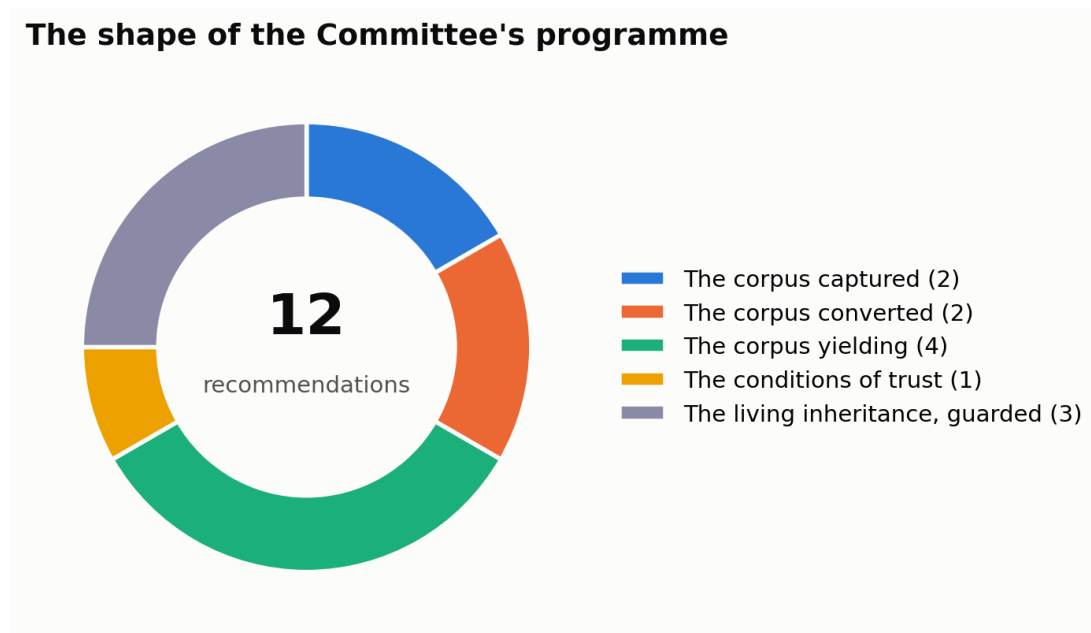


Figure 4.1. The shape of the Committee's programme: twelve recommendations in five movements.

CHAPTER FIVE: RECOMMENDATIONS

5.0.1 The twelve recommendations of the Committee follow, arranged in the five movements of the single programme they form: the corpus captured, the corpus converted, the corpus yielding, the conditions of trust, and the living inheritance guarded. Each recommendation rests on findings recorded earlier in this Report and cited in place, is stated in bold, and is explained in ordinary language together with the result the Committee expects. Where a recommendation carries numbered parts, the parts are limbs of one decision, to be answered together.

The first movement: the corpus captured

5.1 The National Capture Standard: capture once, capture completely

5.1.1 Every manuscript will pass through the Mission's hands once, and in many private homes once in a generation (paragraphs 2.3.2 and 4.2). The digitisation programme contracted in 2025 specifies the flat image with standard catalogue records. The record before the Committee shows what a page can yield beyond the flat image: writing recovered from erased and faded surfaces under many bands of light, the method by which the lost mathematics of Archimedes returned (paragraph 1.1.3), and which the Ministry's own material of 8 January 2025 listed among its envisaged technologies; the incised palm leaf of the southern and eastern collections (paragraph 2.1.2), whose text survives as relief after the soot has fallen and which a flat scan records as blank; the materials of leaf, bark and ink, which identify where a book was made and expose forgery, and on which India's oldest zero travelled (paragraph 1.1.2); and the age of the object, which machine estimation can suggest but only physical measurement can anchor.

5.1.2 Recommendation 1. The Committee recommends that the Ministry enlarge the national digitisation standard into a complete capture standard, settled in consultation with manuscript scholars, the scientific institutions and representatives of custodian communities, and brought into force before the mass digitisation contracts reach full scale, providing: (i) multispectral imaging, which photographs a page under many bands of light, as a defined recovery tier to which damaged, faded and overwritten folios identified in the survey are routed as a matter of course; (ii) surface-relief imaging, which recovers incised writing by photographing the leaf under light from many angles, as the standard of capture for palm-leaf manuscripts, with training delivered through the centres of the southern and eastern States; (iii) a materials record for manuscripts of significance, prepared through the national laboratories without harm to the object, stating what the leaf, bark, paper and ink are made of; and (iv) a published dating protocol in which tiny samples tested at Indian accelerator laboratories anchor the dates, the handwriting models are calibrated against those anchors, and every machine-assigned date carries its stated margin on the face of the record.

5.1.3 The reasoning is single and simple: whatever is not captured at the first handling is, for most collections, never captured at all. A washed page photographed only in ordinary light keeps its older writing hidden; a palm leaf scanned flat gives up the shadow of its text and not the text; a manuscript imaged without its materials record carries its history of workshop and trade route to the shelf unread; and a date without a physical anchor and a stated margin is an opinion. Each of these four captures costs a fraction at the scanning table of what it costs as a second national mobilisation later. The Committee is firm that the standard precede the scale,

and expects the consultation to give the standard what no circular can: the confidence of the scholars who will use the corpus and of the custodians who will feed it.

5.2 Reading the unopenable: a national challenge

5.2.1 Among the survey's holdings stands a class for which even the first photograph is impossible: birch-bark scrolls fused by age, bundles hardened by fire or flood, stacks that would shatter on opening (paragraph 2.3.2). The world has shown that scrolls sealed for two thousand years can be read without being opened, by three-dimensional X-ray scanning and computer reconstruction (paragraph 1.1.3). The Committee notes that the Indian problem is harder than the material on which the method first succeeded, because Indian inks are largely carbon-based and faint to X-rays, and it regards that difficulty as the reason for an Indian challenge rather than a reason for delay.

5.2.2 Recommendation 2. The Committee recommends that the Ministry institute, with the national scientific departments whose scanning facilities already exist, a research and challenge programme for the reading of manuscripts that cannot be opened, beginning with a national census of fused and fire-damaged holdings identified in the survey, and conducted as a public challenge open to India's researchers and students, on the pattern the Mission has already used with success for script recognition.

5.2.3 The bundles this recommendation concerns are today marked unusable and set aside, and damage and age travel together: the discard list is where the oldest material is most likely to lie. A census will establish the size of the prize; the challenge format will put India's physicists, computer scientists and philologists to work on it together; and every bundle read will be a text no living generation has seen.

The second movement: the corpus converted

5.3 The national reading workforce

5.3.1 The evidence identified scholar correction as the stage through which every machine-read page must pass, with about 250 manuscripts through the full pipeline against eight lakh digitised (paragraphs 2.3.3 and 3.1.1, Figure 3.1). The arithmetic of paragraph 3.2.1 and Figure 3.2 requires a change in the slope of the line, and the principle at paragraph 4.4 states where the change will come from: participation at national scale. Between the machine and the scholar stand two untapped multitudes, the public that reads these scripts and the universities that teach them, and behind both stands a question of sequence, for not all of a crore of manuscripts are equal and the metadata legacy of 52 lakh titles (paragraph 3.5.1, Figure 3.5) permits the valuable to be identified and taken first.

5.3.2 Recommendation 3. The Committee recommends that the Ministry build the national reading workforce in three limbs: (i) a citizen transcription platform, which may appropriately be named Akshar Mitra, on which every machine-read page is checked by two volunteers independently and differences are settled by a third or by a scholar, with each contributor's name carried permanently on the corpus, academic credit for enrolled students and public honour rolls by district; (ii) a standing compact with the universities under which departments adopt unedited manuscripts as dissertation projects producing critical editions in the international scholarly standard, recognised in university norms as research output on par with journal publication, the repository tracking adoptions so that no work is duplicated; and (iii) published priority

lists, drawn first from analysis of the national catalogue and refined into full textual family trees as transcription proceeds, so that checking, editing and digitisation alike chase textual value.

5.3.3 The computer reads well but not perfectly, and a person must check every page; there are lakhs of pages and only a few hundred experts. The first limb widens the checkers from hundreds to lakhs: a retired teacher, a student of Sanskrit or Persian, a member of the diaspora, each checking pages whose corrected record will carry their name for as long as it exists. The second limb turns the edition backlog into a curriculum: one unedited manuscript per dissertation, counted as research of the first rank, so that the nation gets its books back one thesis at a time and trains its next generation of manuscript scholars on the Mission's own material. The third limb supplies the order of battle. A famous work may survive in a thousand copies of which a handful carry independent testimony; the catalogue can identify candidates now, and the family trees drawn from transcribed text will sharpen the list as the corpus grows. Together the three limbs are the force multiplier by which the stated targets are reached, and the Committee regards them as one machine, not three schemes.

5.4 Open training data, and models that travel to the manuscript

5.4.1 The evidence recorded both the achievement of the recognition models and the global scarcity of training material for Indic scripts (paragraph 2.3.3), together with the sovereign compute furnished for the work and the intellectual property position secured on it (paragraph 2.3.4, Figure 3.7). Every page the workforce checks is also a lesson from which better readers can be trained.

5.4.2 Recommendation 4. The Committee recommends that every page image and verified transcription produced at public expense be released as an open national library of training pages, with an annual public benchmark on which any laboratory's recognition models are scored on a common test; and that, for collections whose custodians do not permit images to leave the premises, the Mission employ federated learning, under which the model travels to the collection, learns within its walls and departs with the learning alone, the twenty compute units in hand being applied to this purpose.

5.4.3 A computer learns a script from examples, and for Indian scripts examples are scarce the world over. India can end that scarcity from its own corpus, at no additional cost, simply by publishing what its checkers produce, and a yearly open contest will show plainly whose reader reads best. Where an owner will not let images travel, the learning can travel instead, and no custodian need part with a page for the nation's models to improve. Within a few years the Committee expects Indic scripts to pass from the least resourced in machine learning to the best, on Indian data and Indian compute, with the world training on Indian benchmarks.

The third movement: the corpus yielding

5.5 The knowledge graph, the time atlas and the register of scribes

5.5.1 The pipeline already extracts meaning across languages and captures colophons, the scribal notes of place and date, and the survey has tagged every manuscript with coordinates (paragraphs 2.3.2 and 2.3.3). These are by-products of work in hand, and joined they become

the corpus's largest yield. It was by the joining of texts that Ashoka himself was restored to history (paragraph 1.1.2).

5.5.2 Recommendation 5. The Committee recommends that the Mission publish three connected instruments built from what its pipeline already extracts: (i) an open index of the persons, places and works of the corpus, built by automatic extraction of names from the transliterated text and released as linked open data; (ii) upon that index and the survey's coordinates, a time-layered atlas of Indian knowledge, showing where knowledge was written, century by century, open to every citizen and every school; and (iii) a register of scribal hands, built by extending the script models to the recognition of individual writers, linking each hand to the manuscripts it wrote across collections.

5.5.3 Old books are full of names: physicians, rulers, poets, temples, towns, other books. Extracted and connected, the names let the whole library answer questions like one learned mind: where else a healer appears across four centuries of medical writing, which works a dynasty's patronage supported, which districts copied mathematics and which preserved it. Laid on the map with a control for time, the same index becomes an atlas on which every district finds its own dot in the history of Indian thought. And because handwriting is personal, the models can go one step further and give the copyists themselves back their identities, tracing one hand across unsigned volumes in different cities. One infrastructure, three public faces; the Committee expects the atlas to become the Mission's most visible instrument, and the index beneath it to carry a generation of scholarship, Indian and foreign, on an Indian public resource.

5.6 Manuscripts in the service of science

5.6.1 The corpus holds data recorded for one purpose that now serves another (paragraph 1.1.4). Eclipses and comets noted by scribes can, where the record permits precise identification, be dated to the day by astronomical back-calculation, fixing the chronology of whole manuscript families and adding Indian observations to the international series from which the slowing of the Earth's rotation is measured. Annals, temple registers and almanacs preserve centuries of monsoon, famine, flood and price observations of direct value to climate research. Twenty of the seventy-two sovereign compute units stand in hand for exactly such work (paragraph 3.7.2, Figure 3.7).

5.6.2 Recommendation 6. The Committee recommends that the Ministry commission, with the national scientific agencies, the systematic extraction of the astronomical and weather observations preserved in the corpus, and publish them as open national datasets for Indian science.

5.6.3 A marginal note of an eclipse can date a book to the day; a century of famine entries is a climate record that no instrument can now recreate. This work rides on transcription already funded, and it is the clearest early demonstration available that the manuscripts are not a cost upon the present but an endowment for it.

5.7 Reuniting what history scattered

5.7.1 Manuscripts survive in pieces: folios of one original divided among cities, and, as the Ministry's compilation before the Committee recorded, Indian manuscripts in fifty-four institutions across twenty-three countries, exceeding two lakh items on the Committee's

tabulation (paragraph 2.1.1). The Gyan Bharatam Sankalp Patra, the Delhi Declaration adopted on 13 September 2025, pledges the nation to acquire and repatriate original manuscripts or to secure their digital copies from abroad, and holds the manuscript inheritance to be a cornerstone of Viksit Bharat 2047 (paragraph 1.2.1). Part of that overseas wealth already stands digitised by the institutions that hold it, so that for those holdings the question before the Government is one of negotiated transfer rather than of fresh digitisation. India's thirteen inscriptions on the Memory of the World International Register (paragraph 1.2.2) show what recognition follows when treasures are presented whole.

5.7.2 Recommendation 7. The Committee recommends a standing programme to reunite the manuscripts history has scattered, in four limbs: (i) a common catalogue of dispersed and overseas holdings, drawn up from the Ministry's own compilation of repositories abroad and recording, for each holding, whether it already stands digitised; (ii) exchange of images with the holding institutions; (iii) virtual rebinding of divided originals by computer matching of leaves and handwriting across collections, offered equally to institutions in India and abroad; and (iv) the identification of the Indian manuscripts held in overseas collections, the acquisition of high-quality digital copies of them, and steps to bring back the originals where return can be secured, pursued through sustained engagement with the custodian institutions and through the Ministry of External Affairs and the Indian missions, in fulfilment of the Gyan Bharatam Sankalp Patra; with reunified treasures proposed, as they emerge, for inscription on the Memory of the World register.

5.7.3 A computer can recognise, from handwriting, ruling and the shape of the leaf, that pages in different collections belong to one book, and can join them on the screen while every page stays where it is. No question of ownership arises in that work, which is precisely why foreign libraries join such programmes readily, and why the catalogue and the images should be sought first and the harder questions second. The fourth limb takes up the harder questions. Where a holding institution has already digitised what it holds, the copy costs the nation little and can be had by negotiation; where it has not, the Mission's own capture standard can be offered along with the request; and where the original itself can come home, the Sankalp Patra has already committed the nation to ask. Sustained engagement, institution by institution and mission by mission, is what turns a pledge into a schedule of returns. The first homecomings will happen in pixels, ahead of any homecoming in fact, and the convening centre of the world's scholarship on Indian manuscripts will move to where it belongs.

5.8 The living pharmacopoeia concordance

5.8.1 The Committee's attention was drawn in evidence to the difference between a formulation as one manuscript gives it and the formulation as the statutory pharmacopoeia standardises it, a difference of direct consequence for medicine and manufacture (paragraph 2.3.5). The nation's own experience shows what codified textual knowledge achieves: the Traditional Knowledge Digital Library defended turmeric and neem (paragraph 1.1.2). The standardised terminologies of the Ministry of Ayush and the traditional medicine chapter of the international disease classification supply the connecting instruments.

5.8.2 Recommendation 8. The Committee recommends a joint programme of the Ministry with the Ministry of Ayush to build a concordance connecting the medical formulations in the corpus to the standardised national terminologies and the statutory pharmacopoeia, so that manuscript variants are presented for study, the approved

formulation governs practice, and the corpus becomes a research engine for the medicine of the future.

5.8.3 When a reader opens an old formulation on the portal, the official standard should stand beside it: study enjoys the manuscript, practice follows the approved text, and the variants, flagged rather than hidden, become research material for the laboratory. No other country has brought its classical medical corpus and its modern regulation into one disciplined frame. India can be first, with safety and scholarship secured by the same instrument.

The fourth movement: the conditions of trust

5.9 The access and trust architecture of the Repository

5.9.1 Public access trebled in five months (paragraph 3.4.1, Figure 3.4), and as access grows, its manner grows in consequence (paragraph 3.4.2). Three constituencies must each be able to trust the Repository: the scholar, who needs citation-grade access; the custodian, on whose consent the corpus is built, sixteen to seventeen thousand private holders standing on the record (paragraph 2.3.2); and the citizen, who will meet the corpus mostly through downloaded and forwarded copies once downloadability, discussed in evidence (paragraph 2.3.5), is provided.

5.9.2 Recommendation 9. The Committee recommends that the National Digital Repository be built on a three-part architecture of trust, settled in consultation with scholars and custodian communities: (i) the international image interoperability framework as the access standard, with deep zoom, page-level citation, an annotation layer for accredited scholars and side-by-side comparison of manuscripts held in different repositories; (ii) community access protocols offered to every custodian at intake, under which the custodian chooses, item by item, what is open to all, what may be viewed but not copied, what remains with the community and what stays reserved, the choice recorded with the manuscript and honoured by every system that touches it; and (iii) an embedded credential in every machine-produced transcription, translation and audio rendering, stating its origin, its date and whether a scholar has verified it, with the Ministry working with the major platforms so that the credential is preserved wherever the file travels.

5.9.3 Each part serves a constituency the others do not. The scholar who can magnify a letter to the fibre, cite a line by a fixed address and set two copies side by side will do their work on the Indian portal rather than around it, and every citation of an Indian manuscript will resolve to an Indian address. The custodian offered a range of honest choices, rather than a single door open or shut, joins willingly and widens the choice in their own time; respect, recorded and enforced, is the soundest acquisition policy the Mission possesses. And the citizen three forwards away from the portal is protected by the label inside the file itself, which declares what made it and whether scholarship has checked it. The Committee does not underestimate the platforms' habit of stripping embedded information in transit, which is why the recommendation pairs the credential with advocacy; the standard is spreading through cameras and publishing tools, and India's corpus is a reason for it to spread faster.

The fifth movement: the living inheritance, guarded

5.10 The living word and the living hand

5.10.1 India's inheritance is not only written. The evidence dwelt on oral traditions and on languages with a handful of surviving speakers (paragraphs 2.2.3 and 3.8.1); on scripts encoded through Indian scholarship, Tulu-Tigalari most recently in 2024, yet absent from the devices citizens hold; and on 359 art forms documented as vanishing, supported through 359 gurus and 2,049 shishyas since 2015 (paragraphs 2.2.2 and 3.8.1), whose masters' technique no register yet records (paragraph 3.8.2).

5.10.2 Recommendation 10. The Committee recommends a programme for the living inheritance in three limbs: (i) the extension of the Mission's pipeline to oral heritage through speech recognition tuned for Indian languages, taking up first the traditions and languages with the fewest surviving bearers, in convergence with the Scheme for Protection and Preservation of Endangered Languages; (ii) fonts, keyboard layouts and open computer voices for every encoded Indian script that lacks them, published for free download and offered for inclusion in the major operating systems; and (iii) the recording, in three dimensions and in motion, of the complete working technique of the senior-most masters of every art form documented as vanishing, paired with a personal designation carrying a lifetime grant and the duties of training certified successors and completing the record of the technique.

5.10.3 A recorder and a tuned model can turn a day of an elder's speech into searchable text the same week, the voice and the words preserved together; the work must begin where the bearers are fewest, because that clock cannot be paused. A script that cannot be typed on a telephone retreats from daily life whatever is preserved of it in archives, and the missing rungs, fonts, keyboards and voices, are few and inexpensive, though their reach into the handsets depends on the platform owners, which is why the recommendation says offered, and pairs the offer with free public downloads that depend on no one. As for the masters, an ordinary video shows what they make and not what they know: the grip, the order of strokes, the pressure and the pace live in the body, and cameras arranged around the practitioner now preserve them as a record a learner can walk around and slow down. The designation and the grant are the honour side of the same coin. The Committee states plainly that this third limb is a new commitment with recurring cost, and considers it among the best-justified new commitments open to the Ministry.

5.11 The map put to work: planning, tourism and the artisan economy

5.11.1 The cultural map stands at 97.7 per cent of the village universe, with validation proceeding (paragraph 3.6.1), and the survey has fixed the coordinates of the manuscript wealth of every district (paragraph 2.3.2). A completed map is ready for consequence (paragraph 3.6.2). The September evidence pressed a further point upon the Committee with force: living art survives by the market, and the Ministry has itself begun to move, with the honorarium enhanced from Rs. 800 to Rs. 3,000, sale opened at the national galleries, and agreements intended to pass ninety-five per cent of digital platform revenue to the artist (paragraphs 2.2.2, 2.2.3 and 3.8.1).

5.11.2 Recommendation 11. The Committee recommends that the map be put to work in three directions: (i) the cultural mapping database, the manuscript repository locations and the sites of living traditions published as map layers on the PM Gati Shakti

National Master Plan and in district planning systems, with consultation of the cultural layers a standard step of project appraisal; (ii) heritage and knowledge tourism circuits designed from the same layers, so that the repository towns and craft villages enter the visitor economy; and (iii) the artisan and performer records of the map joined to commerce, through onboarding on the Open Network for Digital Commerce with a serialised authenticity credential linked to the artist's entry on the map, and through the extension of the ninety-five per cent revenue-share model across the digital platforms.

5.11.3 A planner who sees the stepwell, the akhara and the manuscript library on the master plan before the alignment is fixed protects them at the drawing stage, when protection costs nothing. A visitor who can find the town that has kept books for five centuries brings it an economy. And an artisan whose entry on the national map doubles as a verified identity in the digital marketplace sells at the price the genuine article commands, with the map's record answering the buyer's first question: is this real, and who made it. The Committee heard in September that artists are not good bargainers; the answer is not to teach every artist bargaining but to build the market in which the work, verified, bargains for itself. This, and not the register alone, is what the mapping of six lakh villages was for.

5.12 The guardianship of the corpus

5.12.1 The survey gathered, with each entry, a photograph and coordinates (paragraph 2.3.2); two decades of conservation stand behind it (paragraph 3.5.2); the National Disaster Management Authority has issued guidelines for museums and for cultural heritage sites; the national alerting system reaches every telephone in a warned area; and the security of the digital corpus itself was raised squarely in evidence (paragraph 2.3.5). These strands are one subject: the keeping of what the nation now holds.

5.12.2 Recommendation 12. The Committee recommends a single guardianship framework for the corpus, physical and digital: (i) the survey's photographic record graded by machine classification into a published register of manuscripts at risk, the national conservation queue ordered by that register, and custodians of at-risk holdings supplied with preservation kits and small connected humidity loggers; (ii) district disaster management plans carrying priority salvage annexes for manuscript and cultural repositories drawn from the survey's coordinates, tied into the Common Alerting Protocol infrastructure of the national alerting system so that a warning for an area flags the collections standing within it, with cultural first-aid training and pre-positioned salvage materials in flood-prone districts; and (iii) a published preservation architecture for the digital corpus, comprising quiet duplicate copies distributed across the Mission's onboarded centres and a deep archive written once on century-lasting film and glass media in separated vaults, the integrity of the whole verified and reported on a stated cycle.

5.12.3 The three limbs answer the three ways a collection dies: slowly, on a damp shelf; suddenly, in a flood; and silently, when a format or a server is retired. The survey's own photographs, read by machine, tell the conservators where to go first, and a custodian with acid-free covers, a guide in the local language and a meter that warns the telephone holds the shelf until they arrive. The flood warning that already reaches every telephone in a block can carry within it the names of the collections in the block, so that warning and rescue arrive together; the losses of the monsoon are the most predictable in Indian heritage and should become the most preventable. And the digital treasure, kept working in one place, resting in

many, and written once on media built for a century, acquires the lifespan of its subject. Some of the originals have survived a thousand years. Their digital forms should be built to deserve them.

CHAPTER SIX: CONCLUSION

6.1 The Committee has framed twelve recommendations, and it wishes to state plainly how they are to be read. They are not a list from which selections may be made. They are one programme in five movements, in which each part strengthens the others, and the Committee has satisfied itself, before recommending any of them, that each rests on capabilities in service today, on findings recorded in this Report, and on work the Ministry itself has set in motion. The Ministry has enumerated the largest manuscript wealth on earth, built the machinery to read it, and secured the outlay to sustain the effort. The question this Report answers is how that investment is made to yield the most.

6.2 The first movement captures. Every manuscript will be handled once, and the Committee attaches the greatest urgency to Recommendations 1 and 2 for that reason: the capture standard must be complete, and in force, before the mass digitisation contracts reach full scale, and the bundles that cannot be opened must be counted and taken up as a national challenge rather than set aside. These opportunities do not return.

6.3 The second movement converts. The reading workforce of citizens and universities, ordered by published priority lists (Recommendation 3), and the open training library with models that travel to restricted collections (Recommendation 4), are the force multipliers by which the arithmetic of Chapter Three is answered and the stated targets reached. The Committee expects them to be treated as parts of one machine.

6.4 The third movement is the yield, the point of the entire undertaking: the knowledge graph with its time atlas and its register of scribes (Recommendation 5), the service of the corpus to astronomy and climate science (Recommendation 6), the reunification of what history scattered at home and abroad, extending to the acquisition of digital copies from overseas collections and the return of originals where return can be secured (Recommendation 7), and the disciplined meeting of the classical medical corpus with the modern pharmacopoeia (Recommendation 8). These four are the passage from possession to knowledge, and the clearest public justification of the Mission's cost.

6.5 The fourth movement secures trust, on which all the rest depends. The access and trust architecture of Recommendation 9 serves the scholar with citation-grade access, the custodian with protocols that leave every choice in the custodian's hands, and the citizen with a credential inside every machine-made file. Trust is the currency in which a mission of sixteen thousand private custodians is paid, and the Committee holds this recommendation to be a condition of everything else.

6.6 The fifth movement widens the corpus to the whole inheritance and stands guard over all of it: the spoken word recorded from its last bearers, the scripts returned to daily life, the masters' hands preserved in the round (Recommendation 10); the map given consequence in planning, in tourism and in a verified market for the artisan (Recommendation 11); and the guardianship framework that answers the damp shelf, the flood and the failing server together (Recommendation 12).

6.7 The Committee is direct about what implementation requires. The greater part of the programme needs partners beyond the Ministry: the scientific departments and their laboratories, the Ministry of External Affairs and the Indian missions, the Ministry of Ayush, the Ministry of Education, the universities and the University Grants Commission, the disaster management authorities, the master-planning platform and the commerce network.

The Committee expects the Ministry of Culture to lead that convergence and not to wait upon it. On cost, the greater part of the programme is a matter of specification and sequence within the outlay already sanctioned; three elements, the designation programme for the last masters, the deep archive, and the build of the citizen platform, will require provision, to which the acquisition of copies and of originals from abroad under Recommendation 7 will add as opportunities arise, which the Committee expects the Ministry to seek in the ordinary course and to state candidly in its action taken replies. The Committee also expects the standards contemplated at Recommendations 1 and 9 to be settled in structured consultation with the scholars, custodians and universities whose participation this Report assumes, and it expects the action taken replies to state, against each recommendation, the manner and the timeframe of implementation. The Committee will follow the implementation of this Report with particular attention.

6.8 The Committee ends where it began. What a nation recovers from its manuscripts is decided by what it brings to them, and India, for the first time in its history, is in a position to bring everything: the survey, the science, the compute, the scholarship and the citizen. The twelve recommendations of this Report are the means by which the crore of manuscripts now counted becomes a working endowment of the Republic, read by its people, taught in its universities, serving its sciences and its artists, and held safe for the generations to come. The Committee records its confidence that the Ministry, which has carried this Mission with speed and conviction, will carry these recommendations in the same spirit.

CHAPTER SEVEN: SUMMARY OF RECOMMENDATIONS

- 1. Enlarge the digitisation standard into a complete capture standard, settled in consultation with scholars, scientists and custodians and in force before the contracts reach full scale: a multispectral recovery tier for damaged and overwritten folios; surface-relief imaging as the standard for palm leaf; a materials record for significant manuscripts; and a dating protocol anchored at Indian accelerator laboratories with margins stated on the record. (Paragraph 5.1.2)**
- 2. Institute, with the national scientific departments, a research and challenge programme to read manuscripts that cannot be opened, beginning with a census of fused and fire-damaged holdings. (Paragraph 5.2.2)**
- 3. Build the national reading workforce: the Akshar Mitra citizen platform with two independent checks on every page and permanent contributor credit; the university compact under which unedited manuscripts become dissertation editions recognised as research of the first rank; and published priority lists so that effort chases textual value. (Paragraph 5.3.2)**
- 4. Release every publicly funded page and verified transcription as an open national library of training pages with an annual public benchmark, and employ federated learning so that restricted collections contribute without an image leaving custody. (Paragraph 5.4.2)**
- 5. Publish the open index of persons, places and works of the corpus, the time-layered atlas of Indian knowledge built upon it, and the register of scribal hands. (Paragraph 5.5.2)**
- 6. Extract the astronomical and weather observations of the corpus, with the national scientific agencies, as open national datasets for Indian science. (Paragraph 5.6.2)**
- 7. Constitute the standing programme to reunite the scattered corpus: a common catalogue of dispersed and overseas holdings; exchange of images; virtual rebinding by computer matching of leaves and hands; and the identification of Indian manuscripts held overseas, the acquisition of digital copies of them and steps to bring back originals where return can be secured, with reunified treasures proposed for the Memory of the World register. (Paragraph 5.7.2)**
- 8. Build, with the Ministry of Ayush, the concordance connecting manuscript formulations to the national terminologies and the statutory pharmacopoeia. (Paragraph 5.8.2)**
- 9. Build the Repository's architecture of trust: the international image interoperability framework as the access standard; community access protocols under which every custodian chooses, item by item, what is shown; and an embedded credential in every machine-produced rendering, with the Ministry advocating its preservation with the major platforms. (Paragraph 5.9.2)**

10. Serve the living inheritance: oral heritage recorded through Indian-language speech recognition, beginning with the fewest surviving bearers; fonts, keyboards and voices for every encoded script, freely downloadable and offered to the major operating systems; and the technique of the last masters recorded in three dimensions, with personal designation, lifetime grant and successor duties. (Paragraph 5.10.2)

11. Put the map to work: the cultural and manuscript layers on the PM Gati Shakti National Master Plan and in district planning; knowledge tourism circuits designed from them; and the mapped artisan joined to commerce through the Open Network for Digital Commerce with authenticity credentials linked to the map. (Paragraph 5.11.2)

12. Establish the guardianship framework: the machine-graded register of manuscripts at risk with preservation kits and connected loggers for custodians; district salvage annexes wired into the national alerting infrastructure with cultural first-aid training; and a published preservation architecture of distributed copies and a deep archive on century-lasting media. (Paragraph 5.12.2)
