

# PROJECT REPORT

SEPTEMBER (2022) - SEPTEMBER (2023)

Sarasvati-Sindhu-Civilization and Indus Seals Script  
Research Work done by Dr. Srinivasan Kalyanaraman



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इन्दिरा गाँधी राष्ट्रीय कला केन्द्र  
INDIRA GANDHI NATIONAL CENTRE FOR THE ARTS

## Overview of Project

The "**Documenting Research Work on Sarasvati-Sindhu-Seals done by Dr. S. Kalyanaraman**" is a pioneering and comprehensive initiative undertaken by the Bharat Vidya Prayojna (BVP) division of IGNCA (Indira Gandhi National Centre for the Arts). This project is dedicated to unravelling the mysteries surrounding the ancient Sarasvati-Sindhu (Indus Valley) civilization, one of the world's oldest and most enigmatic civilizations. Led by the esteemed Prof. A.B. Shukla (HoD) BVP and executed by a dedicated team, it represents a significant exploration into this ancient world.

The primary focus of the project centres on extensive research related to the Indus seal script and its epigraphy, a field in which Dr. Srinivasan Kalyanaraman is a leading authority. The project's objective is to systematically gather and digitally document all of Dr. Kalyanaraman's work. This includes a meticulous examination and compilation of his script decipherments and valuable insights.

The Indus script has long confounded scholars worldwide, remaining a challenging enigma to fully decode. In response, this project serves as a vital initiative by the BVP division of IGNCA to bring together and curate the research efforts of dedicated scholars working towards deciphering this ancient script.

By collecting, documenting, and enhancing this valuable body of research, the project aims to make a substantial contribution to future studies of the Indus script. It represents a collaborative endeavour to advance our understanding of this ancient civilization and its script. In doing so, the project bridges the gap between past and present knowledge, shedding new light on the profound and enigmatic world of the Sarasvati-Sindhu Civilization.

## Message from Project Guide

॥अम्बितमे नदीतमे देवीतमे सरस्वती। अप्रशस्ता इव स्मसि प्रशस्तिमम्ब नस्कृधि॥

(ऋग्वेद 2.41.16)

I am truly delighted to witness the remarkable progress and dedication exhibited by the team BVP IGNCA in the project- “Documenting Research work on Sarasvati-Sindhu-Seals”. The achievements outlined in the report reflect not only your hard work but also your commitment to unravelling the mysteries of this ancient civilization.



Moreover, the progress made in documenting the Indus seals script is truly commendable. Your rigorous research and collaboration with experts in the field have contributed to our understanding of this enigmatic script and its cultural significance.

I would like to express my profound gratitude to each member of the team for their tireless efforts and dedication to this project. Your dedication and passion for this are truly inspiring.

I would also like to extend my heartfelt thanks to IGNCA, Ministry of Culture, Bharat Vidya Prayojna, and its leadership. Dr. A.B. Shukla, Dr. Sanjeev Panchal, Dr. Madhusoodana Pai, and the entire team have been instrumental in supporting our endeavours.

Lastly, my appreciation goes out to our dedicated research fellows, Aditya Akash and Adalarasu MV, whose contributions have been invaluable to the success of this project.

Congratulations on your achievements, and I look forward to our continued success in this endeavour.

Warm regards,

**Dr. Srinivasan Kalyanaraman**

Ph.D., D.Litt.

Sarasvati-Sindhu-Civilization

## Message from Project Advisors

With concurrence from Dr. S. Kalyanaraman, we, D.K. Hari and D.K. Hema Hari, have named this compilation of seal decipherments "Kalyana Karana Kosha (KKK)" to honor his monumental contribution. This Kosha, or compendium, represents the Karana (account-keeping ledgers and seals) employed by the artisans and traders of the Bharatiya civilization to generate Kalyana (prosperity and welfare) for Bharat.



Accessing, reading and analyzing seal decipherments, from the extensive collection published by Dr. S. Kalyanaraman, is a challenge for those interested in studying the evolution of the Bharatiya civilization.

We express our heartfelt gratitude to IGNCA for embracing our proposal to embark on a project that involves creating a database for analysis based on our vision. This project entails uploading seal decipherments published by Dr. S. Kalyanaraman into this database. We are also appreciative of IGNCA's dedication to forming a team committed to uploading the foundational data for 1,000 seals from his published works.

We are glad to have been advisors to the team of Shri. Adalarasu and Shri. Aditya Akash, who diligently undertook the task of data uploading. Their dedication and unwavering commitment to meticulously segregating and uploading data are commendable. Witnessing their growth, from early challenges to mastery in reading these seals under the guidance of Dr. S. Kalyanaraman and our counsel, has been a delight.

We take pride in our contribution to this endeavor by providing guidance and support to the team. The successful completion of this initial scope of work is a testament to their hard work.

We extend our best wishes to Shri. Adalarasu and Shri. Aditya Akash in all their future endeavors and anticipate witnessing their expertise being utilized to expand the database by uploading data on the remaining seals over the next few years.

With anticipation for a bright future in this invaluable research.

**Dr. D.K. Hari & Dr. D.K Hema Hari**

Founders

Bharath Gyan



## **Project Activities**

### **(a) Research and Documentation**

After reporting to the IGNCA Regional Centre Puducherry, we were informed about Dr. S. Kalyanaraman and the nature of his work. Before the meeting with Dr. S. Kalyanaraman we were told to gather information about him and his research on Indus civilization, collect data and information through the web, and understand his work.

On October 13, we got a work order from BVP New Delhi to summarise the scope of work, other modalities, and timeline of work. After that, our first meeting was organised on October 14, 2022, with Dr. S. Kalyanaraman, and we both worked as Research Fellows at the Bharath Gyan office in Chennai. Here we met Dr. S. Kalyanaraman, and we discussed the nature of the work that we gather from the web and some research resources. Dr. Kalyanaraman told us that he has written more than 40 books and 4000 articles and decoded nearly 8000 seals. Meeting with Dr. S. Kalyanaraman on November 16, 2022, it has been decided that we have to organise and shoot an introductory video interview with him in which he elaborates on his research, how it started, and the scope and outcome of his research.

After understanding and analysing the work of Dr. S. Kalyanaraman we had meetings with Dr. Sanjeev Panchal (BVP) and Dr. Madhusoodana Pai (BVP), where we got our work instructions to document the Indus Seals with proper data and high-resolution images from Dr. S. Kalyanaraman.

After all the instructions we got from BVP New Delhi, we started to work with Dr. S. Kalyanaraman with Bharath Gyan, as Dr. S. Kalyanaraman work and research is managed by Bharth Gyan. Here we discuss the style sheet we use to document the seal data, and with a joint meeting with Dr. D.K. Hema Hari and Dr. S. Kalyanaraman, we prepared a style sheet that was designed by Dr. D.K. Hema Hari with the KK and K series format, in which single (K) denotes the basic seals and double (KK) denotes the composite seals. With some updates, we were finalising this format and started working on it.

We collect all the books and resources related to Indus Seals Epigraphy and Sarasvati Sindhu Civilization of Dr. S. Kalyanaraman and analyse them for documentation, and the Epigraphia Indus Script Hypertexts & Meanings (Vol. 1, Vol. 2, Vol. 3) in which Dr. S. Kalyanaraman has decoded and deciphered the Indus Seal is provided by him, from which we have to take the seal data for documentation, and for high-resolution seal images, we refer to Asko Parpola's Corpus of Indus Seals and its Inscription.

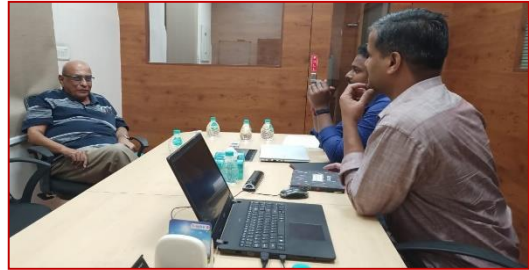
From there, we began to document the Indus Seals data in excel sheets with all of the necessary information and also cropping the high-resolution images from Asko Parpola books.

On January 5, 2023, we organised a joint meeting of our project coordinator, Dr. Madhusoodan Pai, with Dr. S. Kalyanaraman, Dr. D.K. Hari, Dr. D.K. Hema Hari, and two of us will discuss the documentation work and its progress. Here we get an outcome from our project coordinator about an interface where we can store all the data, and BVP New Delhi is working on it as

informed by our coordinator, so till further we were instructed to document the data in an Excel sheet.

### **(b) Collaborative Efforts**

Through collaborative endeavors, we delved into the complexities of Dr. Kalyanaraman's research and embarked on a journey of constant refinement. As a team, we actively learned, adapted, and fine-tuned our documentation processes. This collective effort fostered an environment of continuous improvement, enabling us to not only grasp the nuances of the work but also elevate the calibre of our documentation. In essence, collaboration served as the catalyst for enhancing our comprehension and ensuring the excellence of our work, resulting in a more profound understanding of Dr. Kalyanaraman's contributions to the field.



### **(c) Epigraphy Analysis**

The epigraphy analysis conducted during the collaborative project involved an in-depth study of Indus seals and reference materials, specifically "Epigraphia Indus Script Hypertexts & Meanings" in its three volumes, referred to as Vol 1, Vol 2, and Vol 3. The goal was to gain a comprehensive understanding of Dr. S. Kalyanaraman's research and decipher the inscriptions on these seals accurately.

In the process of documenting these inscriptions, a systematic approach was employed. The analysis led to the classification of seal epigraphy into two distinct categories: basic and composite.

**Basic (K):** This category pertains to symbols or characters that exist as standalone entities on the seals. These symbols do not combine with others to create a larger image or symbol. Each basic element was meticulously documented with proper data. The use of a single "K" denoted these basic symbols.

**Composite (KK):** In contrast, composite epigraphy relates to portions of inscriptions that, when combined, form a complete image or symbol. These composite elements were also documented, taking into account their individual components and their role in creating a larger image or symbol. The use of "KK" denoted these composite inscriptions.

This dual classification, with "K" for basic and "KK" for composite epigraphy, allowed for a clear and organized documentation process. It ensured that each element of the inscriptions, whether independent or contributing to a composite symbol, was accurately recorded with the necessary data, contributing to a comprehensive understanding of Dr. Kalyanaraman's valuable research in the field of Indus civilization epigraphy.

## Achievement

### (a) Data and Image Acquisition of Seals

During the documentation process, we systematically acquired data and images of Indus seals. The data was primarily sourced from the volumes of "Epigraphia Indus Script Hypertexts & Meanings," which had been deciphered by Dr. S. Kalyanaraman, a leading authority in the field. Dr. Kalyanaraman's meticulous work provided valuable insights into the inscriptions on these seals.

In parallel, we obtained high-resolution images of the seals from Asko Parpola's book, utilizing scanned images as our visual references. This multi-faceted approach ensured that our documentation was both data-rich and visually comprehensive, allowing for a thorough examination of the seals' epigraphy and symbols.

### (b) Documentation

In our comprehensive documentation effort, we meticulously recorded details from a total of 1000 seals originating from various prominent Indus Valley Civilization sites, including Harappa, Mohenjo-Daro, Lothal, and Kalibangan. In addition to seals, we also documented a selection of tablets, ensuring a thorough examination of artifacts from this ancient civilization.

To ensure systematic organization and easy reference, each documented seal and tablet was assigned a unique identifier format: SSC0000\_XXXXA. Let's break down this format:

**SSC:** This acronym stands for "Sarasvati Sindhu Civilization," designating the civilization of origin.

**0000:** The four-digit numerical sequence represents the total number of seals and tablets documented. This number ensured that each item had a unique and sequential identifier.

**XXXX:** Following the numerical sequence, the next part of the identifier denoted the specific seal or tablet number. This alphanumeric code allowed for precise identification.

**A:** The capital letter 'A' served as an indicator for seals.

For example, SSC0001\_M-300A was a seal, and the 'A' signified its nature as a seal.

This standardized identification system facilitated easy retrieval and reference in the server provided to us by the BVP IGNCA New Delhi team. The server contained a wealth of information sourced from Dr. S. Kalyanaraman's extensive research. Our documentation process included capturing essential details, such as the inscriptions, symbols, and any relevant contextual information associated with each seal and tablet.

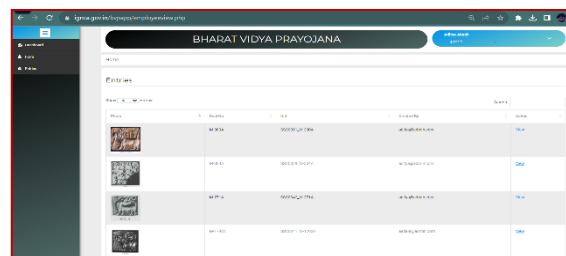
By adhering to this meticulous documentation approach, we aimed to contribute to the comprehensive understanding of the Sarasvati Sindhu Civilization and ensure that this valuable historical information is readily accessible for future research and study.

### (c) Server Setup and Data Documentation

The establishment of a dedicated server Bharat Vidya Prayojna marked a crucial phase in our documentation project, undertaken with the support of Team BVP New Delhi. The objective was to create a secure and efficient platform for storing and managing the extensive dataset of Indus seals and tablets, ensuring the preservation of this valuable information.

Our collaborative efforts extended to the server setup process. Initially, the design of the server was presented to us, and we provided valuable input. Subsequent to diligent refinements and the dedicated work of Team BVP New Delhi, the server was successfully configured to meet our project's specific requirements.

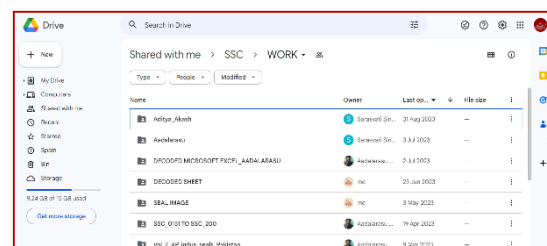
On the significant date of April 12, 2023, we were granted access to the server through login credentials. This pivotal moment marked the transition from our previous documentation method in Excel sheets to a more streamlined and secure platform.



Over the course of the following month, the server underwent rigorous scrutiny, rectifications, and updates to ensure it met our needs optimally. Once the necessary enhancements were completed, we commenced our documentation work directly on the server. This transition not only improved the efficiency of our data management but also enhanced the security and accessibility of the valuable research, contributing to the comprehensive understanding of the Sarasvati Sindhu Civilization.

### (d) Secure Data and Image Storage

In an effort to safeguard our extensive research and documentation work, Team BVP implemented a robust data storage strategy. They established a dedicated Google Drive repository, specifically designed to serve as a secure backup for all project-related documents and assets.



This Google Drive repository played a pivotal role in ensuring the preservation and accessibility of our work. It included:

**Work-Related Documents:** All project-related documents, including Excel sheets, drafts, and documentation records, were securely stored within the Google Drive. This allowed for easy retrieval and reference, facilitating collaborative efforts.



**Cropped Images of Seals:** High-resolution images of both basic and composite seals, carefully cropped for clarity and detail, were included in the repository. These images provided a visual record of the artifacts under study.

**Reference Books:** Comprehensive volumes of reference materials, including the works of Dr. S. Kalyanaraman and Asko Parpola, were stored within the Google Drive. These references were vital for cross-referencing and in-depth research.

**Additional Resources:** In addition to primary documents, the repository also accommodated supplementary resources essential to the project's objectives.

One of the key advantages of this approach was the enhanced accessibility of the data. With the data securely stored in the cloud, team members could access it from anywhere, ensuring flexibility and continuity in our documentation efforts.

By creating this secure data and image storage solution, we fortified our commitment to preserving the integrity of our research and facilitating ease of access, thereby contributing to the comprehensive study of the Sarasvati Sindhu Civilization.

## Challenges

Our journey in this documentation project was not without its challenges. However, these challenges served as valuable learning experiences and opportunities for growth. Some of the notable challenges we encountered included:

**Diligent Study and Patience:** The process of studying and comprehending the complex Indus seals and tablets required significant effort and patience. Deciphering ancient symbols and inscriptions demanded meticulous attention to detail.

**Data Accuracy:** Ensuring data accuracy was paramount. We faced the challenge of cross-checking entries to prevent errors or double entries of the same seal. This meticulous verification process was time-consuming but essential for maintaining data integrity.

**Unique Identification Numbers:** Assigning unique identification numbers to each basic and composite image of the seals was a meticulous task. Ensuring that no duplicates existed was critical for clarity and organization.

**Technical Challenges:** The transition from Excel sheets to the server brought its own technical challenges. Adapting to the new platform and addressing any initial issues required collaboration and problem-solving.

**Data Organization:** With a vast amount of data and images to manage, organizing and categorizing them effectively posed a significant challenge. Maintaining a structured and accessible database was an ongoing effort.

Despite these challenges, our team's commitment and dedication prevailed. Each obstacle was an opportunity to refine our methods and enhance our understanding. Ultimately, these challenges reinforced the importance of thoroughness and accuracy in our documentation efforts, contributing to the success of the project and our collective growth as researchers.

## Future Directions

As we conclude the initial phase of this documentation project, which involved the meticulous recording of 1000 seals and tablets from the Sarasvati Sindhu Civilization, we recognize that this marks just the beginning of a promising journey. The project's future direction holds great promise and includes several key objectives:

**Expansion of Documentation:** If opportunities arise, we aspire to expand our documentation efforts to encompass a more extensive range of seals and artifacts. This expanded scope will contribute to a more comprehensive understanding of the Sarasvati Sindhu Civilization.

**Further Research and Analysis:** The documented data will serve as a valuable resource for future research and in-depth analysis. Researchers and scholars will have the opportunity to delve deeper into the inscriptions and symbols, potentially unlocking new insights into the communication of this ancient civilization.

**Collaborative Endeavors:** Collaboration with experts, institutions, and fellow researchers in the field will remain a cornerstone of our future direction. By fostering collaboration, we can effectively pool knowledge and resources, advancing our collective understanding of the Indus civilization.

**Technological Advancements:** Embracing technological advancements will be pivotal in enhancing our documentation process. This includes the implementation of improved data management systems, cutting-edge image analysis tools, and advanced data visualization techniques.

**Educational Outreach:** Disseminating the findings and insights gained from this project to a wider audience will be a priority. Educational outreach programs will play a crucial role in raising awareness and fostering appreciation for the Sarasvati Sindhu Civilization among diverse audiences.

**Publication and Sharing:** We can publish the comprehensive documentation in reputable academic journals and through accessible platforms. Sharing our work with the broader academic and public communities is essential for the project's success.

In summary, the future direction of this project is marked by ambition and a profound commitment to advancing our understanding of the Sarasvati Sindhu Civilization. With continued dedication, collaboration, and a focus on these key objectives, we anticipate positive outcomes that will contribute significantly to the field of Indus civilization research. As we close this phase of the project, we look forward to the exciting endeavors that lie ahead in uncovering the rich history of this ancient civilization.

## Conclusions

In this concluding phase of our significant documentation project, we reflect upon the remarkable journey we embarked on to unveil the mysteries of the Sarasvati Sindhu Civilization. Our collaborative efforts, unwavering dedication, and meticulous approach have yielded valuable insights into the realm of Indus seals and tablets, illuminating the means of communication in an ancient civilization.

Throughout this endeavor, we encountered a series of challenges, each serving as a stepping stone for our growth as researchers. Diligent study, maintaining data accuracy, and assigning unique identification numbers were among the obstacles we surmounted. These challenges reinforced the paramount importance of precision and thoroughness in our work.

As we cast our gaze towards the future, we envision boundless opportunities for further exploration and discovery. Our commitment to expanding our documentation efforts, delving into deeper research and analysis, and fostering collaborations with experts and institutions remains resolute. Embracing technological advancements and prioritizing educational outreach will be pivotal in disseminating the wealth of knowledge we have amassed.

Ultimately, the culmination of this phase of the project signifies a new beginning in our quest to unravel the enigmatic Sarasvati Sindhu Civilization. The legacy of this ancient civilization holds the promise of unveiling more secrets and insights, and we stand poised to embark on this journey with unwavering enthusiasm and dedication.

In closing, we extend our heartfelt gratitude to all who have been part of this collaborative endeavor, including Dr. S. Kalyanaraman, Prof. A.B Shukla, Dr. D.K Hari, Dr. D.K Hema Hari, Dr. Sanjeev Panchal, and our project coordinator, Dr. Madhusoodan Pai. Together, we have contributed to the comprehensive understanding of the Sarasvati Sindhu Civilization, and we eagerly anticipate the exciting endeavors that lie ahead in the field of Indus civilization research.