MEAP-4-0074

First Condition Report for **R.N. Nagaraja Rao** Photography Collection

Photo conservation team

2023

Introduction

A film still (sometimes called publicity still or a production still) is a photograph, taken on or off the set of a movie or television program during production. These photographs are also taken in formal studio settings and venues of opportunity such as film stars' homes, film debut events, commercial settings, and shooting locations. The photos were taken by studio photographers for promotional purposes. Such stills consisted of posed portraits, sometimes used for public display or as free fan handouts, that were autographed. They can also consist of posed or candid images taken on the set during production and may include stars, crew members, or directors at work.

The main purpose of such publicity stills is to help studios advertise and promote their new films and stars. Studios therefore send those photos, along with press kits and free passes, to as many movie-related publications as possible so as to gain free publicity. Such photos were then used by newspapers and magazines, for example, to write stories about the stars or the films themselves. These stills are used for matching from scene to scene, or for recreating a scene later for a retake. All the details of the set, the costume, and the cast make-up have to be exact, and these stills serve as a useful resource to get that accomplished.

In Tamil Nadu, Sothern part of India, The history of Tamil cinema dates back to 1920s when silent films were being made in Tamil Nadu. the initial years Chennai (Madras) became the hub of movie making and screening. The technologies introduced in the first film studios in Madras were unheard of in the sub continent before. The history of Tamil cinema can be divided into two eras: Tamil cinema from 1920-80 and Tamil cinema from 1980 to the present day.

During this Golden Period of Tamil Film Emergence, where formats and technologies are experimented, emerged an undisputed leader in film still photography Mr. R.N. Nagaraja Rao.

The Photo collection which is based out of Mr. R.N. Nagaraja Rao, 50 year old house where his son Mr. Preamnath stays and manages. The collection consisits of unspecified number of plastic and glass plates, prints, framed images, and slides. The collection is unique resource for visual references and information about 4 decades of South Indian film industry which includes photographs of iconic films from Tamil, Malyalam, Telugu, Kannadam and Hindi. The collections also comprise the portraits of Mahatma Gandhi, Lord Mountbatten, and numerous film personalities and political heavy weights of South India.

This one-of-a-kind collection, housed under one roof, will be invaluable in studying the evolution of South Indian cinema since that time, including photographic techniques, cine poses, test makeup, lighting, sequences, an artificial background, and portrait style.

Most of the films from which the negatives are derived were commercially successful and were screened for more than 100 days in cinema halls. Mr. R. N. Nagaraja Rao

worked with almost all the leading cinema heroes and heroines of his time, including the former Chief Minister of Tamil Nadu, Mr. M.G. Ramachandran, the former Chief Minister of Andhra Pradesh, Mr. N.T.R., the former Chief Minister of Tamil Nadu, Mrs. J. Jayalalitha, Mr. Shivaji Ganesan, and many more famous artists. The production houses he worked with were, and still are, among the leading ones in the Indian cinema industry, such as A.V.M. Studio, Gemini Studio, Vahini Studio, Venus Pictures, Megala Pictures, Balan Pictures, and Devar Films.

To ensure the preservation of this very important collection, I developed a collections care plan that recommends immediate, short term and long term goals to improve the preservation of the collections. A conservation survey and a condition survey of the collection was conducted in order to write recommendations particular to the collection at Mr. R.N. Nagaraja Rao collection. The conservation survey is an assessment of policies, practices and conditions that have an "impact on the care and preservation of the collection."

This includes reviewing environmental and storage conditions, security, emergency planning, history and policy of the collection. Combined with the conservation survey is a condition report of the collection that reviews the present state of objects within the collection. By conducting a condition report of a statistically significant sample of the collection, accurate information about the condition of the collection can be gathered and assessed to rank the severity of different kinds of deterioration. These findings from the condition report can be paired with the conservation survey to analyse the possible causes of deterioration in order to create an effective collections care plan.

The sample size for the research is taking by random sampling of the collection; this was a reasonable option since the entire collection is made of gelatin silver, black and white negative and prints and significantly less other photographic mediums.

The report from the condition survey revealed that the main types of deterioration found in the part of the collection sampled were abrasion, silver mirroring, fading and grime/ dirtor markings. Excessive handling causes many of those types of deterioration. The current acid free paper enclosures used throughout the collection require excessive handling in order to remove the photograph for viewing, leaving room for potential abrasion and other physical damage, such as the accumulation of dirt, grime or other marks.

The silver mirroring was most likely caused by relative humidity fluctuations or salty air, air pollutants over time since silver mirroring is caused when silver oxidizes, creating new compounds; the silver begins to fade and if the excess silver is re-deposited at the surface of the gelatin, a bluish sheen or silver mirroring begins to develop.

The general problem of fading in the collection can be attributed to the possible poor processing of some of the photographs, oxidation from air pollutants, light exposure and high relative humidity and/ or temperature. It is important that in the environment, a low relative humidity is maintained as well as the air filtered to rid the repository of harmful

pollutants. However, it is important to keep in mind that the photographs have aged over sixty five years and in most cases, time will cause both fading and silver mirroring on many gelatin silver photographs.

The condition report of the collection also considered the facts sheets included with each photograph which provides information about the photographs. The most common forms of deterioration occurring in the fact sheets is embrittlement of the paper. Direct ultraviolet light exposure, high temperature, humidity and pollutants are all causes of embrittlement.

The Mr. R.N. Nagaraja Rao Photography Collection is located in a **MOST DANGEROUS AND UNSTABLE LOCATION**. The collection is housed in an old, dirty, and unventilated building that is constantly exposed to extreme humidity, salty air, and sandy winds.

In Mr. R.N. Nagaraja Rao Photography collection, the basic infrastructure which is required to have a photography archive is completely absent. The archive does not have proper storage room, facility, and control mechanism for temperature, light and humidity. These factors significantly contribute to the breakdown and deterioration of photography materials. Heat accelerates deterioration: the rate of most chemical reactions, including deterioration, is approximately doubled with each increase in temperature of 18°F (10°C). High relative humidity provides the moisture necessary to promote harmful chemical reactions in materials and, in combination with high temperature, encourages mold growth and insect activity. The collection does not have emergency disaster plan and emergency fire systems and exits makes the archive more vulnerable to natural and man-made disasters.

Based on my visual examination I have made my findings in both the condition report and conservation survey, I created a collection care proposal that outlined immediate, short term and long term goals to ensure the future preservation of the collection at Mr. R.N. Nagaraja Rao Photography collection. This proposal claims the immediate goals as recommendations that are important enough to be put into action **IMMEDIATELY**.

Immediate (2 months)

1. Identifying the room to convert into archival storage
2. Creating and building a storage room with all basic facilities to house photographic materials (plastering, stooping leakage, replacing windows, reworking electrical wires, etc.)
3. Buying storage cabinets, boxes, sleeves, acid free papers, and other archiving materials
4. Start the process of isolating the good collection from the deteriorating collection as an SOS measure.

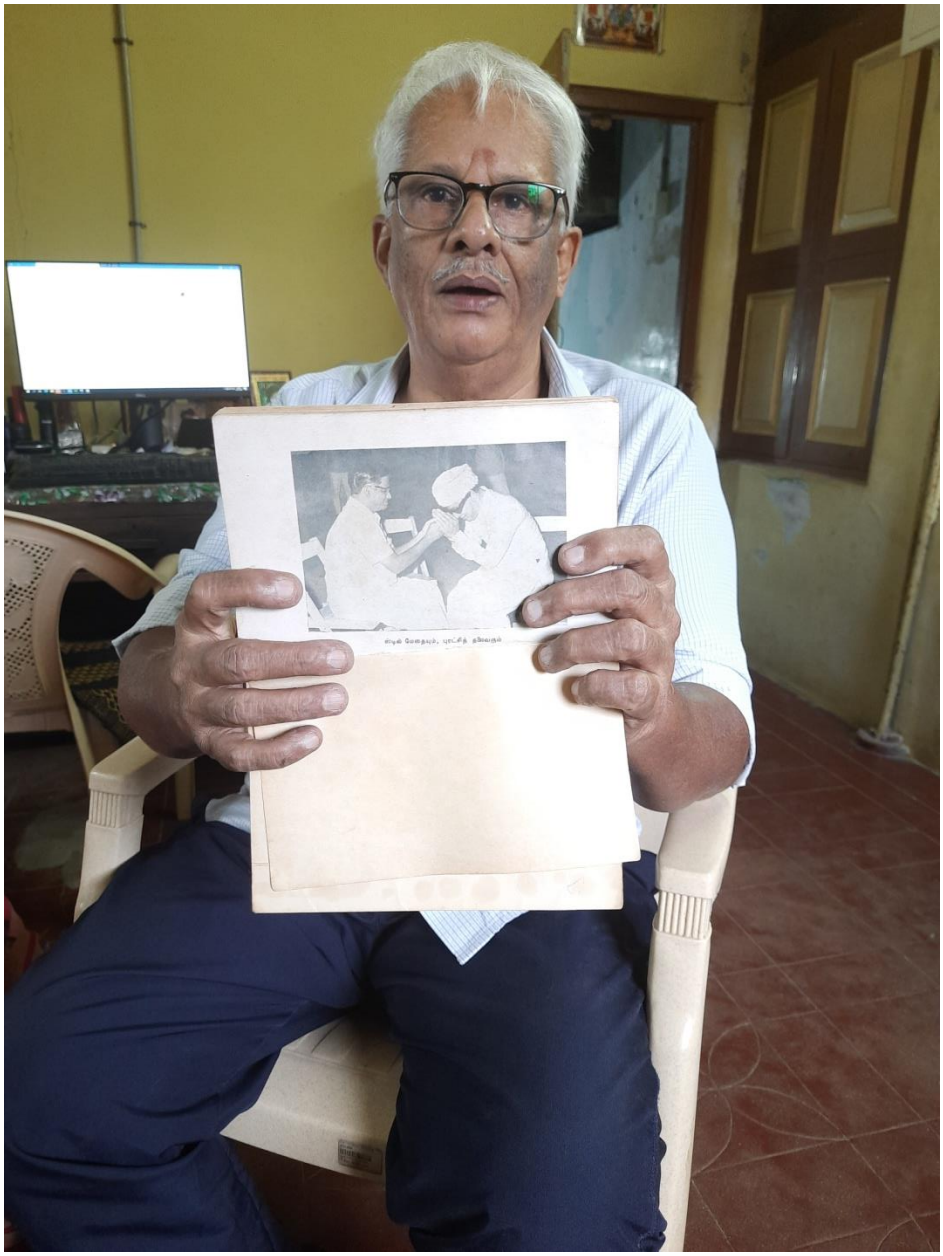
Short Term (9 months)

- Cleaning, re-housing and conserving in order to protect the objects against deterioration.
- Creating unified database
- Digitizing sample negatives and prints

Long Term (1 month)

- Final Condition report
- Developing a digital preservation strategy and policy for the collection

The recommendations are explained in further detail in the collections care proposal that outlines possible methods for carrying out some of the recommendations. These recommendations have been carefully designed after looking at the current condition of the collection and facilities.



Current Arrangement and Housing of the Collection

The photography collection of Mr. R.N. Nagaraja Rao is currently housed in a two-bedroom, 35-year-old house shared by four people. The collections are stored in all places where free space is available. The photographic materials are stored in all places considered notorious for storing important collections, like sidewalks, kitchens, bathrooms, attics, underneath beds, sofas, etc.

The rooms have lots of mold, leaking roof, cracks, and dampness. It is not air-conditioned and does not have proper ventilation. The collections are subjected to all weather conditions, including extreme heat and monsoons. The rooms are filled with filth and waste fabrics, which contribute to the growth of mold in the collections.

The photography collections are stored in makeshift covers, boxes, paper folders, and envelopes that bear the name of the film and the year it was made; apart from this detail, they do not have any numbering or content information. The majority of the materials are bundled with rubber bands and cotton and jute thread, which is pressing very hard on the materials that are supposed to be kept isolated.

According to the visual investigation of the collection, it is evident that the collections are in a state of SOS and require immediate attention and rectification. A close examination of the collection identifies five main types of deterioration in the Mr. R.N. Nagaraja Rao Photography collection: grime/dirt/marks, gelatin and base decomposition, scratches and fading, staining and discoloration, silver mirroring, redox blemishes, and finger prints

A vinegar smell was observed on all the negatives, which is a characteristic of a problem called the "vinegar syndrome." This degradation results from the chemical breakdown of the acetate into acetic acid. Cellulose acetate film is susceptible to vinegar syndrome, which causes the film base to shrink and the gelatin emulsion to pull up in folds. A strong vinegar odor is a telltale symptom in the later stages of deterioration. Acetate deterioration is accelerated by humid conditions.

Abrasions or scratches are the most common form of deterioration found in the photographs, both in minor instances with a few scratches and in major instances with the loss of information. Some cases of silver mirroring were so severe that most of the images were clouded by the bluish sheen from the redeposited metallic silver. Most of the cases are not that severe, but they do have a problem like fading in the image area. Fingerprint marks are visible in the emulsion, which is due to the careless handling. Fingerprints leave perspiration and oily stains on the emulsion.

The collection is deteriorating at a fast pace, though signs of improper handling are visible on almost every photograph sampled. The photographs were often abrasive to varying degrees, showed dirt or grime from hands, and in some cases, there were visible fingerprints.

From what can be seen, it seems likely that more than 20 to 30 percent of the collection will be so badly damaged that most of the images will be lost or hard to see, which is very **ALARMING**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Collections Care Proposal

This proposal contains three types of recommendations for the Mr. R.N. Nagaraja Rao Photography Collection. The visual condition survey of the collection served as evidence for these recommendations. These recommendations are meant as a guide to help improve the preservation of a culturally and historically relevant cllection over the next year. The immediate recommendations are crucial to the current state of the collection, with the short-term recommendations closely following behind. However, some of the short-term recommendations will require longer planning periods in order to allocate appropriate resources once a method of approach is chosen.

These recommendations are best practices, but due to time, money, space, and staff requirements, alterations may be needed. However, these recommendations need careful consideration in order to protect the collection in the future. Looking after the preservation of the collection is far less costly than conservation treatments or losing parts of the collection completely. They are unique, and for that reason alone, better preservation standards are needed so the photographs survive for future generations.

Immediate Intervention

The Mr. R.N. Nagaraja Rao Photography collection at this point is in a very SOS situation, so it is important to implement the immediate plan to save the collection. This immediate intervention should be carried out within one year.

Proper Storage of Photographs and Negatives

Good storage is the most important preservation measure for photographic prints and negatives,

The archive should be housed in a multi-layered collection storage system, composed of successive layers of protective envelopes or enclosures, from the building itself to the equipment and containers that surround an object. The more layers there are, the more protection there is.

It is important to identify and evaluate each layer of the system and adapt it to meet the collection's preservation and protection needs.

In the multi-layered approach, each level adds another layer of protection to the collection by shielding it from the agents of deterioration. The more layers, the greater the level of protection or "buffering" from the agents of deterioration. The layers of protection are:

- Building or facility envelope: the exterior (outside or external) walls of the structure housing the collection.
- Room/space envelope: the walls of the room or space immediately enclosing the collection.
- Equipment and storage furniture: storage furniture such as a cabinet with gaskets, shelving unit housing the object

- Container/housing: a container housing the object, such as a box, tray, or other fully enclosed container.
- Packaging/wrapping materials: museum quality materials that cover and/or support the object inside of its container or housing, such as tissue, muslin, or polyethylene foam.

Safe and secure storage of Mr. R.N. Nagaraja Rao's photography collection requires dedicated space. Collection storage areas must only house photography collections. Personal rooms should be separate.

The Mr. R.N. Nagaraja Rao Photography collection is housed in an old structure; the best approach to providing suitable collection storage space is to create a dedicated room inside the house, which creates another layer of protection for the collections.

The storage room needs to maintain the relative humidity, which is the single most important factor in preserving most photographic prints. A relatively dry climate (30–40% relative humidity) is very important. Temperature is the next controlling factor affecting the stability of the photographic materials. Storage at low temperatures (40°F or below) is recommended. cool (room temperature or below), clean, and stable environment (avoid attics, basements, and other locations with high risk of leaks and environmental extremes). Minimal exposure to all kinds of light; no exposure to direct or intense light inside the archive. Distances should be maintained from radiators, vents, air conditioners, toilets, etc.

Required structural features

The Mr. R.N. Nagaraja Rao Photography Collection Storage should have the following layout, building materials, and structural features so that things can be stored safely and securely:

The storage should have 24/7 air conditioning, air purification, and dehumidification systems. All the equipment, including electrical systems and equipment, should be placed outside the archives; this reduces the possibility of damage to the collection from system leaks.

Verify that the space is free of water and sewer pipes and valves that can burst or leak and cause damage.

Damage from visible light and ultraviolet (UV) radiation is cumulative and irreversible.

The Mr. R.N. Nagaraja Rao Photography collection should be free of ambient light sources that can damage objects; this can be done by sealing all glass windows and doors.

For internal lights, we can use LED or UV-filtered fluorescent lighting. Lighting levels should not exceed 200 lux or 20 foot-candles.

Storage equipment:

It is recommended that the Mr. R.N. Nagaraja Rao Photography Collection shift all the materials into museum quality storage equipment, which is constructed out of steel that is powder-coated with an epoxy, acrylic, or polyester finish.

Storage cabinets, shelving units, and other equipment built of wood, especially unsealed wood, pose a high risk to sensitive collections. Wood emits harmful organic acids and peroxides even after many years. Replace wood equipment with newer steel equipment. So all the photography negatives and positives that are now stored in the wooden cabinet should be removed and stored in new storage systems.

Storage containers are often made of corrugated paper-based boards or plastic. They come pre-made, ready-to-assemble, or with custom materialsrds or plastic. They come pre-made, ready-to-assemble, or with custom materials. Museum quality corrugated boards are made of acid-free paper and are available in neutral pH (unbuffered) or alkaline pH (buffered) varieties.

Protective enclosures within a box, Suitable protective enclosures for photographic prints and negatives are made of acid free paper. Paper enclosures must be acid- and lignin-free. Paper enclosures minimize unnecessary light exposure, are porous, are easy to label with a pencil; and are relatively inexpensive. Prints of historic value should be matted with an acid-free rag or museum board for protection. Adhesives should not touch the print. Matting should be done by an experienced framer or under the direction of a conservator.

Store all prints and negatives (whether matted or in paper or plastic enclosures) in acid-free boxes. If possible, keep negatives separate from print materials. Store color transparencies and slides in acid-free cardstock boxes, metal boxes with a baked-on enamel finish, or polypropylene slide pages.

Storage of family photographs in albums is often desirable, and many commercially available albums use archival-quality materials.

Rehousing of a collection of photographic negatives and prints.

This is an important step for the collection since the original housing is ineffective. The collection needs proper housing to protect the records from handling damage as well as damage from pollutants, dirt, light, oil, water, and other harmful agents that cause deterioration.

The majority of the negatives are not in good condition, although all have suffered from surface dirt to some degree. The main problems with the photographic images appear to be fading and tarnishing. In the photography prints, the poor quality of the support papers and boards has led to degradation and embrittlement, which have been

exacerbated by the storage, specifically in the wooden drawer cabinets, which are barely deep enough for the objects.

The housing of the negatives and positives has to be changed. The best way to store negatives is on concertina folded acid free paper, which is easy to make and cost effective. The concertina-fold model will give the negatives breathing room and make it very easy to remove negatives. They are designed for conservation storage of photographic materials that do not require frequent handling, such as 35mm, 60mm, and 70mm negatives and photographic prints on film and paper.

And for the photography prints, it is important that each photographic item have its own enclosure made up of acid free paper, which isolates each photograph from any potentially damaging components in other photographs. Prints and negatives should not be in contact with each other in the same enclosure. Depending on their age, format, and material, negatives may need to be separated from their prints and placed in storage.

Once they have been individually enclosed in paper, photographs, both positive and negative, must be placed in archival-quality boxes. Where possible, items of similar size should be stored together; the mixing of different sizes can cause abrasion and breakage and can increase the risk of misplacing smaller items.

Horizontal storage of photographs is usually preferable to vertical storage since it provides overall support and avoids mechanical damage such as bending or slumping. The photographs should be stored flat in drop-front boxes of archival quality housed on shelves or in metal cabinets. All enclosures within a box should be the same size, fitting the size of the box. Acid- and lignin-free file folders may be used to organize photographs within the box.

If necessary, vertical storage can be used. Small photographs of uniform size can be individually enclosed and placed vertically in boxes the same size as the photographs.

Conclusion

This report draws attention to the urgent need for better preservation practices surrounding the Mr. R.N. Nagaraja Rao Photography Collection. In order to ensure that the collection will be available for future generations, steps must be taken to improve collection storage and preservation techniques. This proposal is not the only plan of action that can be taken, but based on the evidence that has been gathered from the conservation survey and condition report, these are some of the most important measures that should be taken in order to benefit the collection.

List of materials to be procured immediately

S.N	Particulars	No	Brand and Address
01	GODREJ FILING CUPBOARDS	03	https://mercury.godrej.com/product/classic-cupboards/
02	Archival 35mm Size Negative Pages Holds Seven Strips of Five Frames - 100 Pack	10	
03	Lever Arch Box File	10	Solo
04	Cardboard Document storage box	50	India Mart
05	110, 150 gsm Archival Paper (Made by hand from 100% cotton Naturally acid-free)	100 sheets	Sri Aurobindo Handmade Paper
06	Cotton Gloves	10 pair	
07	Air Blower Pump Universal	01	
08	Ultra soft cleaning brush	02	Art supply shops
09	cotton ball		Cosmetic shops
10	98% isopropyl alcohol.		Chemcial Stores