SYMBIOTIC APPROACH: TOWARDS A PRESERVATION MODEL FOR THE
AUCTION HALL AND ITS CONTEMPORARY EXTENSION AT NAVI MUMBAI’S
MAFCO WHOLESALE MARKET

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A THESIS

in

Historic Preservation

Presented to the Faculties of the University of Pennsylvania
in Partial Fulfillment of the Requirements of the Degree of

MASTER OF SCIENCE IN HISTORIC PRESERVATION

2023

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Acknowledgements

Thank you, David, for your constant guidance, and motivation throughout the process and for graciously editing all of my drafts. I could not have asked for a better advisor. Thank you to Pamela and Frank for helping me understand my interests better and to formulate a trajectory that could help me answer my research questions the best.

Thank you to Shubhra Raje, Shashi Sir, and Ram Prasad, who enthusiastically engaged and patiently endured the interviewing process. Bill Whitaker guided me and introduced me to the new world of the mysteries embedded in the Architectural Archives at the University of Pennsylvania.

Jose has been a constant support through thick and thin. You never let me lose my courage.

To my parents and in-laws, who constantly encouraged me to pursue my dreams and taught me always to aim high. I could not have survived graduate school without your support!

And, to Karan, for all the goods and only goods together!
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List of Abbreviations

UNESCO- United Nations Educational, Scientific and Cultural Organization
ICOMOS- International Council on Monuments and Sites
ISC20C- ICOMOS Twentieth Century Heritage International Scientific Committee
DoCoMoMo- Documentation and Conservation of buildings, sites and neighbourhoods of the Modern Movement
WHO- World Health Organization
ASI- Archaeological Survey of India
ICCROM- International Centre for the Study of the Preservation and Restoration of Cultural Property
TICCIH- International Committee for the Conservation of the Industrial Heritage
mAAN- Modern Asian Architecture Network
DRONAH- Development and Research Organisation for Nature, Arts and Heritage, India
INTACH- Indian National Trust for Art and Cultural Heritage
MAFCO- Maharashtra Agro and Fruit Processing Corporation
APMC- Agricultural Produce Market Committee
CIDCO- City and Industrial Development Corporation of Maharashtra
NDDB- National Dairy Development Board
CPWD- Central Public Works Department, Government of India
IIM- Indian Institutes of Management
IIT- Indian Institutes of Technology
CEPT University- Centre for Environment Planning & Technology
SWOT- Strengths, Weaknesses, Opportunities, and Threats,
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Chapter 1- Introduction to the topic
1.1 Introduction

Independence in India brought a sheer wave of enthusiasm, marking the beginning of a new era of cultural, social, political, and economic development. Architecture’s contribution to the physical manifestation of all these changes was at a crossroads in India. With Independence came new challenges that left the architecture profession in the new nation hazy and with debates around to arrive at the clarity of the goals to be pursued. As a result, two general stylistic approaches emerged: the revivalist and the international, the former being an extension to the Indo-European style, laying importance on the form and expressions as a direct translation of the chhartis¹ and burjis². Whereas the latter, the so-called international style of ‘modernism’, came into existence due to intense urbanization as a form of clean, explicit expressions that catalyzed and responded to faster and more rapid development.³

The attraction to the style of Modernism became more robust with the conception of the capital city of Punjab, Chandigarh, conceived in 1950 and designed by Swiss-French architect Le Corbusier. Chandigarh was one of the most significant experiments in town planning and architecture.⁴ The then Prime Minister of India, Jawaharlal Nehru, praised Chandigarh for its ability to make the people think and “imbibe in new ideas.” He further said:

I like Chandigarh the most for its creative approach- not being tied down to what our forefathers wanted but thinking out in new terms; trying to think in terms of light and air, and ground and water and human beings, not in terms of rules and regulations laid down by our ancestors. Therefore, it is of enormous importance, regardless of whether something in it succeeds or not.⁵

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¹ Chhatri are elevated, dome-shaped pavilions used as an element in Indo-Islamic and Indian architecture. Originating as a canopy above tombs, they serve as decorative elements.
² ‘Burji’ is an architectural installation inspired by the iconic wind towers of the Gulf region, which have been used for centuries as passive cooling devices.
The immediate 2–3 decades after Independence have demonstrated a new awareness and a search for an ‘Indian’ identity, which many termed “Indian-ism”. But for a nation so diverse, with an old jigsaw of civilizations and innumerable cultural influences, whose architecture could not be characterized within a single unified expression. Where, each culture and region are important, and no one could pretend to embody the totality of Indian reality. Hence, I think ‘Regionalism’ would be a more appropriate terminology. Hal Foster suggests that many more layers of design considerations integrate nature and culture to define regional identity and calls it ‘Critical Regionalism’, to which I agree. But how do we characterize the unwrapping of those layers?

This thesis claims that the first-generation modernist architects (mid-20th century) in India during the post-Independence period adopted sensitive modes of designing that were more sensitive to the place and culture than the international style of Modernism, as a response to the politically and culturally charged environment at that time. This thesis also critiques the method of formulating design responses by contemporary professionals devoid of an in-depth analysis, which can then become a blind stylistic adaptation of modern design idioms. Prioritizing the form of a building and aesthetic coherence is part of the design process. Still, such solutions need to include a response to the historic/existing context and corresponding functions. From my experience of studying and practicing architecture in India, the building form is becoming more and more independent of position, place, and time. One of the significant factors contributing to the ad hoc design responses is a lack of research in this area concerning the Indian context.


7 In the book, Anti-Aesthetic, author Hal Foster (page 8), critically acclaims the inclination towards the detachment of the ‘modern’ forms from the identity of the place. He emphasizes more on the dependency of the new building to ‘look’ modern based on the technological advancement over the possibility of creating significant forms. He coins the terms ‘Critical Regionalism’ in response to the richer attitude that needs to be generated to analyze the modern heritage.
An example is an adaptation to the Indian Institute of Management, Ahmedabad, designed by Louis Kahn. Due to the lack of nationally accepted doctrines for preservation, conservation, and adaptation of the recent ‘modern’ heritage, responses are derived solely concerning the aesthetic value, and the importance of the cultural significance embedded in this modern heritage is not fully understood.

The same voices are echoed in Ar. Sarika Sawant’s structured survey (2014) to study preservation and conservation practices in Mumbai. It revealed no written policies on the preservation and conservation of modern heritage in Mumbai’s libraries. In addition to the lack of a written preservation policy, a trained workforce and funding were seen as the main constraints to preservation and conservation practices. This problem became severe in the Central Government Act of Preservation of Monuments 1949 (Appendix-A). Its preservation guidelines were limited to ancient monuments and archaeological sites listed as UNESCO’s Heritage Sites. It mentions a step-by-step process to be followed in carrying out conservation work in the field. However, this document falls short as the scope is limited to the established monuments and archaeological sites listed on the National Monuments list. It does not recommend extending its scope to the comparatively ‘new’ modernist heritage, which has become a rising question in recent decades. Several modernist structures are facing deterioration and losing their integrity due to the lack of guidelines that outline their official listing, preservation processes, and perceptions that these structures are not contributing sufficiently to the age value to be called heritage.

8 “To add to the already substantial international and national outpouring of alarm, ICOMOS is issuing a worldwide Heritage Alert, our most consequential expression of concern, to amplify awareness of the threat to the Indian Institute of Management Ahmedabad (IIMA) Old Campus and draw urgent attention to the imminent risk of loss of the internationally significant buildings that make up the cultural landscape designed by Louis I. Kahn with his team of Indian architects and engineers”. This is quoted from the letter written by Jack Pyburn, President of ICOMOS International Scientific Committee on Twentieth Century Heritage (ISC 20C) in response to the concerning adaptations to the Old Campus designed by Louis Kahn. January 12th, 2021. (ISC20 2021)

9 The list is managed by the Archaeological Survey of India (ASI), a branch of the Ministry of Culture. The NPC-AMASR Act focuses on the monumentality of ancient structures in India, but the policies have remained unchanged since 2014.
The lack of research on the modernist heritage in India is echoed in Jain’s paper, *India’s Modern Heritage: Conservation Challenges and Opportunities*. It is evident enough that against the ancient heritage of the country, these modernist insertions are new. According to her, and from my observation, the modernist structures are valued, if at all, only visually and also appreciated solely by the elite. However, these buildings are emblematic of so much more – massive upheavals in the country’s political, social, cultural, and technological futures. Built over a relatively short span, this ‘recent past’ is essential for much the same reason as most heritage is – to enable a deeper understanding of our place in the present and future.10

Only in the early 21st century did the UNESCO World Heritage Centre, ICOMOS, and DOCOMOMO launch the program on Modern Heritage for ‘identification, documentation, and promotion of the built heritage of the nineteenth and twentieth centuries’.11 There were concerns related to focusing on the contextual studies that were needed to highlight the social, cultural, and economic processes that gave rise to the architecture and, finally, the state of maintenance and adaptation of modern buildings in Developing Nations. These concerns have surfaced in the contemporary Indian architectural design practice over the past two decades. Still, very few documents address different inquiries of research to be followed to assess the cultural and social context for these modernist structures.

On a global scale, there has been considerable research done in the field of heritage preservation emphasizing the importance of cultural heritage, for example, the *Burra

Charter. But on careful examination, one identifies that although the Charter includes an exhaustive list of assessed values and their definitions, the definition for determining cultural values is entirely open-ended. How could we assess cultural value specific to the modernist buildings in India, especially the ones built during the post-Independence period?

This thesis focuses on understanding the meanings and mechanisms of adaptation for modernist buildings in India. It concerns the idea of change and aims to produce a preservation approach model for managing change. Hence, this thesis attempts to generate a model to develop a preservation philosophy specific to the Auction Hall and its extension (F and F’ in Fig.1) at the MAFCO Wholesale Market. The method of inquiry adopted for this case study could be implemented in other modern heritage sites in India that would help contemporary practitioners to develop preservation design responses to sustain the modern heritage of the country.

12 The Burra Charter is a document published by the Australian ICOMOS which defines the basic principles and procedures to be followed in conserving Australian heritage places. The Charter was first endorsed in 1979 as an Australian adaptation of the Venice Charter, but with the introduction of a new analytical conservation model of heritage assessment recognizing forms of cultural heritage beyond tangible and physical conditions. The Charter was the first national heritage document to replace the Venice Charter as the basis of national heritage practice. The Charter has been revised four times since 1979 and has been internationally influential in providing standard guidelines for heritage conservation practice.
1.2 Purpose Statement

Figure 1: Site plan for the MAFCO Wholesale Market showing the focus of this research—the Auction Hall (F) and its contemporary addition (F’) in pink. Source: Author, 2022.

The thesis aims to develop a model approach to derive a preservation philosophy, specific to the Auction Hall (F, 1972) and its contemporary extension (F’, 2002) in Fig. 1, in the Navi Mumbai’s MAFCO Wholesale Market Complex. It is a proposal to implement values-based preservation design philosophy by assessing values specific to the Indian cultural context using frameworks adopted in *Madrid-New Delhi Document, Burra Charter, and Warm Modernity*. The extension to the Auction Hall (F’) is a contemporary addition to the historic fabric, and hence it is logical to include both the Auction (F) and the new addition (F’) in the scope of this thesis.

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13 Auction Hall is a vaulted structure that was used for the auction of fresh produce. But due to the abandonment of the Wholesale Market (B, in Fig. 1), primarily used for buying/selling builds, the entire wholesale market shifted to the Auction Hall. The MAFCO Market Co-operative Society vendors built a temporary metal extension (2002) to the Auction Hall to protect them from heat and rain.
The study examines the context, setting, and values inscribed in the Auction Hall, designed by Anant Raje, and its extension at MAFCO Wholesale Market in Navi Mumbai. The method developed in this thesis could then be used as a model to adapt to different modernist structures in India. However, fundamental to the notion that design responses would vary at other sites, acknowledging the diverse realities in India.

1.3 Research Question
How should a preservation design philosophy be responsive to the cultural, social, and political context of the 20th-century modernist buildings in India?

Sub Questions:
• How to strike a balance between the past and the current needs of the future?
• How to assess cultural values and establish significance for post-modernist buildings in India?
• What should be the nature of the conversation between the professionals and the stewards?

1.4 Objectives
To draw attention and appreciation towards the importance and preservation of India’s modernist heritage.
• Understand the design concerns of the first-generation modernist architects in India and their responses through analysis of their design decisions.
• To increase appreciation for the modern heritage in India.

1.5 Framework of Analysis
The methodology proposed in the *Approaches to the Conservation of Twentieth-Century*
Cultural Heritage, Madrid-New Delhi document,14 2017, is a primary source for deriving the analysis framework for this thesis. However, the Madrid-New Delhi document needs to define values associated with many critical terms, such as the use, history, social context, scientific explorations, or spiritual associations. Hence to understand the values mentioned above in-depth for the proposed model in this thesis, The Practice Note on Burra Charter15, 2013, becomes a pivotal document to fill such definitional gaps in knowledge. On compiling the many critical comments received on the Burra Charter from the Australian NGOs at the State, Territory, and Commonwealth level, a Burra Charter & Guidelines Review: Report on the Comments Received was prepared in 2013. One of the significant comments on the Burra Charter was its failure to address the non-western cultural framework.16 As a further supplement for this thesis, the absence of a framework to assess social and cultural significance concerning the Indian context during the post-Independence period led the author to choose the analytical parameters from Warm Modernity,17 2016 as a third component for the thesis framework. Thus, these three documents play an integral role as a model for understanding the tangible and intangible values and creating a statement of significance for the Auction Hall and its extension at the MAFCO Wholesale market in Navi-Mumbai.

14 Aware of the threats to modern structures around the globe, in 2010, members of the ICOMOS International Scientific Committee on Twentieth Century Heritage (ISC20C) began to draft a text setting out the approach and principles that should be applied to managing and interpreting twentieth-century sites and places. The ambitious objective was to provide an international benchmark. Collaboration with the ICOMOS International Scientific Committee on Cultural Landscapes, ICOMOS International Committee on Historic Towns and Villages, International Technical Committee for the Conservation of Industrial Heritage, and the ICOMOS International Scientific Committee on Energy, Sustainability and Climate Change has successfully resulted in the incorporation of the full breadth of the comments received from the 2014-27 consultation period. The third version was endorsed at the 19th General Assembly of ICOMOS in Delhi in December 2017. (ICOMOS International Scientific Committee for 20th Century 2017) in forward, pp3.

15 Practice Note provides guidance on cultural significance and its assessment, and elaborates the principles contained in the Australia ICOMOS Burra Charter, 2013 (hereafter Burra Charter). It is not a substitute for the Burra Charter.

16 (Australia ICOMOS 2013) p 2 in Practice Note – Understanding and assessing cultural significance

17 The parameters used to analyze the newly emerging cities and architecture in India post-Independence were a derivation of the design considerations of the first-generation modernist architects in India, in turn based on the newly formed constitution of the independent nation.
1.5.1 Formation of the theoretical framework for this thesis

The *Approaches to the Conservation of Twentieth-Century Cultural Heritage, Madrid-New Delhi document*, was published by ICOMOS International Scientific Committee on Twentieth Century Heritage (ISC20), an international body that promotes the identification, conservation, and preservation of twentieth-century heritage places. In 2010, ISC20 started drafting a reference text, setting out the approach and principles that should be applied to managing and interpreting 20th-century sites and places to provide an international benchmark. The objective of the *Madrid-New Delhi document* is to contribute to the appropriate and respectful management of this critical period of cultural heritage.

This document is intended to be used by all professionals involved in heritage conservation and management processes that impact 20th-century modern heritage places and sites.

The document categorizes the process of the conservation of modern heritage into three chronological steps:

(i) Develop knowledge and understanding of the cultural significance

(ii) Implement conservation planning process

(iii) Research modern materiality and planning process

18 ISC20C is interdisciplinary in its membership and recognizes the diversity of regional and cultural expression in twentieth-century heritage. The committee coordinates various projects, conferences, declarations, and publications to address these issues of protection and recognition. The Heritage Alerts program is a crucial advocacy project through which ISC20C raises international public consciousness about specific sites under threat. The committee works in partnership with relevant regional and international organizations interested in Twentieth Century Heritage, such as UAI, TICCIH, ICCROM, mAAN, and DoCoMo Mo. By promoting and celebrating the values of the heritage places of the Twentieth Century and their creators, ISC20C aims to lead, support, and sustain its conservation, management, and interpretation. (ICOMOS ISC20 2022).


20 (ICOMOS International Scientific Committee for 20th Century 2017), in 1.2 Identifying the significance of individual buildings and groups of structures and historic cultural landscapes.

Building on this framework, this thesis aims to establish cultural significance concerning the Indian context. The first step, of understanding and establishing cultural significance for the place becomes the foundation for deriving relevant values.

ISC20 divided ‘Developing knowledge and understanding about cultural significance’ into different phases of identifying and assessing cultural significance. The cultural importance of a place is a record of its time, location, and use. Its cultural relevance may rest in its tangible attributes, including physical location, views, design, forms and spatial relationships, color schemes, construction systems, fabric, technical equipment, and aesthetic qualities. Significance may also lie in use (1), historical (2), social (3), scientific (4), spiritual associations (5), or evidence of creative genius in its intangible values (6).  

Without specific definitions for the values mentioned above, the readers can form their own meanings. To avoid different interpretations for each term, *The Practice Note on Burra Charter* fills the gap by defining any site’s historical, social, scientific, and spiritual values. Definitions for the term ‘adaptation,’ ‘conservation,’ and ‘fabric’ in the *Madrid-New Delhi document* are adopted from the *Burra Charter*. And hence in this thesis, the application and understanding of the values are inspired by the *Burra Charter*. *The Practice Note on Burra Charter* guides cultural significance and assessment while elaborating on the principles illustrated in the *Australia ICOMOS Burra Charter*, 2013. It is not a substitute for the *Burra Charter* but rather a clarification document that supplements and adds more value. The definitions of the five values mentioned above and below are derived from the values used in the *Practice Note on Burra Charter*:

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(a) ‘Aesthetic value- refers to the sensory and perceptual experience of a place.’

(b) ‘Historical value- it is intended to encompass all the aspects of history.’

(c) ‘Scientific value- refers to the information content of a place and its ability to reveal more about an aspect of the past.’

(d) ‘Social value- refers to the associations that a place has for a particular community or cultural group and the social and cultural meanings that it holds for them.’

(e) ‘Spiritual value- refers to intangible values and meanings that are embodied or evoked in a place which give it importance in the spiritual identity, traditional knowledge, art or practices of a cultural group.’

However, the comment (Footnote #16) in the Burra Charter & Guidelines Review: report on the comments received, on the universality of the Burra Charter, about the lack of its adaptation to the non-western contexts generates a need to establish social and cultural meanings for the twentieth-century modern heritage in India.

To understand and evaluate the design translation of the social reforms during the time of Independence in India, Maddalena d’Alfonso’s Warm Modernity becomes the third essential document. In her research on the study of social movements and the implication of policies post-Independence and interviewing first-generation modernist architects in India, d’Alfonso developed ‘interpretative filters’ that act as parameters to integrate the activation process of societies into spatial qualities. She defines the four parameters of analysis below:

(a) ‘Secularization and the consequent social impact’- The process by which socio-political institutions and cultural life are rendered progressively independent of the control and influence of religion, and the Church makes secularization one of the salient features of modernity. Architectural and urban plans provide for the construction of public space that can be adapted to any use.

25 Australia ICOMOS. November 2013. Practice Note : Burra Charter. ICOMOS, p 3 in Aesthetic Value
26 Australia ICOMOS. November 2013. Practice Note : Burra Charter. ICOMOS, p 3 in Historic Value
27 Australia ICOMOS. November 2013. Practice Note : Burra Charter. ICOMOS, p3 in Scientific Value
28 Australia ICOMOS. November 2013. Practice Note : Burra Charter. ICOMOS, p4 in social value
29 Australia ICOMOS. November 2013. Practice Note: Burra Charter. ICOMOS, p4 in Spiritual value
(b) ‘Democracy and the representation of power’- the ideal representation of democratization is to guarantee that people have the right to vote. In architecture, this aspect signifies the implementation of rights through space and, thus, places where these rights can be recognized and exercised.

(c) ‘Industrialization and the impact of technology means transforming society from a rural stage to an industrial one. The effects of this were experienced on a territorial scale regarding the infrastructure required for the organization of industrial complexes and the magnitude of their production.

(d) ‘Time and Feasibility’- the perception of time undergoes significant changes in modernity. People discover new possibilities for organizing their daily lives and identifying unique moments. Architecture spaces could provide provisions to accommodate the new possibilities.31

These definitions have provided the author with an additional set of parameters identifying a framework to understand the manifestation of the social and cultural changes in the newly independent context of India. d’Alfonso tested these parameters against three planned cities: Jamshedpur,32 Bhubaneshwar,33 and Faridabad,34 which began to emerge as new cities in India post-Independence. These four parameters were used to analyze the new cities; hence, it was necessary to have interpreted them to investigate a singular or collective building scale. Her interpretations have, in turn, been a source for analysis in this thesis, and explained in detail in Chapter 2.0- for mapping cultural and social values embedded in the Auction Hall (F) and its extension (F’).


32 Jamshedpur was the pilot project of the entire protocol for new Indian towns drawn up after Independence. It was founded with the idea of creating large manufacturing community, the fruit of an agreement between the Indian state and the TATA Iron Steel Company Ltd, to serve as the community's main center for the production of steel. The coherent planning of the logical and efficient layout was entrusted to O. Koenigsberger, as an attempt to build first modern settlement in India. (M. d. Alfonso, A Feasible Modernity, in Warm Modernity. 2016) in An Industrial City Jamshedpur, p 80.

33 After Orissa was re-unified in 1936, Bhubaneshwar, a temple city and place of pilgrimage for the Hindus, Buddhists, and Jains, was chosen as its capital. The modern city, planned by O. Koenigsberger, is located alongside the historic center without integration. It was designed to serve as a symbol of a federal, democratic, and secular India that could stand marvelous monuments that are 2500 years old. (M. d. Alfonso, A Feasible Modernity, in Warm Modernity. 2016) in A Capital City Bhubaneshwar, p 98-99.

34 Faridabad, planned by P.L. Varma in 1949, is an emblematic case of a new Indian town. Emerging out as a transit camp for refugees set up on the outskirts of New Delhi, its conception and construction was based on the principle of “aided-self-help.” (M. d. Alfonso, A Feasible Modernity, in Warm Modernity. 2016) in A Town for Refugees Faridabad, p 116-117.
These are just some documents available when assessing cultural and social values. Still, the inter-dependence on the Madrid-New Delhi document, The Practice Note on Burra Charter, and Warm Modernity work in the best interest of deriving significance for the rich cultural and social contexts concerning the understanding of the Indian context.

1.6 Methodology

- Establishing the need for this thesis
  • Establishing a general context on Indian Independence and design concerns prevalent at the time as a part of the development of Indian architecture and the advent of modernism in India. Understanding the sociocultural and political context at the time of Independence would be developed by reading essays written by the selected first-generation modernist architects in India and secondary sources on post-colonial theory and cultural identity.
  • Understanding “modern” heritage in post-colonial India.
  • Deriving a framework to establish the cultural significance of a place.

- Understanding Context
  • Explaining the selection of the architect and the site for this thesis.
  • Introduction to Raje’s practice, his professional career, and design inclinations.
  • Introducing MAFCO Wholesale Market into the framework of Raje’s body of work.
  • Introduction to the current situation of structures at the MAFCO Wholesale Market: location, site, context, building complex, and the focus area of study.
  • Introduction to the current needs of the stakeholders.
- Assessing Values and Statement of Significance

  • Assessing aesthetic value includes architectural, historical importance, architectural value, values concerning its location, and value concerning the compositional planning of the building complex.
  • They are assessing social and cultural values, including the secular, democratic, and the power of technology, and time/feasibility aspects are seen through design interpretation.
  • It understands the stakeholder’s perspective to derive the current needs of the present and to provide recommendations for accommodating future interpretations of the Auction Hall at MAFCO Wholesale Market into its preservation design.
  • With the help of assessed values, derive a statement of significance for the Auction Hall (F) and its extension (F’)
  • Identify character-defining elements for the Auction Hall at the MAFCO Wholesale Market.

- Development of design recommendations

  • SWOT analysis, towards identifying the strengths and weaknesses, further developing a scope and opportunities to tackle the threats for the Auction Hall (F) and its extension (F’) at the MAFCO Wholesale Market.
  • Preservation Design Approach, a strategy towards identifying and exemplifying the assets for the Auction Hall (F) and its extension (F’).

- Conclusion

  • Interpretation from this model.
  • Possibility of extending this model to various modernist structures in India and recommendations on essential influences for MAFCO Market.
1.7 Scope and Limitations

The study is based in an Indian context, and my familiarity with the challenges faced in the professional field is the cause of the concerns expressed in this thesis. This study focuses on one modernist building in Navi Mumbai, Maharashtra, India. To make this model more efficient, it would be best to test it on multiple modernist institutional-scaled buildings in India.

Time plays a significant constraint as well. If more time had been available for this study, it would have been possible to perform more field visits and gather more first-hand observations. There was a constraint to accessibility to the site because of the COVID-19 pandemic, which made it more challenging to collect first-hand information about the site’s current conditions. In that case, the study has had to rely on secondhand information from sources familiar with the site. However, the author was able to visit the site once in May 2022, but frequent visits would have enhanced more observations regarding the utility of the space. The significant interpretation herein is based on the stakeholders’ observations and informal interviews.

The architect of the MAFCO market, Anant Raje, is no longer among us. Hence, to source firsthand data, The Architectural Archives at the University of Pennsylvania who houses his collection, becomes the primary source. Secondary sources include his daughter, Shubhra Raje, a practicing architect in the US and India, the local vendors at the MAFCO market, and the president of the MAFCO Corporative Society Ltd. Thus; this study is affected by the limited resources available to understand the project. This thesis does not involve any strategies for fund-raising opportunities for the Municipality of Navi Mumbai for the ramifications of what is suggested for the MAFCO Wholesale Market.

Only architects with professional or academic training outside India are considered for this study. This is my conscious choice to understand the exchange of knowledge between
different landscapes of culture and geography as a medium to reflect on the adaptation of the international modernism style to the Indian context. The study focuses only on the first-generation Indian architects who followed the ideology drawn by Nehru, which was to create new identities for India on a global scale. This thesis is rooted in the Indian context; hence, much of this framework might fail when applied to other countries.

1.8 Literature Review
Recent ideological and technological advancements exist in the studies to conserve and sustain India’s ‘recent past’ (Jain, 2021; McDonald, 2013). However, the inefficiency in the efforts of the governing bodies to preserve these modern gems is a rising concern for contemporary practitioners throughout India (Jain, 2021; Morshed, 2014; Sawant, 2014). There needs to be more awareness to preserve the recent modern heritage, especially in the colonized countries that stand as evidence of the adaptation to the international style of Modernism, giving birth to a more ‘regionalist’ class (Bagha, 1993).

Three primary themes were reviewed to develop a model preservation approach for the MAFCO Wholesale Market in Navi Mumbai, which is facing rapid deterioration due to multiple factors, especially a lack of recognition and a complex governance structure. The literature review will include these major topics: (a). Importance of preserving India’s ‘modern’ heritage, (b). Efforts made by the Government bodies in India to safeguard the modern heritage, and (c). Review the internationally accepted charters for managing change concerning the 21st-century modern heritage.

A. Importance of preserving the ‘modern’ heritage of India
Architecture contributing to the physical manifestation of the new era of cultural, social, political, and economic development was at a crossroads in India concerning arriving at some clarity of goals to be pursued by the architects of the new nation (Bagha, 1993).
The immediate 2-3 decades of the post-Independence period demonstrated a new awareness and a search for an Indian ‘identity’ (Klaus-Peter-Ghast, 2007; Morshed, 2014; Bagha, 1993). The idea of generating a stylistic response rooted in the cultural and social context of the place and using an international style of modernism was termed ‘Indianism’ (Singh 1993). Pawan Singh, an architectural critic, characterized this response as the true definition of tradition - to be the ‘creativity inherent in the sensitive temperament of people.’  

He saw two fundamental questions for the identity of a modern and democratic government: the form that represents democratic rule and Indian sovereignty; and the adaptation of industrial technology to the social capacities and local needs. The new Indian context could be analyzed with the help of four different parameters to understand the integration of the social reforms into the spatial forms (M. d. Alfonso, A Feasible Modernity, in Warm Modernity. 2016):

(i) Secularization- Architectural and urban plans provide for the construction of public spaces that can be adapted to any use.
(ii) Democracy and the representation of power- this aspect signifies the implementation of rights through space and those places where these rights can be recognized.
(iii) Industrialization and the impact of technology- transforming society from a rural stage to an industrial one.
(iv) Time and Feasibility- the emergence of new spatial and urban systems, such as the idea of incremental in space according to the economic conditions.  

Parameters that integrate the process of integration of societies into spatial qualities acted as an ethos for the first-generation modernist architects in India (M. d. Alfonso, A Feasible Modernity, in Warm Modernity. 2016). Establishing a place’s identity through spatial forms could be understood the best within the urban context defining the face of the newly developed nation (Hosagrahar, 2015). Thus, it becomes of the utmost

37 In prologue, para 1.
importance to save the modern structures, as they are a testimony to the political and cultural scenarios during the post-Independence period of India.

Another threat to the modernist structures in India is the lack of adaptation strategies to fit the modern needs and aspirations of the society (Sabu 2021; Ray 2020; Morshed 2014; Sawant 2014). The demolition of the Hall of Nations in 2017, WHO Headquarters in Delhi in 2019, and the proposal to tear down the dormitories at the Louis Kahn’s Indian Institute of Management in Ahmedabad has been termed ‘cultural vandalism’ by William Curtis (Sabu 2021). The inability of the governing bodies to identify these heritage structures leads to a lack of attention and care toward maintenance, resulting in the deterioration of the structures until they become uninhabitable. Lack of Nationally accepted preservation and adaptation guidelines, trained professionals, and funding further leads to the loss of the modernist structures and eventually to the loss of a complete understanding of the ‘Indian’ identity.

(B) Efforts made by the Indian Government bodies to preserve the modern heritage

Archaeological Survey of India (ASI), a government body administered under the Ministry of Culture, was established in 1862, by the British colonial Government as the first government body to look towards the maintenance and protection of the heritage of

38 The Hall of Nations, the world’s first and largest-span space-frame structure built in reinforced concrete, holds special significance in India’s post-colonial history—it was inaugurated in 1972 to commemorate twenty-five years of the young country’s independence.
39 The WHO headquarters in New Delhi was built by Habib Rahman, who at the time was a senior architect with the Central Public Works Department (CPWD). The three-year project was completed in 1962 and inaugurated by Jawaharlal Nehru. or decades, the blue and white WHO headquarters were a city landmark, known best for the “Rahman touch” with clean horizontal and vertical lines.
40 Together, Kahn’s rethinking of the traditional principles of India’s educational system along with a group of ambitious industrialists helped create one of the most sought after, influential, and elite business schools in the world. It was Kahn’s method of blending modern architecture and Indian tradition into an architecture that could only be applied for the Indian Institute of Management.
41 William J. R. Curtis is an architectural historian whose writings have focused on twentieth-century architecture. Curtis’s most important work is Modern Architecture Since 1900, first published in 1982. Curtis has long been interested in Indian architecture, ancient and modern.
India. ASI implemented the Ancient Monuments Act in 1904. The Ancient Monuments and Archaeological Sites and Remains Act (1958) also reproduced its colonial predecessor of the Monuments Act of 1904 (Menon 2015). Confronted by the forces of destruction and unplanned urban development, ASI implemented a policy in 1992 to inhibit any development within 100m of a protected site. (Menon 2015)

The promulgation of the ASI act in 2010 reflects the same Olympian attitude towards India’s architectural heritage as during Lord Curzon (1882). Its objectives do not reflect the social and cultural values of a dynamically evolving society. (Menon 2015) However due to its inability to adapt to the ground realities for undertaking conservation in India, INTACH was established in 1983 as a non-government organization and focused primarily on the unprotected architectural heritage ignored by the ASI. The INTACH Charter published in 2014, looked beyond the monument and thereby expanded the scope of protecting architectural heritage. INTACH promoted the conservation philosophy that the preservation techniques should aid in improving the lives of the people living near the monuments (Menon 2015).

The Indian Government made some efforts towards preserving its ‘recent’ past. But due to the lack of nationally accepted approaches, there is not much awareness of the management of modern heritage. However, international organizations like the Getty Institute, ICCROM, and DOCOMOMO have contributed to developing different approaches while providing recommendations for preserving the mid-20th century modern heritage in India. Recent efforts by NGOs, and national and local agencies such as INTACH Delhi,

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42 Pp 73, para 1
43 Pp 75, para 2
44 Indian National Trust for Arts and Cultural Heritage. INTACH’s mission to conserve heritage is based on the belief that living in harmony with heritage enhances the quality of life, and it is the duty of every citizen of India as laid down in the Constitution of India. INTACH was established in 1983.
45 Pp 79, para 3.
DRONAH, and ICOMOS India look in promising directions with the implementation of internationally accepted models (Kumar 2020). However, an in-depth and regulatory charter that exemplifies the method of adaptation to the recently new modern heritage is missing from the Indian policies of conservation.

The Conservation Management Plan for Gandhi Bhawan(2017) was the first step towards implementing the theoretical framework proposed in the Madrid- New Delhi Document. The detailed plan helps the committee at Gandhi Bhawan, responsible for the design and management of change, to strategically respond and plan for Getty’s research recommendations and implementations (Keeping it Modern, 2017). However, excessive emphasis on the architectural design and the recommendations, suggested primarily from the designer’s lens, is where I feel the management plan falls short of fully understanding multiple stakeholder perspectives. The plan also fails to identify Jugal Kishore and Bhanu Pratap Mathur, the campus architects, and their vision for Panjab University, which could provide essential perspectives into the socio-cultural framework for the recommendations. (Jain, 2021). Prioritizing Jeanerette’s vision and ignoring the contemporary needs of the active stakeholders of the place leaves the interpretation of the Gandhi Bhawan less sensitive to its context.

(C) Review of the relevant internationally accepted charters for managing change concerning the 21st-century modern heritage.

46 Development and Research Organization for Nature, Arts and Heritage (DRONAH) is an interdisciplinary organization consisting of highly motivated professionals from various fields who share a vision for a better quality of life - one that is sustainable environmentally sensitive and draws on the contemporary without foregoing the strength of the Traditional.
47 The Gandhi Bhawan is a significant landmark of the city of Chandigarh, India, and a center dedicated to studying the words and works of Mohandas K. Gandhi. It was designed by the architect Pierre Jeanerette, a cousin of Le Corbusier.
(i) *The Madrid-New Delhi Document*, published in 2017 after incorporating the comments received from the professionals, is a testimony to the shift seen in the paradigm of the conservation profession (ICOMOS International Scientific Committee for 20th Century 2017). It lays its emphasis on providing recommendations only after careful assessment of the cultural significance of the place. It is essential in the process to assess the importance of the setting of the site, not just the tangible features but also the relationships and interactions between visual, ecological, social, and historical aspects of the context and people to further provide recommendations suited to the present and future generations to come (ICOMOS International Scientific Committee for 20th Century 2017).


(ii) *The Burra Charter* is acknowledged to have made an essential contribution to establishing the significance of the cultural landscape in Australia (Australia ICOMOS, 2019). The scope of the policies it developed for recommendations should be specific to the place and based on a holistic approach, promoting a rational approach to each site rather than

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49 1.5 Identifying and assessing the importance of setting, Page 8. In May 2011, the Getty Conservation Institute organized and sponsored a two-day meeting bringing together ICOMOS ISC20 thematic framework subcommittee members and an international group of invitees who understand and have experience with thematic frameworks for heritage assessment, as well as expertise with a range of twentieth-century heritage types across a wide geographic span.

50 Definitions for aesthetic, historical, social, scientific, and spiritual values need to be included in the *Madrid-New Delhi document*. 

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than it being a universal guideline without regionalist adaptations (Australia ICOMOS, 2019). However, in India, with the absence of nationally accepted preservation guidelines for modern heritage, there is a big gap in knowledge created to understand and establish the significance of the architecture emerging in the newly independent nation. And hence, to develop an understanding of the social reforms during the time of Independence through its manifestation in architectural spaces, the framework of analysis provided by d’Alfonso in her chapter ‘Interpretative Filters’ is used from her *Warm Modernity*.

(iii) During the 1990s, the Government and heritage agencies of North America and Europe, including the NPS and English Heritage organized conferences and workshops and issued publications on technical issues, and approaches, contributing to international practices. (McDonald 2013). English Heritage guidelines for the adaptation of the recent past have been mentioned in the Getty publication of *Preserving the Modern Heritage*, as a guide to generate design responses to the sensitive context. The right approach is to examine the context for any proposed development in detail and relate the new building to its surroundings through an informed character appraisal (Cossons 2001). The best structures result from a creative dialogue between the architect, client, local planning authority, and others; pre-application discussions are essential. Collaboration, mutual respect, and a shared commitment to the vision embodied in the project will be needed if the outcome is successful (Cossons 2001). This emphasizes that the importance should be given equally to the place and the people involved in the day-to-day activities with the site and not be limited to the influential perspectives.

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51 *Practice Note Burra Charter* acknowledges the *Burra Charter* turning 40. It includes reflecting on the document’s success and evolution and considering its capacity to respond to an evolving heritage landscape.


The lack of recognition for the cultural inheritance of the 21st-century modern heritage in India and ignorance of the regionalist approach to their interpretation is a significant concern for all the modernist gems in India (Morshed, 2014). This thesis tries to address the methodological questions of defining cultural significance and developing a sensitive preservation model to interpret the Auction Hall and its extension (F and F’) at the MAFCO Wholesale Market in Navi Mumbai to save this modernist gem before it reaches the state of demolition. This study is also an effort to model an approach pertinent to the preservation of other modernist structures in India.
Chapter 2- Introduction to the context
Figure 2: This timeline shows MAFCO in the body of works for Raje. MAFCO Wholesale market was the first project that Raje worked independently upon after his return from the states. After that, from 1970-1986, he did numerous projects with NDDB and MAFCO in Maharashtra and Gujarat state, one where he was born and the one where he practiced as an architect for most of his life, respectively. Source: Author, 2022
The author was particularly interested in finding ties between the international style of Modernism and its adaptations concerning the Indian context. Hence, it seemed logical to choose a practitioner who had educational training and had practiced outside India. This was a conscious choice to understand the learning that incorporated Western styles of design and practice into the new needs of the newly independent nation.

As a co-incidence, Anant Raje, one of the most well-known first-generation modernist architects of India, taught at the University of Pennsylvania and worked in the office of and alongside Louis Kahn in Philadelphia. Hence this posed an excellent opportunity to use the University of Pennsylvania’s Architectural Archives, which houses the entire collection of Raje’s work.

2.1 Introduction to Raje, Architect (1929-2009)

Figure 3: (Left) Raje working at Louis Kahn's office in Philadelphia. (Right)Raje's portrait. Source: Architectural Archives at the University of Pennsylvania.
A leading architect and a dedicated teacher of post-Independence India, Anant D. Raje was born in Pune, Maharashtra in 1929 when India was in its last and final phase of the Independence Movement (India became independent from colonial rule in 1947). He received his training at the Sir J.J. School of Art, Mumbai, where he graduated with a diploma in architecture in 1954. Raje worked in professional practice in the city of Ahmedabad with his former school colleague, Balkrishna Doshi\(^4\) (b. 1927), starting in 1957, where they completed projects ranging from rural housing studies (1958-60) to their submission to the Toronto City Hall competition (1957-58).

Between 1964 and 1969, Anant D. Raje worked in Louis Kahn’s Philadelphia office, where he contributed to several of Kahn’s important and international works including the President’s Estate in Islamabad, Pakistan; Levy Playground in New York; the Interana Project in Miami; and the Dominican Motherhouse in Media, PA.

Raje returned to Ahmedabad in 1969 to serve as Kahn’s on-site architect for the Indian Institute of Management project (IIIM, Ahmedabad), overseeing design development and construction of the school’s main complex, dormitories, and housing additions, in addition to the initial designs for dining halls and a post-graduate management school. Following Kahn’s death in March 1974, Raje served as lead architect for the campus’s completion - including the development of Kahn’s designs for the Dining Halls and the Management Development Centre. Raje spent the remainder of his career in private practice in India, where he designed several sizable public institutions, office building

\(^4\) Balkrishna Doshi, an Indian architect, is the first one to be awarded the prestigious Pritzker Prize (2018). His understated buildings adapted the principles he learned from working with Le Corbusier and Louis Kahn to the needs of his homeland. Considering India’s traditions, lifestyles, and environment, Doshi designed structures that offered refuge from the weather and provided spaces to gather. Balkrishna Doshi was formally presented, on June 15, with the 2022 Royal Gold Medal for Architecture by RIBA President Simon Allford. He has “combined pioneering modernism with vernacular,” while his buildings have been “informed by a deep appreciation of the traditions of India’s architecture, climate, local culture, and craft.” With a 70-year career, over 100 built projects, and his work in education, he became internationally recognized for his contributions to the architectural scene.
Raje worked on the designs of the Indian Institute buildings as Kahn’s right hand and added others in the spirit of Kahn. Kahn’s structures shaped his work, but he interpreted them independently. Just as Kahn, who had turned to Roman constructions for his inspirations for brick architecture, Raje maintained an undisguised veneration for the medieval ruins of central India. While much of Raje’s work was associated with formal aspects of teaching, research, and training, he searched for a suitable vocabulary to express the idea of a public institution for much of his professional career. His late work highlighted a historical monumentality unprecedented in contemporary Indian architecture. Raje’s strength lies in the sacrosanct treatment of space, his regard for an enclosure, the geometric delineation of inside and outside, of room and court, and the eventual trace of Louis Kahn’s Indian legacy. Some essential learnings he recalled from his time at Kahn’s office were to draw effectively and interpret the crucial elements of architecture, whether it be from temples, mosques, or churches.

For Raje, the most critical aspect of designing was to breathe life into the spaces. A discourse from Kahn’s learnings was the interpretation of the context. He was always keen on knowing the various interpretations of the site, either in the form of a sketch or prints. Raje firmly believed that “space in the image of man is placed.” He considered creating environments that fill life into spaces as a critical element of design.

Raje, with his professional background, draws many statements of shared influences. The

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evolution of the institutional architecture came when the nation was burdened by financial debts. Still, the demonstration of the technique, idea, and craft skills was best applied to the buildings of public nature. Raje strongly believed that “The way of life and the order in the material realm brought about the significant architecture of a given era.” He referred to the monolithic Buddhist caves of Ajanta Ellora as his inspiration for using concrete- as defined as “reconstructed stone”. His method of designing vaults resulted from the monolithic derivation of the structures. He refers to them as a ‘deductive way’ of space-making.

In contrast, in a design strategy, Raje introduced vaulted forms in his buildings by taking out ‘unwanted’ material from a finite imaginary cuboidal block until an acceptable and sizable space remains. He references the Adalaj wells as a response to the human-nature relationship. With this example, he emphasizes the impact of human scale on spaces and the interdependency of areas leading to a monumentality of spatial structures.

2.2 Introduction of MAFCO Wholesale Market into Raje’s body of work

As thorough as The Architectural Archives at the University of Pennsylvania is, their held documentation for the MAFCO Wholesale Market Complex, Navi Mumbai, does not contain information about how Raje secured the commission for the project. But from Fig.3, it is synthesized that MAFCO Market, in Navi Mumbai, was the first of its kind project that Raje designed, followed by a series of associations with MAFCO over the course of his professional career.

The City and Industrial Development Corporation of Maharashtra Limited (CIDCO) planned Agricultural Produce Market Complex (APMC)\(^63\) in Vashi township to shift the wholesale markets of agricultural and agricultural-processed commodities. The physical planning and designing of the market were conducive to an open market. With this, the era of free trading began.\(^64\) Completely owned by the State Government and incorporated as a company on 17th March 1970, it is a public sector undertaking of the Government.\(^65\)


At that time, the responsibility for CIDCO was to undertake the planning and development of the satellite towns for Mumbai, and Navi Mumbai is one of them. CIDCO leased the MAFCO Wholesale Market to the MAFCO Ltd. Company for 99 years so that in the 100th year, the Corporative Society would gain ownership from the CIDCO. But during the tenure, MAFCO Ltd. Company underwent dissolution, and MAFCO Wholesale Market Co-operative Society was formed under the governance of the APMC Market.66

MAFCO Market is currently governed by the Maharashtra State Government through APMC and CIDCO, while maintained by the MAFCO Wholesale Market Co-operative Society Ltd. It becomes challenging to navigate such a complex bureaucracy and solve ground-level problems. In fact, this administrative complexity may in and of itself be an impeding factor to effective preservation and management of the market. Nevertheless, these three governing bodies are the hypothetical clients for implementing any recommendations, including those made herein. The need for rehabilitation work is echoed in the voices of the daily users of the place, whereas the Local and State Governing bodies are only concerned with the transfer of ownership.67 However, for this thesis, MAFCO Wholesale Market Co-operative Society is considered the potential client that would take up the responsibility of implementing the maintenance. This is solely based on their member’s constructive attitudes toward sustaining the daily activities of the MAFCO Wholesale Market.

2.3 Introduction to MAFCO Wholesale Market, Navi Mumbai

This section studies the archival drawings, understanding of the context, the setting for the MAFCO Wholesale Market Complex, observations of the physical conditions, and the stakeholders’ perspectives for the MAFCO Wholesale Complex, Navi Mumbai. The author made significant observations of the physical fabric during the site visit in May 2022.

Before my site visit, I understood the market complex concerning its architectural planning at the site level, market complex’s different uses, and activities by generating a visual map for the other functions and use in the complex, with the help of the archival research at the Architectural Archives at the University of Pennsylvania and GoogleEarth images. However, during the site visit, there needed to be an in-depth understanding of the values system deriving from the Madrid-New Delhi Document, as supplemented and enriched by The Burra Charter and the Warm Modernity.

The field report is an accumulation of the author’s visual survey concerning the physical conditions of the Auction Hall (F), its extension (F’), and the daily use of the space. Due to the author’s limitations of resources on site, all observations below were purely visual, without the help of any investigation tools or a high reach to access the roof. No investigative testing was performed during the time of the site visit.
2.3.1 Location of the MAFCO Wholesale Market, Navi Mumbai

Figure 5: Location of MAFCO market. It is located on the main MAFCO road, named after the market to its west. Source: GoogleEarth, 2022.

Figure 6: Neighborhood grain for the MAFCO Market, Navi Mumbai. Source: Author, 2022.
Figure 7: Image highlighting the MAFCO market, in a high-density, mixed-use urban neighborhood. To the East is the Turbhe Village, to the North are the Industrial sheds, to the West is the high-density, high-rise residential neighborhood and to the South is the Mumbai-Satara main highway. The market is a critical junction for distributing fresh produce from neighboring villages. Source: GoogleEarth, 2022.

Figure 8: Site for MAFCO market during construction, 1971. One could see the hills to the East and the landscape behind the site forming a picturesque view of the MAFCO market. Compared to today’s development (Fig 7), one can assume that MAFCO Wholesale Market was one of the pioneers in the development of the Vashi Township. Source: The Architectural Archives at the University of Pennsylvania, 1972.
The conceptualization of Navi Mumbai was the brainchild of the eminent architect and urban planner Charles Correa, structural engineer Pravina Mehta, and Civil Engineer Shirish Patel. The need for a twin city was generated to reduce the occupational loads on the island city of Mumbai. Le Corbusier explains that planning is based on the 7Vs rule, determining the essential function of creating sectors. The aim was to inculcate the principles of Modernism. The planning of Navi Mumbai is geometric and based on a polycentric nodal pattern of development, unlike that of the activity-oriented planning of Mumbai. The architectural concepts outlined in *Navi Mumbai’s Development Plan* were based on Mahatma Gandhi’s philosophical reasoning and Modernism’s functionalist approach. At the same time, Modernism advocated for single-use zoning and patterns based on economic factors, and Gandhian ideas advocated for cultural diversity and mixed-use zoning. The social aspects of city planning were emphasized significantly, with considerations of employment opportunities, housing requirements, utilities, recreation, and commercial needs all receiving special attention. MAFCO Market was conceived during the time of reformations in the city planning policies and was an essential public building of institutional scale in Navi Mumbai.

MAFCO Wholesale Market, designed by Anant Raje, continues to be a heavily visited

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68 Correa’s early work combined traditional architectural values—as embodied in the bungalow with its veranda and the open-air courtyard—with the Modernist use of materials exemplified by figures such as Le Corbusier, Louis I. Kahn, and Buckminster Fuller. In particular, Correa was influenced by Le Corbusier’s use of striking concrete forms. The importance of the site was a constant in Correa’s approach.
69 When Mehta returned to practice architecture, India was on the cusp of modernism, transitioning from a colony to emerging as a new and free nation. She worked on various projects, including designing and building private residences, factories, schools, and institutions.
70 Patel is a writer and speaker in the media on the topic of urban planning and urban density. Patel is a writer and speaker in the media on the topic of urban planning and urban density.
71 A well-defined hierarchy of circulation based on Le Corbusier’s 7v road system designed to lead traffic into the city and distribute it right until the dwelling unit. V1- fast roads; V2- Arterial roads; V3- fast vehicular roads around the sectors; V4- Meandering shopping streets; V5- Sector circulation roads; V6- Access roads to houses; V7- Footpaths and cycle tracks. (State Government of Chandigarh n.d.)
market by locals in and around the Vashi district of Mumbai. It is now in a high-density neighborhood with a mix of residential and industrial functions. The market was designed to be an anchor point in the Vashi Township Thana-Belapur Highway, which was, in turn, a part of the new planning for Navi Mumbai (Fig. 8).73

Constructed in 1973, the market was initially designed to sell and buy potatoes and onions. But due to its success as a model, and later in 1977 expanded as a large-scale market for all kinds of fresh green produce.74

The overall MAFCO Wholesale Market Complex’s site is approximately 11 hectares. The original design intent was to have trucking courts with auction halls marking the vehicular entry to the market. The Auction Hall (F) is the first structure encountered when entering from the northeast. There is a pedestrian strip along the east and west sides of the Auction Hall that connects it with the Wholesale Market (B) on the west and the offices/trading cells (A) on the east side. The offices/trading cells with the shaded streets define the boundary of the complex and the inner spaces of the market. The site plan is sourced from The Architectural Archives of the University of Pennsylvania. There were two open-to-sky courts (C) designed in the complex to provide recreational spaces for the visitors and daily users of the market.75

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73 The total land of Navi Mumbai was divided into thirteen townships. Each township had several sectors. Many of the sectors were residential in character. The neighborhoods were self-sufficient and had their grocery store and primary school. A sector centrally located within each node took on commercial activities.


2.4 Physical Condition for the MAFCO Wholesale Market

My primary observation during the field trip in May 2022 is that the local community of MAFCO vendors has adapted the place according to changing needs and demands. This site visit has helped me to gain a deeper understanding of the needs of the current users of the marketplace.

The current conditions of the different building structures in the MAFCO Wholesale Complex are described below. Each structure is explained first, beginning with the design intended by Raje, followed by a description of the response of the designed spaces to changing times.

Reinforced concrete and brick infill are the two major construction materials used throughout the MAFCO Market.
Figure 9: Site plan, as designed by Raje. Source: The Architectural Archives at the University of Pennsylvania, 1972

Figure 10: Site Plan as built where the dotted red line is the currently built boundary for the site and (B) is declared and still remains uninhabitable, May 2022. Source: Author, May 2022
2.4.1 The MAFCO Wholesale market building complex

Raje's initial design plan (Fig. 10) included several ancillary functions not related to the use of the market, such as banks (D) and office spaces (E), so that these functions could generate revenue for the place. However, bank (D) and office spaces (E) were never built in the market complex, and the Wholesale Market (B) was and remains declared uninhabitable as of 2002.

Figure 11: As-built site plan for the MAFCO Wholesale Market Complex, with the street network in green. Source: Author, 2022.
2.4.2 A- Trading Cells

According to the design intention, all Trading Cells align within a grid of 18.29 m.\(^76\) This grid is divided into two parts, each 9.14m in width and 18.29m in length.\(^77\)

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\(^{76}\) All the drawings available in the *Architectural Archives* at the University of Pennsylvania are in an imperial scale, whereas the drawings in the published works are on a metric scale.

The Trading Cells (A) form an invisible boundary on the east, south, and west of the site enclosing the Auction Hall (F), Wholesale Market (B), and the Open-to-Sky courts (C). In Mumbai, the climate is hot and humid; afternoons are generally slow on the business side. It’s a common practice to rest during the afternoon and return to business from late afternoon until late evening. Considering this, Raje provided three distinctive spaces in response to the cultural adaptation of the context. The Trading Cells contain: (Fig. 14)

(i) The Office
(ii) A storage space- godown
(iii) Sleeping space

Figure 14: Typical design for the offices. Source: base drawing-University of Pennsylvania Architectural Archives, 1972; diagram- Author, 2022.
Current situation:
The Trading Cells (A) are either rented or occupied by individual owners; the owners are a part of the MAFCO Market Co-operative Society Ltd. Due to the private ownership of the space, each cell is adapted according to the needs of the individual sellers. Maintenance becomes more accessible with their personal ownership; hence, on a general note, most trading cell spaces are in good to fair condition.

The trading cells are two stories high. Second-floor space is reserved for either rest or storage (Fig. 14, 21, and 22). Attached bathrooms with the trading cells are only provided in the Trading cells located on the south and west.

The Trading Cells are built of reinforced concrete. The decision to paint or plaster the Trading Cells remained up to each owner. This opportunity provided them to express themselves with different colors/patterns and signboards in front of their space. A temporary metal roof structure was added in 2002, which would have responded to the water infiltration into the spaces. But since the addition of the temporary roof, which is now considered permanent, there have been no complaints about the leaks from the occupants of the Trading Cells (A).78

The interior and exterior of the Trading Cell spaces are well maintained. However, there might need to be some cleaning on the exterior surface. There needs to be an in-depth investigation of the roof and the gutters. But there were no visible issues with the structural integrity of the Trading Cells.

Figure 15: Picture of Trading Cell’s entrance on the South end of the MAFCO complex during construction. Source: The Architectural Archives at the University of Pennsylvania.

Figure 16: Image of the storefronts of the trading cells space situated on the West side of the Market Complex. Source: Author, 2022.
Figure 17: Image of the entrance for the offices located on the South-West corner of the site. Source: Author, 2022.

Figure 18: Alley formed between the Trading Cells on the east (A) and Auction Hall (F). Source: Author, 2022.
Interior images for the offices depicting fair to good condition.
Figure 21: Interior Attic Space-1 of Trading Cells (A). Source: Author, 2022.

Figure 22: Interior Attic Space-2 of trading cells (A). Source: Author, 2022.
2.4.3 B- Wholesale market

Figure 23: Axonometric drawing showing MAFCO Wholesale Market in pink, as built, May 2022. Source: Author, 2022.

Figure 24: Modular grid diagram for Wholesale Market (B). Source: Author, 2022.
According to Raje’s original design, the market within the market consists of rows of raised platforms for selling activities, with circulation aisles on the first floor and smaller offices on the second floor. The offices on the upper floor opened to the side with a small window opening, with the opportunity to expand along the central corridor.

Current Situation:
Because the entire building was abandoned in the 1990s, soon after its construction in 1973, there has been no attention given to the maintenance or repair of the structure, the result of which has been a deplorable condition of the structure and has been declared uninhabitable by the officials at Indian Institute of Technology, Mumbai. It is highly unsafe to inhabit the building space due to the failure of the reinforced concrete structure.

The MAFCO Wholesale Market Co-operative Society is trying to gain rights of power to initiate the rehabilitation process for the building and conduct an intensive conditions assessment, prioritization, and recommendations report for this building. Still, due to a lack of funding and tangled ownership titles, they have yet to succeed with their intentions.

Current conditions include vegetation overgrown on the facade and interior spaces, concrete spalling, significant loss of material, rust jacking, and exposed rebars that are left to rust, contributing to the deplorable conditions of the building.

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79 The structure was built with the assumption that it would be occupied fully, but the overestimation of the capacity led to its abandonment after the 1990s.
80 The Indian Institute of Technology (IITs) is a group of prestigious autonomous engineering and technology-oriented institutes of higher education established and declared as National importance by the Parliament of India. The IITs were created to train scientists and engineers, aiming to develop a skilled workforce to support India’s economic and social development after its Independence in 1947. Professionals from IIT visited the site to perform. Structural assessment for this structure, where they declared it unsafe for habitation. IIT Mumbai is providing structural recommendations and completed an audit to access the stability of the MAFCO Wholesale Market in 2002. These professionals have regulatory control over the physical access to the Wholesale Market (B).
Unsurprisingly, the Wholesale Market is in poor shape and completely uninhabitable. Ashok Walvi, the Director of Maharashtra Rajya Bazaar Samiti Mahasangh (In English-Maharashtra State Agricultural Marketing Board), emphasized the need to rehabilitate the vast structure. It is evident that the Navi Mumbai Municipal Corporation’s failure to address the rising building maintenance issues over the years has resulted in the deplorable conditions of especially this one building in the entire complex. And there has long been a recognition of the dire need to rehabilitate this building complex, especially where ownerships are shared.

The only building structures that still function at a community scale are the Auction Hall (F) and its extension (F’), which are also deteriorating at an alarming rate. Hence, they become a significant concern for this thesis. However, the contemporary extension (F’) was added in 2002 to the historic structure of the Auction Hall (F) and hence is beyond the modern concerns for this thesis. But as both structures work in harmony and are the only ones to hold large numbers of people, they become the focus of this thesis.

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Figure 26: Exterior South facade for Wholesale market (B) Vegetation growing in the cracks. Exposed rebars are seen on the facade. Source: Author, 2022.

Figure 27: Exterior South Façade showing concrete spalling. Large holes in the walls. Vegetation is growing all over the facade. Source: Author, 2022.
Figure 28: Interior Photo of the Wholesale Market, with Auction Hall to its Left, MAFCO Navi Mumbai, 1972. Source: The Architectural Archives at the University of Pennsylvania, 1972.

Figure 29: Interior view of the trading platforms at the Wholesale Market (B). Concrete failing and pieces are falling all over the place, 2022. Source: Author, 2022.
2.4.3 F- Auction Hall

The auction hall is a two-bays wide structure running in the North-South direction. Within the site’s module, it is 22.8 m in length and 9.14 m wide. It consists of two vaults running along its length. An extended plinth\textsuperscript{82} was intended to carry the spillover goods according to the original design intent, the raised platform north of the Auction Hall (F) was designed for loading/unloading the goods. But in 2002, due to the abandonment of the Wholesale Market (B), a contemporary extension in steel was assembled on the same plinth. Hence, the then plinth, intended to be used as a loading/unloading platform, was then converted into the extension to the Auction Hall (F’).

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\textsuperscript{82} According to the original design intent, the raised platform north of the Auction Hall (F) was designed for loading/unloading the goods. But in 2002, due to the abandonment of the Wholesale Market (B), a contemporary extension in steel was assembled on the same plinth. Hence, the then plinth, intended to be used as a loading/unloading platform, was then converted into the extension to the Auction Hall (F’).
and materials from the covered Auction Hall. Currently, this is the only functional place in the market complex that could hold large number of people from the neighborhood.

Individual vendors occupy the space to sell their fresh produce. Each vendor has a designated space inside this vaulted structure. The space is occupied from 6:00 AM until 7:30 PM; when the vendors leave, a cleaning committee occupies the space until 9:00 PM, and the space remains vacant until the next day at 6:00 AM.83

Mumbai’s high rainfall and humid tropical climate causes significant deterioration to the concrete’s exposed surface. But another probable reason for the constant decline is the shared ownership and its administrative complexity. The lack of appreciation and attention to the structure and improper adaptation of the electrical services has resulted in a steady decline in the condition of the concrete. A structural inspection must test the structure’s stability and determine structural repairs for the vaulted roof and the temporary metal structure.

Significant conditions like concrete spalling, rust staining, rebar rust jacking, major and minor cracks expanding and leading towards material loss, and exposure of the exterior climate to the rebars are now posing a threat to the structural integrity of the Auction Hall (F).

There needs to be a lift on the site to get access to assess the roof condition. But as there have been no efforts towards any repair or maintenance for this structure, it can be assumed that the roof is in poor condition.

Figure 32: Photo of the Auction Hall during construction, 1972. Source: The Architectural Archives at the University of Pennsylvania, 1972.

Figure 33: Interior space for the Auction Hall (F) shows deterioration on the surface. One can see the exposed and rust-proofed rebars, some spalling, and much material loss. Source: Author, 2022.
Figure 34: East façade and entrance to the Auction Hall (F). Source: Author, 2022.

Figure 35: Interior roof of Auction Hall (F). Deteriorating conditions of rust jacking, efflorescence, rust staining, spalling, material, and exposed rusted rebars are evident. Source: Author, 2022.
2.4.4 F’- Extension to the Auction Hall

There is a temporary extension (F’, 2002) added to the Auction Hall (F) in metal and glass on the same plinth level as the Auction Hall (F) to satisfy the need for more space for the wholesale market. This structure was not Raje’s original design intent but was erected in response to the local demand for more space. This metal structure currently hinders the light and ventilation to the concrete structure from the north.

The extension was added in 2002\(^4\) to be a simple post and beam metal structure with I-beams and C- columns constituting the main structural elements. The structure is 18.29 m long and 9.14 m wide and is supported on the concrete Auction Hall towards the south side. It has a warehouse-style roof with a clerestory roof that consists of a row of

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windows slitting between two sloping sides. It is a double-height space of the same height as the Auction Hall (F). The structure is industrial in character, with corrugated sheets that were supposed to protect the roof from heavy rainfall. It includes clerestory- glass windows to bring light and natural ventilation into the space.

The structure (F’), as seen in the photographs below, lacks maintenance. Rust is observed on the metal members that compromise the structural integrity. The windows have huge cracks and holes letting in the rain, making the space uninhabitable for vendors and buyers. These cracks and holes in the opening also let in birds and their debris, making the place unhygienic. The poor condition of the roof and windows require immediate attention.

The lack of appreciation and a rehabilitation approach, result in poor maintenance of the structure causing severe deterioration.
Figure 37: Interior view of the contemporary extension (F’) and spatial arrangement of the vendors. Source: Author, 2022.

Figure 38: Interior photo of the extension to the Auction Hall (F’) showing poor condition of the roof. Blue tarps all over the roof to protect the fresh produce from the rain. Source: Author, 2022.
Figure 39: Interior picture of F’ showing cracks in the window panels. Source: Author, 2022.

Figure 40: Interior picture of F’ showing haphazard and patched electric wires running across the interior space. Photo at the junction of the Auction Hall (F) and the extension to the Auction Hall (F’) space. Source: Author, 2022.
2.5 Stakeholders’ Perspectives

Stakeholder perspectives are essential to understand the modern-day interpretations of the MAFCO Wholesale Market. They have helped the author to understand the design intentions and their current-day implementations for the MAFCO Wholesale Market. Concerned perspectives are of the designer and the users. As Raje is no longer among us, his daughter, the closest to understanding his design thinking, was interviewed. Also, the stewards for the MAFCO Wholesale Market, like the vendors and the President of the MAFCO Market Corporative Society Ltd., were interviewed.

2.5.1. Shubhra Raje (Appendix-B)

This conversation with Shubhra helped the author understand more about Raje’s ideas on design aspirations and also draw a parallel between his intention for the space and its current use.

For Raje, primary design considerations expressed through the built form were supposed to be responsive to the use of the building. The second primary design response was to Mumbai’s climate is hot and humid almost throughout the year; it was of the utmost importance to create spaces that could be used throughout the day without dependence on active cooling/heating techniques. This was also a response to post-Independence economic conditions, i.e., air-conditioning was a luxury. According to her, Raje was sensitive to the construction timeline, and concrete as a material did not demand high labor skills. It could offer higher spans and more open plans for different scales of activities.

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85 Shubhra Raje seemed delighted with the idea of the thesis, which was to understand the design method. She did feel that this research could help contemporary practitioners to derive interpretations for modernist structures in India. However, she emphasized the importance of the ability to read and interpret the drawings available at the Architectural Archives at the University of Pennsylvania, as Anant Raje is no longer living. Shubhra Raje, the daughter of Ar. Anant Raje is a practicing architect in India and the United States of America. Ms. Raje is also a lecturer and professor at CEPT University, Ahmedabad. Her focus is on understanding the methodologies adopted by modernist architects to build in the Indian context.
2.5.2. Vendors at MAFCO Wholesale Market, Navi Mumbai.

The author conducted the following interviews when she visited the site on May 31st, 2022. The site was visited during the afternoon from 12:30 PM- 4:00 PM. All the interviews were conducted in Hindi language, local to the neighborhood and a transcription can be found in the Appendices. Some general observations are listed below:

- Vendors who occupy the space of the Auction Hall (F) and the extension to it (F’) were enthusiastic about the interviewing process.
- Currently, almost 200 vendors are occupying the space, and hence it becomes impossible to conduct individual interviews with all the vendors within the given time.
- The Auction Hall (F) and its extension (F’) have the maximum number of people visiting it during the early hours of the day. It is heavily visited by women, often seen in smaller groups.

2.5.2.1 Ram Prasad, Vendor at the Auction Hall, MAFCO Wholesale Market, Navi Mumbai.86

Figure 41: Ram Prasad pointing towards major holes in the windows. Source: Author, 2022.

86 A transcription is included as Appendix-C.
Ram Prasad is one of the few vendors interviewed during the site visit. He has a spot inside the temporary extension of the Auction Hall (F’). That adds to his misery as he mentioned the issues of leakages during the monsoon quite evidently almost five times during the conversation. He points out that there is water infiltration from the broken glass pane windows in the clerestory and the nuisance of birds and their debris. He expresses disappointment concerning the lack of maintenance and attention given to the repairs that need immediate attention. He also shows a minor dissatisfaction with maintaining hygiene and commends the MAFCO Cooperative Society for regularly cleaning the space.

2.5.2.2. Sashi Seth, President of the MAFCO Market Co-operative Society Ltd.  

The conversation was taken up informally. I asked him to shed some light on the site’s evolution, for his perspective on the maintenance plan, and to help identify the current needs of the vendors. He explained the brief history of the possession and the defined nature of shared ownership between CIDCO, APMC, and the MAFCO Wholesale Market  

87 A transcription is included as Appendix-D
Co-operative Society.

He characterizes the complex under C1\textsuperscript{88} zone and talks about the lost opportunity of the space as it is currently uninhabitable. But due to the ownership issues, the MAFCO Co-operative Society cannot take action to rehabilitate the Wholesale Market. He voices concerns about the lack of a maintenance plan for the entire complex. His priority lies in restoring the Wholesale Market and repairing the Auction Hall to create a comfortable buying and selling experience for the visitors and vendors inhabiting the space. He voiced the need for ancillary functions like provisions for more women’s bathrooms and revenue-generating functions that could help support the daily maintenance of the place. As an immediate repair, he heavily emphasized improving the physical conditions of the Auction Hall. Also, he echoes the need for more space to carry out the selling and buying of goods efficiently.

\textsuperscript{88} Local Commercial Area I Zone - C1: In commercial zones, the building or premises shall be used only for the uses and purposes given in M-3.2 subject to the following condition: a) All goods offered for sale shall be displayed within the building, excluding passage. b) When the commercial zone boundary falls short of a street, the frontage along such street shall not be permitted to be developed for uses which would not be permissible along such streets; and c) When using other than those permissible in a residential zone without a shop line (RI) have access from the side for rear open spaces, the width of such open spaces shall not be less than 7 m. (CIDCO 2003)

64
Chapter 3- Values, Statement of Significance and Character Defining Elements
3.1 Assessing Values for the Auction Hall and its extension MAFCO Wholesale Market, Navi Mumbai

Identifying and assessing the significance of the physical heritage of individual buildings, groups of structures, and cultural and historic landscapes is the first step toward identifying cultural significance. The cultural importance of a place rests not only in its tangible attributes, including physical location, views, and design but also in use, historical, social, scientific, or spiritual associations or evidence of creative genius and its intangible values. The definition for each of the above matters is borrowed from the Practice Note on Burra Charter published in 2014. The Practice Note on Burra Charter becomes a pivotal document to build on what is missing from the Madrid-New Delhi document to understand and further define the values of the MAFCO Wholesale Market. However, due to the absence of any guidelines that help in understanding the socio-cultural and political aspects that are specific to the Indian context, the framework of analysis is borrowed from d’Alfonso’s Warm Modernity, which assesses the manifestation of social values into the spatial forms during the time of post-independence and therefore resonates with this thesis. This interdependence for a comparative framework signifies that no one document is sufficient in and of itself, hence generating a need to use overlapping and mutually reinforcing approaches to form an in-depth understanding of this place.

Most values defined remain identical for the other structures in the MAFCO Market complex.

3.1.1 Aesthetic Value

The aesthetic value comprises its architectural history, values associated with the site’s location, values related to the location of the Auction Hall and its extension in the MAFCO Market complex, and its modernist design style. Each value is described concerning the (a) Auction Hall and (b) Temporary extension to the Auction Hall.

3.1.1.1 Architectural History

Figure 43: Anant Raje, Architect. Source: Anant Raje and his Works.
(a) In many of the praises written about Raje’s work, some significant aspects are seen in his quest for a suitable vocabulary that expresses the idea of a public institution. His works highlighted the notions of historical monumentality in contemporary Indian architecture. Raje described this building as an experiment in a form-finding exercise where many variations of order and systems were tested to get harmonious forms and spaces, inside and outside.

According to the architecture critic Gautam Bhatia, Raje’s work demonstrates the idealized vision of spatial order by institutional design. His work signifies its archetypal nature as a place of learning, living, meeting, and recreating among a particular group of individuals and the development of its form as an independent, self-contained entity expressing the microcosm of the country’s social conditions. Raje has successfully conceptualized this marketplace as a center for public attraction as the people from the Vashi township heavily visit it.

(b) The metal extension immediately responded to the local vendors’ need for more space. Thus, no architect was involved in the design of the metal shade. Instead, the MAFCO Corporative Society took it under their hands and assembled the structure with the help of a local contractor. It follows a typical warehouse-style shape with clerestory rows of the window.

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93 Gautam Bhatia is an Indian architect. He grew up in New Delhi and completed his master’s degree in architecture at the University of Pennsylvania. Gautam Bhatia is also a writer and an artist. He has published many books on architecture and satire, and his drawing and sculptures have been displayed in galleries in India and different countries.
3.1.1.2 Values associated with the Location of the site

**Figure 44:** Location of MAFCO market. It is located on the main MAFCO road, named after the market to the East side. Source: GoogleEarth, 2022.

**Figure 45:** Site for MAFCO market during construction. The hills and landscape behind the site formed a picturesque view of the MAFCO market, 1971-72. Source: Architectural Archives at the University of Pennsylvania, 1972.
As seen in Fig. 45, we see initial photos of construction for the MAFCO Wholesale Market against the background of the Kharghar Hills. MAFCO Market was one of the earliest modernist structures in the Vashi township, taking shape in 1972. This market then takes shape as a landmark along the MAFCO road, which runs as a major vehicular road connecting the Vashi township to a significant highway chain—Mumbai-Satara Highway (Fig. 46). Thus, this location becomes an important distribution center for the fresh produce coming from the local neighborhoods and farmers due to its proximity to the main highway route.

The Auction Hall and its extension are located in the same complex; hence, this value is the same for both structures.
3.1.1.3 Values associated with the Building Complex Composition

The pedestrian movement and their experience throughout the market are prioritized in the massing and compositional design layout for the MAFCO Market. The primary design element, as quoted by Raje, is the “street.” One could also see the emphasis on the street design in his plans, where Raje has rendered the street network in the dark, prioritizing the pedestrian network in the complex (Fig. 47). The design was one of the few designs for institutional-scale buildings at that time prioritizing the pedestrian movement of circulation.94

The Auction Hall and its extension together are the first structure to be experienced by the daily users of the MAFCO Wholesale Market while entering from the northeast side of the site. Hence, regarding site planning, they hold similar values regarding their location in the MAFCO Wholesale Market Complex, Navi Mumbai.

Figure 47: Raje's site plan for MAFCO Wholesale Market depicting the street network in the dark. Source: University of Pennsylvania Architectural Archives, 1972.

3.1.1.4 Values associated with the Modernist style of design

Migdol has described Modernism to be “An experimentation, the rejection of predetermined ‘rules,’ and freedom of expression in art, literature, architecture, and music.”⁹⁵ She has identified pillars to describe modern architecture, which are:

“(i) New building materials- Scientific innovations led to the exponential use of fabricated materials like steel, glass, and reinforced concrete.”⁹⁶ We see a trajectory in using concrete as a building material rather than brick or stone, rather than concrete representing stone.⁹⁷ The selection of concrete- as a building material for a faster construction timeline and larger volumes of space.

“(ii) Form follows function- Modernism introduced the idea that the building needs to function correctly and that its appearance could be derived from its function.”⁹⁸ The Auction Hall (F) and its extension (F’) respond to the functions under their roofs with their open-plan designs that could adapt to different scales of traditional market activities.

(iii) MAFCO Wholesale Market was designed as a revolutionary model for buying/selling vegetables. The continuous repetition of the 4.5m, 9.14m, and 18.29m modular bays and their variations, roofed with the barrel vault concrete shell, allowed for a rapid and economical construction process, which was needed by the independent country. The Auction Hall (F) and its extension (F’) fit in this grid layout designed by the architect (Fig. 48).

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3.1.2 Historical Value

The MAFCO Market holds its historic value in its use as a marketplace since its inception. Maharashtra Agro and Food Corporation (MAFCO, 1972) aimed to benefit society by uplifting the farmers in Maharashtra by promoting fair prices throughout the State of Maharashtra. Major activities concerning the selling/buying of fresh produce are supposed to happen through an auction in the auction halls present in the MAFCO Market Complexes. This model ensured a sound and modernized industrial set-up for organized trade proceedings.\(^{99}\)

MAFCO Wholesale Market in Vashi Township was one of the first of its kind model to bridge the gap between the farmers and the vendors in a wholesale business. Hence,

developing a trading model with the moment in history was important. Auction Hall (F) and its extension (F’) identify themselves with a marketplace’s historic use value. However, only the Auction Hall (F) would qualify for the historic age value with its 50 years completion in 2022.

3.1.3 Scientific Value

The construction technology used to make the formwork for the vaulted concrete roofs was an innovation. This technology to make the formwork for the concrete is called ‘Guna’ construction. Roofing with Guna Tubes is a variation of the vault and is achieved by substituting the standard material used to execute the curve instead of voussoir-type masonry. This method is unique since an element called ‘guna tube’ is used. It consists of tapering conical, burnt clay pipes assembling them, socket into one another, and get stacked in a curved form along the centering formwork. A series of such arches make a barrel vault capable of withstanding considerable loads. After joints are filled and topped with plaster, the roof becomes rigid and waterproof without steel or timber. The air inside the hollow-tiled roof protects it from heat and cold. This technique is regional to the houses in Wardha, Maharashtra, a local method of construction in household practices.

This technique was innovative as it used concrete- a foreign material to be poured on top of the clay pipes- a traditional method used for roofing that is now used as formwork. It was not plastered, nor were any layers added; instead, this method was incorporated with the design of its gutters, and the concrete surface was left exposed to the exterior climate.

3.1.4 Social and Cultural value

This place is visited daily by locals from the neighborhood. It is an important place to meet and greet while buying vegetables, significantly enhancing the communal buying experience of the local visitors from the neighborhood.  

The framework from *Warm Modernity* further helped the author to understand the importance of the MAFCO Wholesale Market in the social and cultural context of the then, newly independent nation. The four parameters, as defined in the chapter ‘Interpretative Filters’ in d’Alfonso’s *Warm Modernity*, are taken as the four parameters to understand the cultural and social value of the MAFCO Wholesale Market. She derived these from analyzing the manifestation of the socio-political environment during

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101 This comes from studying the reviews on Google Maps and the author’s site visit to MAFCO Wholesale market in May 2022.
the post-independence period into spatial forms. Hence, this suits the thesis as the market was designed in 1972.

The Auction Hall(F) and its extension(F’) at the MAFCO Market are ascribed social and cultural value for the following reasons:

3.1.4.1 Secularized Spaces
The design of the Auction Hall refrains from having any associations or ties with any religious or spiritual bodies, and promotes a business model with equal opportunities for anyone and everyone. As such, no social hierarchies are involved in the location of the spots for each vendor. This marketplace becomes an important congregation place for the people of Vashi township without associating with any particular religious groups. Without any religious or political influences, the space is designed to be habituated by everyone irrespective of their religion, caste, or political persuasions, thus resonating with the Indian constitution to “remain unified and undivided” based on religion.103

This could be seen as being reinforced in the use of the same material throughout the building complex and the rejection of any heirarchical architectural elements like the chhatris, burjis, or minarets. The Market complex design strengthens the idea of prioritizing the spaces of “public space”, with the Auction Hall (F) and its contemporary extension (F’) being the only spaces that occupy a significant amount of foot traffic and the Trading Cells (A) supporting the main activity as an ancillary function. Hence, this project’s public scale is more dominant than the private scale, thereby celebrating the community.

3.1.4.2 The democratic design

This approach gives the same opportunity to everyone to express their power. With the help of an open floor plan, all the vendors beneath the large roof of the Auction Hall (F) and its extension (F’), have a mutual understanding of where to occupy their spots. It is an open market, which makes it possible for the process of buying/selling to be very transparent. The plan allows the flow of sounds and wind throughout the space, making it even more accessible visually. Thus, with the same plinth level within an open floor plan, all the vendors can be visible to the buyers without any hierarchy in the spatial organization.

3.1.4.3 Industrialization and power of technology

During and after his time at Kahn’s office, Raje incorporated a sense of rhythm and modularity in his designs (Fig. 48). For MAFCO, he also designed using such a modular system, where different functions could adapt to the module according to the needs. This seems to be a literal translation of form follows function. Raje designed this market with utmost sensitivity toward the regional context. He was careful of the climate and culture. The open courts and the well-conceived provisions for natural ventilation throughout the complex and inside the building (for a building to buy and sell fresh produce) were a few regionalist adaptations to the international modernism style. The presence of marine clay makes it necessary to have concentrated point loading for practical and economic foundations. The plinth beams carry the internal partition loads, and the long spans permit flexibility in the arrangement of these partitions. This method of constructing vaults is called the ‘Guna’ method, a cost-saving method and an indigenous construction style for housing projects in Wardha, Maharashtra.\(^{104}\)

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\(^{104}\) Down to Earth. (1996, October 15). Clay ceilings. Retrieved from Down to Earth: https://www.down-toearth.org.in/news/clay-ceilings-26877. This is an indigenous construction technique for houses in the Maharashtra state region, and Raje combining these two styles is a clear example of regionalist adaptation, accessed October 2022.
3.1.4.3 Time and feasibility

The modular design of the MAFCO Wholesale Market complex allows the new insertions to fit into the structural and modular grid. This allows for easy adaptation of functions to the spaces both structurally and functionally. One of the primary contemporary adaptations on the site is the extension to the Auction Hall (F’), which was not initially designed by Raje but instead the contemporary extension to the Auction Hall (F’) still fits harmoniously into the existing grid of the complex.

This adaptation corresponded to the vendor’s need for more space to sell their goods with the closing of the wholesale marketplace. Thus, this decision was led by the MAFCO Market Co-operative Society, and a metal and glass industrial-style structure was erected (F’). This structure was on the same plinth that extends from the auction hall, which was used as a platform to load/unload. Currently, the loading and unloading happen at the South-East open court (C), devoid of any paving or planned vehicular routes. This
contrasts with the original design, in which the only vehicular access was north of the

Figure 52: Platform for the Auction Hall from the East side, 1972. Source: The Architectural Archives, at the University of Pennsylvania, 1972.

Figure 53: The industrial character of extension (F'). Auction Hall(F) to the left in the picture. Source: Author, 2022.
Auction Hall (F), but now all the open-to-sky courts have been turned into parking lots.

3.2 Statement of Significance
MAFCO Wholesale Market is significant due to its contribution as one of the first few models of a wholesale market typology in the Vashi Township in Navi Mumbai. It is essential due to its contribution to the architectural field by integrating social and cultural dynamics of the post-Independence era in India by echoing the Indian constitutional ideas of democratic, secular, and incremental styles into MAFCO Market’s design. Anant Raje designed it as one of the first-generation modernist architects in India who was prominent for his contribution to the field of architecture in India, to derive new forms through geometrical patterns and spatial explorations expressing the idea of Indian public institutions.

The Auction Hall (F) and its extension (F’) resonates with the then-Indian ideology during Independence to represent democratic rule while adapting industrial technology to social and local needs. Furthermore, MAFCO gave rise to the organizational committee under the APMC market administration to develop modern market yards for agricultural committees; therefore, it holds a significant role as a model for wholesale buying-selling of fresh produces. It now plays a vital role in the day-to-day lives of the surrounding neighborhood.

On the other side, the extension to the Auction Hall (F’) is essential as a place of cultural significance to the MAFCO Corporative Society Ltd. for its manifestation of the contemporary needs of the community into spatial forms resonating with the critical design ideas of modularity, form following the function, and materials faithful to its time. It was assembled in response to the needs and with new interpretations of Raje’s design ideology.
3.3 Character Defining Elements (CDE) for the Auction Hall and its extension (F and F’):
The values described above apply to the entire Wholesale market, whereas the CDEs are specific to the Auction Hall(F) and its extension (F’).

3.3.1 Scale/ Proportions/ Volume
Auction Hall (F) was designed to be set within the modular and structural grid for the entire MAFCO Wholesale complex. The temporary addition (F’) was added using Raje’s modular grid while aligning itself with the north end of the Wholesale Market (B).

The larger spans and the volume of the Auction Hall allow for larger-scale gatherings underneath its vaulted roof. The volume is the architect’s design response to the user

*Figure 54:* Sketch for the volumetric study for the roof of the Auction Hall by Raje, 1970. Source: The Architectural Archives at the University of Pennsylvania. 1972.

*Figure 55:* Volumetric comparison of the Auction Hall (F) and the new temporary extension (F’). Source: Author, 2022.
activity beneath the vaulted ceiling and, thus, is a significant character-defining element. Corresponding to its current function, the extension (F’) also has a larger volume and scale to accommodate larger gatherings.

3.3.2 Form & Openings

The extended tubular form aligning in an east-east direction acts like a hyphen between the West offices/Trading Cells (A) and, to the east, the Wholesale Market (B). The long form generates a structured orientation for the vendors along the length rather than a haphazard organizational pattern.

Similar to the Auction Hall (F), its extension (F’) divides the spaces with its structural

grid of columns in the area, orienting the vendors to a particular pattern along the width and length of the extension.

Figure 56: Site Plan with the Auction Hall (F) shown as a hyphen connecting the East and the West. Source: Author, 2022.
The Auction Hall has its main entrance on the east side. Most people access the Auction Hall (F) and the extension (F’) from the east end and then can travel the entire length of the Hall to exit from the West end. Thus, the central circulation axis runs parallel to the structure and branches out to the south and the north. Interestingly, the Auction Hall (F) has no traditional openings like doors or windows, but its symmetrical openings along the circulation axis open the structure to exterior conditions.

**Figure 57:** Diagram showing the central circulation axis in red and the entry/exiting points in blue. Source: Author, 2022.

**Figure 58:** Openings shown in yellow- which act as the entrance and provide ventilation. Source: Author, 2022.
Three clerestory window was designed to dissipate the hot air rising upwards. This window is overshadowed due to the extension (F’), making it difficult to identify its location visually.

![Figure 59: Photo showing an unobstructed view of the Auction Hall. Source: The Architectural Archives at the University of Pennsylvania, 1972.](image)

3.3.3 Climate- Nature of use response

Mumbai and Navi Mumbai, located in the northern hemisphere on the West coast of India, experiences wind flow from the southwest to the northeast. The orientation of the Auction Hall (F) is along the east-west direction, opening towards the North, intended to give constant light and reliable ventilation throughout the daytime. The line of parked vehicles south of the Auction Hall (F) blocks the natural light and hinders the intention to keep it as an open market.

However, the extension (F’) being in metal and glass allows for constant light from the north. But at the same time, it acts as a barrier to the easy flow of air through the Auction Hall (F). Also, there is no provision for the navigation of hot air trapped in the temporary extension.
Figure 60: Sketch for the clerestory window used for the natural ventilation. 1971. Source: The Architectural Archives at the University of Pennsylvania.

Figure 61: Diagram showing hot air trapped in the extension (F'). Source: Author, 2022.

3.3.4 Open Floor Plan

This allows for many interpretations of the space. The Auction Hall (F), initially used as an auction market, is now used as a wholesale market. The open floor plan allowed for such adaptations to the change in use and thus enabled and sustained the character of the market for the MAFCO Wholesale Market Complex. The structural grid enables four bays inside the structure, which define the activity pattern inside both structures. An
on-site activity mapping is shown in Fig. 62, with the help of on-site observation from 1:00 PM to 3:00 PM during the author’s site visit.

![Activity inside the Auction Hall (F) and the extension (F)'](image)

**Figure 62:** Activity inside the Auction Hall (F) and the extension (F). The drawing depicts the easy flow of space and the difficulty of drawing the line of differentiation between the old and new based on the activity. Source; Author, 2022.

3.3.5 Modernist style of design

With the conscious choice of the exposed finish reinforced concrete, simple, precise geometric forms and patterns, the use of modularity and the expression of the structural forms identify as the representation of the international style of modernism. Pure structural expression, rejection of any decoration, exposed reinforced concrete, and repetition of the modular system make this building a fine example of Modernism freshly brewing in India post-independence.
Chapter 4- Analysis
4.1 Values Assessment

The contemporary extension (F’) was not designed by Raje but assembled with the help of a local contractor, in an initiative taken up by the MAFCO Co-operative Society Ltd. in response to their need for more space. Even though Raje did not design the extension, and though it is well outside the mid-20th-century modern concerns for this thesis, it still resonated with the design strategies at the time of the post-Independence era in India.

From a comparative analysis (Fig. 63) between the values embedded in the historic structure (F) and its contemporary extension (F’), the author identifies the significant difference to be that the Auction Hall (F) lacks community engagement and participation. In contrast, the contemporary extension (F’) lacks aesthetic coherence concerning the entire complex. However, the combined and conjoined structures possess similar cultural and social values of the spaces, being secular, democratic, incremental in nature, and having an impact of industrialization and technology, even more emphasizing that the core values of each remain identical. The significant difference lies in the stylistic adaptations of the design strategies, which contribute to different structures’ appearances.
Figure 63: (Left) Classification of the values for Auction Hall (F) and their interdependence. (Right) Classification of the values for the extension of Auction Hall (F’) and their interdependence. Source: Author, 2022.
Figure 64: Categorization of the values observed in the Auction Hall (F) and its extension (F’) across three major themes. Source: Author, 2022.
Taking the values mapping and the analysis of their interconnectedness a step forward, the author identifies three major themes shared by the historic structure (F) designed by Raje and its contemporary extension (F’) (Fig. 64). They are:

a. Urban Development: Values corresponding to the larger scale development across the Vashi Township and Navi Mumbai with impact contributing to and deriving from the neighborhood’s planning design.

b. Architectural Quality of the Space: Values that directly affect the architectural quality; its massing, and proportions are grouped in this category.

c. Community engagement: The values that enhance community participation or factor in the communal aspect belong to this group.

A graphic representation of the values for Auction Hall (F) and its extension (F’) is shown below (Fig. 65). The author identifies that the Auction Hall (F) has a significant inclination towards the values concerning the architectural quality of the space. At the same time, its extension (F’) is more inclined toward community engagement. By combining both graphs, it is identified that there is a disparity between the values associated with the architectural quality of the space and community engagement. For a sustainable future and better functioning of the MAFCO Wholesale market, acknowledging and bridging the gap between these two more prominent themes is essential.
Figure 65: Graphical representation of the values for the Auction Hall (F) and its contemporary extension (F’) and (below) a combination of both the graphs for F and F’. Source: Author, 2022.
4.2 Preservation Approach

In focusing on built-form preservation, professionals risk divorcing the built environment from its inhabitants. This thesis recognizes the need to establish a preservation model in which people— their social networks, their culture, and the meanings they ascribe to the place they inhabit—are as important as the physical edifices.

A comprehensive preservation plan is needed for the MAFCO Wholesale Market that helps to manage change better to preserve not only the built environment but also the community and the identities formed that constitute their cultural and social relationships. I have termed this approach “Symbiotic Preservation.”

![Graphical representation of the Symbiotic Preservation Approach](Image)

**Figure 66:** Graphical representation of the Symbiotic Preservation Approach. Source: Author, 2022.
The Symbiotic Preservation Approach for the Auction Hall (F) and its contemporary addition (F’) was derived after the author identified the strengths, weaknesses, opportunities, and threats (SWOT)\textsuperscript{105} to the building edifice, the local community of the MAFCO Market Co-operative Society Ltd., the daily visitors, relationships to the neighborhood, and the context. The SWOT analysis related directly to the statement of significance and the stakeholders’ values, such as those that the author could determine through interviews. The stakeholders in the case of MAFCO Wholesale Market include the vendors, the president of MAFCO Market Co-operative Society Ltd., the head of CIDCO, the head of APMC, the users of the MAFCO Market, daily visitors, and probably organizations responsible for the stewardship of the MAFCO Wholesale Market. A complex ownership structure exists for the MAFCO Market, which constitutes what is perhaps its greatest weakness. This weakness could be converted into a potential strength for the market as it demonstrates a broad constituency, even as it obscures how it is or could be best administered. Issues about ownership and governance are outside the scope of this thesis. To be addressed in this section are weaknesses and threats related to the architectural designs of the new additions, material conservation, and lack of recognition.

The Symbiotic Preservation design approach for the Auction Hall and its extension focuses on establishing an interdependent relationship between the authorities in power, the designers, the local community, and the daily users of the space. Different interpretations from the other user groups are essential to formulate a preservation philosophy that identifies and emphasizes the place’s aesthetic, cultural, and social values to establish a coherent interpretation of the place. All the actors need to bring their expertise to the table to contribute towards the sustainable preservation of the Auction Hall.

\textsuperscript{105} A detailed description of the SWOT analysis in Appendix-E.
The MAFCO Corporative Society Ltd. successfully understood their own needs and assembled the metal extension to the Auction Hall (F’) in response to their demands for more space. But if the process had incorporated different actors such as the organizations like INTACH, DRONAH, or ICCROM India, which are stewards of the preservation of Indian modern heritage, the junction between the old and new could have been more sensitive and potentially less destructive to the historic fabric. Including the buyers’ perspectives would have helped MAFCO Wholesale Market develop better solutions to attract more people from the local community and enhance their shopping experience by understanding their needs. In turn, involving and partnering with CIDCO and the Maharashtra Government would have enabled better funding resources. All these actors play such significant roles, with each perspective identifying as an essential contribution towards sustainable growth and preservation of the MAFCO Wholesale Market. Hence, I call this model a ‘Symbiotic Preservation’ model, where each steward is necessary, and a collective meaning could be derived, aiming for an efficient way to manage change for these structures.

This approach is derived using Auction Hall (F) and its contemporary extension (F’) in the MAFCO Market, but this also applies to the entire Market Complex.
4.3 Preservation Design Philosophy

This study prioritizes the context by promoting modest designs that focus on the ideas and cultural signifiers behind the architectural strategies designing for long life and doing no harm to the existing.

- Context is important: new additions, if any, should resonate with the current and future needs of the local community and vendors occupying the space daily. Their voices should be given a preference, and the role of the architect/designer/planner should be as a facilitator.

- Modest designs: Restraint and modesty in designs could be great virtues to strike a balance between a sensitive design approach and the contemporary needs of society.

- Style, by itself is not enough: Architecture should be more about the ideas rather than the style. It should resonate with the identity and meanings of the place and time through spatial forms.

- Design for long life: Designing and adapting to an ever-changing place like a market comes with challenges. The design philosophy acknowledges the changes, and the new designs should provide a more prolonged duration while allowing tolerance for change. The alterations to the physical form of the market should resonate with the meanings rooted in that particular time.

- Do no harm: contemporary additions should not be built at the expense of important old buildings. The changes proposed, either to the historic buildings or as a contemporary insertion, how ever radical in nature, might be a successful attempt if there is an excellent stakeholder response.
Chapter 5- Conclusions
5.1 Observations

Preservation planning for the mid-twentieth century modern buildings in India provides an excellent opportunity to define new meanings of identity for the then, newly independent nation. However, the need for more exploration in deriving contemporary definitions for the sustainable use of such sites is a big question faced by current practitioners in the design and preservation field. Major preservation guidelines adopted for this thesis have stressed the assessment of cultural and social values and considered them to be an integral part of establishing significance for a place. However, the lack of adaptation of internationally accepted policies, like the *Burra Charter* and the *Madrid-New Delhi document*, within the Indian context leads to a lack of recognition of the essential cultural and social aspects these modernist structures exemplify. To envision a sustainable future before they run out of their shelf life, an approach beyond the primarily physical aspects that consider aesthetic, social, cultural, economic, and political factors should be implemented to define significance. Also, the inter-dependence of the analysis framework proves that no document is sufficient, and a combination of relevant documents is essential to formulate regulatory approaches for the Indian modern heritage.

One of the most important outcomes of this thesis is a value-based preservation model adapted to the Indian context. A value-based model allows planning processes to include more sensitive interpretations of the place. With the help of this model, the author concludes that the contemporary extension to the Auction Hall (F’) in the MAFCO Market holds equal significance when compared to the Auction Hall (F) built by the famous architect Anant Raje. It has value as a cultural interpretation of Raje’s ideas when he designed the complex. The contemporary extension echoes similar ideas of democracy, secularization, and incremental. It is democratic as it shares the similar idea of an open plan configuration to allow for open-ended use for the place as and how the
need evolves. It is secular, sharing the same plinth level to eliminate any planar hierarchy. It has an impact of technology- as it uses steel, the economic material at the time of its construction (2002). It is incremental as it fits into the modular grid for the market.

Moreover, it echoes the local voices of power demonstration, as their demands for more of the kind of space required for smooth business activities were satisfied with the assembly of the steel structure. However, this structure is physically and symbolically deficient at the junction where it touches the historic fabric. At this point, it abruptly touches the historic structure, posing more damage to the physical integrity of the Auction Hall.

This is where I propose this process to be a Symbiotic relationship between the needs and the aspirations. There could be a sustainable and efficient way to manage change for these structures and decrease the deterioration rate only when different expertise is brought to the same table.

These observations are a result of a better understanding of the original design intent of the Auction Hall and the MAFCO market as a whole with the help of Interpretive filters proposed in Warm Modernity, the framework of analysis in the Madrid-New Delhi document, and from the definitions of values from the Burra Charter. Without the knowledge about articulating the social and political reforms at the time of India’s Independence into spatial forms, the contemporary extension(F’) might not have held the significance analogous to the Auction Hall(F). Thus, the potential of exploring this concept of value-based significance concerning modern structures in India can be significantly explored.
5.2 Future recommendations

This thesis offers an alternative potential method to derive a preservation philosophy for the modernist gems in India. The value-based thinking is implemented on only one modernist structure; this framework needs more work, and hence the further it is implemented and used by professionals, the more gaps in research could be filled.

Concerning conservation and repair work for the Auction Hall (F) and its extension (F’), these are the recommendations in the order of priorities:

1. Immediate repair should be carried out to prevent water from the big holes in the clerestory windows in the contemporary extension to the Auction Hall (F’).
2. Tarps should be replaced by efficient methods of preventing water from entering the metal extension (F’).
3. Non-Destructive Tests should be performed to test the structural strength of the rebars in the reinforced concrete vaulted roof in the Auction Hall (F).
4. A high reach should be brought to the site, and physical access to the roof to assess roof and gutter conditions to provide visual.
5. The strength of the metal used in the beams and posts should be assessed.
6. Recommendations on the surface treatments for the concrete and the metal structure should be based on proper analysis and assessment.

Another step would be contacting influential organizations like INTACH Delhi, DRONAH, and ICOMOS India, each of which makes considerable efforts toward preserving modern heritage in India. Contacting professionals like Riyaz Tayyibji\textsuperscript{106} and Shubhra Raje, who are directly involved with interpreting the modern heritage for the Indian context, would be an effort to outreach concerned professionals for the recognition, protection, and treatment of this modernist structure. Concerning the method, more

\textsuperscript{106} Tayyibji is an Ahmedabad-based practicing architect in India. He has been interested in research and interpretation of modern heritage in India. He is constantly working to stop the demolition of the Louis Kahn-designed dorms at the IIMA’s campus.
comprehensive solutions could be derived with time-to-time observations and interactions with the daily users of the MAFCO Wholesale market. Conducting more workshops and including more stakeholders in the SWOT analysis would help strengthen the claim for this thesis. Hence, more site visits and interactions would help enrich this study’s context.
Major References

-Anant Raje Col. 366; Architectural Records, 1961-2009; The Architectural Archives at the University of Pennsylvania:
Raje's drawings have found a place in the Architectural Archives at the University of Pennsylvania. The original sketches, drawing notes, and diagrams become crucial sources of information when understanding and evaluating his design ideology. The different design development ideas depicted through the charts and sketches help us understand the architect's considerations and priorities.

-Modern Architecture in India: Post-Modern Perspectives, Sarbjit Bagha, Surinder Bagha, and Yashminder Bagha; 1993
The focus revolves around the importance and role of first-generation modernist architects in India. It is a vital source to establish the significance of the architecture that emerged as a response to the new identity of the free nation.

-Warm Modernity, Maddalena d’Alfonso, 2016
This book is a probing and thoughtful reflection on the sense of modernity in the Indian context. It becomes an essential resource for understanding the buildings of modern heritage.

-The Burra Charter, Australia ICOMOS, 2013
Defining the values ascribed in the Madrid-New Delhi document is essential to eliminate ambiguity. This becomes a vital source as the Burra Charter talks about the importance of a value-based model while establishing the cultural significance of a place.

This document becomes essential as it lays down the methods followed by professionals involved in the conservation and preservation of modern heritage all across the globe.
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Appendix-A

THE ANCIENT MONUMENTS PRESERVATION ACT, 1904

ARRANGEMENT OF SECTIONS

SECTIONS

1. Short title and extent.
2. Definitions.
3. Protected monuments.

Ancient Monuments

4. Acquisition of rights in or guardianship of an ancient monument.
5. Preservation of ancient monument by agreement.
6. Owners under disability or not in possession.
7. Enforcement of agreement.
8. Purchasers at certain sales and persons claiming through owner bound by instrument executed by owner.
10. Compulsory purchase of ancient monument
10A. Power Central Government to control mining, etc., near ancient monument.
11. Maintenance of certain protected monuments.
12. Voluntary contributions.
13. Protection of place of worship from misuse, pollution or desecration.
15. Right of access to certain protected monuments.
16. Penalties.

Traffic in Antiquities

17. Power to Central Government to control traffic in antiquities.

Protection of Sculptures, Carvings, Images, Bas-reliefs, Inscriptions or like objects

18. Power to Central Government to control moving of sculptures, carvings or like objects.
19. Purchase of sculptures, carvings or like objects by the Government.

Archaeological Excavation

20. Power of Central Government to notify areas as protected.
20A. Power to enter upon and make excavations in a protected area.
SECTIONS

20B. Power of Central Government to make rules regulating Archaeological excavation in protected areas.

20C. Power to acquire a protected area.

General

21. Assessment of market-value or compensation.

22. Jurisdiction.

23. Power to make rules.

24. Protection to public servants acting under Act.
THE ANCIENT MONUMENTS PRESERVATION ACT, 1904

[18th March, 1904.]

An Act to provide for the preservation of Ancient Monuments and of objects of archaeological, historical, or artistic interest.

WHEREAS it is expedient to provide for the preservation of ancient monuments, for the exercise of control over traffic in antiquities and over excavation in certain places, and for the protection and acquisition in certain cases of ancient monuments and of objects of archaeological, historical or artistic interest; It is hereby enacted as follows:—

1. Short title and extent.—(1) This Act may be called the Ancient Monuments Preservation Act, 1904.

2. Definitions. —In this Act, unless there is anything repugnant in the subject or context,—

(1) “ancient monument” means any structure, erection or monument or any tumulus or place of interment, or any cave, rock-sculpture, inscription or monolith, which is of historical, archeological or artistic interest, or any remains thereof, and includes—

(a) the site of an ancient monument;

(b) such portion of land adjoining the site of an ancient monument as may be required for fencing or covering in or otherwise preserving such monument; and

(c) the means of access to and convenient inspection of an ancient monument:

(2) “antiquities” include any moveable objects which [the Central Government], by reason of their historical or archeological associations, may think it necessary to protect against injury, removal or dispersion:

(3) “Commissioner” includes any officer authorised by [the Central Government] to perform the duties of a Commissioner under this Act:

(4) “maintain” and “maintenance” include the fencing, covering in, repairing, restoring and cleansing of a protected monument, and the (doing of any act which may be necessary for the purpose of maintaining a protected monument or of securing convenient access thereto:

1. The Act has ceased to have effect in relation to ancient and historical monuments and archaeological sites and remains declared to be of national importance by or under Act 24 of 1958, vide s. 39 thereof (w.e.f. 15-10-1959). Ceased to have effect in Andhra in relation to Ancient and Historical Monuments and Archaeological Sites and Remains Area declared to be protected Monuments by Andhra Act 7 of 1960.

The Act has been repealed in its application to Bellary District by Mysore Act 14 of 1955 and in Maharashtra by Maharashtra Act 12 of 1961.

Amended in its application to—

(1) Mysore by Mysore Act 7 of 1962.

(2) Rajasthan by Rajasthan Act 19 of 1961.

The Act comes into force in Pondicherry on 1-10-1963: vide Reg. 7 of 1963, s. 3 and the First Schedule.

2. Subs by the A.O. 1950, for sub-section (2).

3. Subs. by Act 3 of 1951, s. 3 and the Schedule, for “except Part B States”.

4. Subs. by the A.O.1937, for “the Govt.”.

5. Subs., ibid., for “the L.G.”.

* Now applicable to the Union territory of Jammu and Kashmir and the Union territory of Ladakh by the Notification of Government of India, M/o Home Affairs vide No. S.O. 3912 (E), dated 30th October, 2019 (w.e.f. 31-10-2019).
(5) “land” includes a revenue-free estate, a revenue-paying estate, and a permanent transferable tenure, whether such estate or tenure be subject to incumbrances or not: and

(6) “owner” includes a joint owner invested with powers of management on behalf of himself and other joint owners, and any manager or trustee exercising powers of management over an ancient monument, and the successor in title of any such owner and the successor in office of any such manager or trustee:

Provided that nothing in this Act shall be deemed to extend the powers which may lawfully be exercised by such manager or trustee.

3. Protected monuments.—(1) The [Central Government] may, by notification in the Official Gazette, declare an ancient monument to be a protected monument within the meaning of this Act.

(2) A copy of every notification published under sub-section (1) shall be fixed up in a conspicuous place on or near the monument, together with an intimation that any objections to the issue of the notification received by the [Central Government] within one month from the date when it is so fixed up will be taken into consideration.

(3) On the expiry of the said period of one month, the [Central Government], after considering the objections, if any, shall confirm or withdraw the notification.

(4) A notification published under this section shall, unless and until it is withdrawn, be conclusive evidence of the fact that the monument to which it relates is an ancient monument within the meaning of this Act.

Ancient Monuments

4. Acquisition of rights in or guardianship of an ancient monument.—(1) The Collector, with the sanction of the [Central Government], may purchase or take a lease of any protected monument.

(2) The Collector, with the like sanction, may accept a gift or bequest of any protected monument.

(3) The owner of any protected monument may, by written instrument, constitute the Commissioner the guardian of the monument, and the Commissioner may, with the sanction of the [Central Government], accept such guardianship.

(4) When the Commissioner has accepted the guardianship of a monument under sub-section (3), the owner shall, except as expressly provided in this Act, have the same estate, right, title and interest in and to the monument as if the Commissioner had not been constituted guardian thereof.

(5) When the Commissioner has accepted the guardianship of a monument under sub-section (3), the provisions of this Act relating to agreements executed under section 5 shall apply to the written instrument executed under the said sub-section.

(6) Where a protected monument is without an owner, the Commissioner may assume the guardianship of the monument.

5. Preservation of ancient monument by agreement.—(1) The Collector may, with the previous sanction of [the Central Government], propose to the owner to enter into an agreement with [the Central Government] for the preservation of any protected monument in his district.

(2) An agreement under this section may provide for the following matters, or for such of them as it may be found expedient to include in the agreement:—

(a) the maintenance of the monument;

(b) the custody of the monument, and the duties of any person who may be employed to watch it;

1. Subs. by the A.O. 1937, for “L.G.”
2. Subs., ibid., for “the L.G”.
3. Subs., ibid., for “the Secretary of State for India in council”.
(c) the restriction of the owner’s right to destroy, remove, alter or deface the monument or to build on or near the site of the monument;

(d) the facilities of access to be permitted to the public or to any portion of the public and to persons deputed by the owner or the Collector to inspect or maintain the monument;

(e) the notice to be given to the Central Government in case the land on which the monument is situated is offered for sale by the owner, and the right to be reserved to \(^1\)[the Central Government] to purchase such land, or any specified portion of such land, at its market-value;

(f) the payment of any expenses incurred by the owner or by \(^1\)[the Central Government] in connection with the preservation of the monument;

(g) the proprietary or other rights which are to vest in Government in respect of the monument when any expenses reinsured by \(^1\)[the Central Government] in connection with the preservation of the monument;

(h) the appointment of an authority to decide any dispute arising out of the agreement; and

(i) any matter connected with the preservation of the monument which is a proper subject of agreement between the owner and \(^1\)[the Central Government].

\(^2\) * * * *

(4) The terms of an agreement under this section may be altered from time to time with the sanction of \(^3\)[the Central Government] and with the consent of the owner.

(5) With the previous sanction of \(^3\)[the Central Government], the Collector may terminate an agreement under this section on giving six months’ notice in writing to the owner.

(6) The owner may terminate an agreement under this section on giving six months’ notice to the Collector.

(7) An agreement under this section shall be binding on any person claiming to be owner of the monument to which it relates, through or under a party by whom or on whose behalf the agreement was executed.

(8) Any rights acquired by \(^1\)[the Central Government] in respect of expenses incurred in protecting or preserving a monument shall not be affected by the termination of an agreement under this section.

6. Owners under disability or not in possession.—(1) If the owner is unable, by reason of infancy or other disability, to act for himself, the person legally competent to act on his behalf may exercise the powers conferred upon an owner by section 5.

(2) In the case of village-property, the headman or other village-officer exercising powers of management over such property may exercise the powers conferred upon an owner by section 5.

(3) Nothing in this section shall be deemed to empower any person not being of the same religion as the persons on whose behalf he is acting to make or execute an agreement relating to a protected monument which or any part of which is periodically used for the religious worship or observances of that religion.

7. Enforcement of agreement.—(1) If the Collector apprehends that the owner or occupier of a monument intends to destroy, remove, alter, deface, or imperil the monument or to build on or near the site
thereof in contravention of the terms of an agreement for its preservation under section 5, the Collector may make an order prohibiting any such contravention of the agreement.

(2) If an owner or other person who is bound by an agreement for the preservation or maintenance of a monument under section 5 refuses to do any act which is in the opinion of the Collector necessary to such preservation or maintenance, or neglects to do any such act within such reasonable time as may be fixed by the Collector, the Collector may authorize any person to do any such act, and the expense of doing any such act or such portion of the expense as the owner may be liable to pay under the agreement may be recovered from the owner as if it were an arrear of land-revenue.

(3) A person aggrieved by an order made under this section may appeal to the Commissioner, who may cancel or modify it and whose decision shall be final.

8. Purchasers at certain sales and persons claiming through owner bound by instrument executed by owner.—Every person who purchases, at a sale for arrears of land-revenue or any other public demand, or at a sale made under the Bengal Patni Taluks Regulation, 1819, (Ben. Reg. 8 of 1819) an estate or tenure in which is situated a monument in respect of which any instrument has been executed by the owner for the time being, under section 4 or section 5 and every person claiming any title to a monument from, through or under an owner who executed any such instrument, shall be bound by such instrument.

9. Application of endowment to repair of an ancient monument.—(1) If any owner or other person competent to enter into an agreement under section 5 for the preservation of a protected monument, refuses or fails to enter into such an agreement when proposed to him by the Collector, and if any endowment has been created for the purpose of keeping such monument in repair, or for that purpose among others, the Collector may institute a suit in the Court of the District Judge, or, if the estimated cost of repairing the monument does not exceed one thousand rupees, may make an application to the District Judge for the proper application of such endowment or part thereof.

(2) On the hearing of an application under sub-section (1), the District Judge may summon and examine the owner and any person whose evidence appears to him necessary, and may pass an order for the proper application of the endowment or of any part thereof, and any such order may be executed as if it were the decree of a Civil Court.

10. Compulsory purchase of ancient monument.—(1) If the Central Government apprehends that a protected monument is in danger of being destroyed, injured or allowed to fall into decay, the Central Government may direct the State Government to acquire it under the provisions of the Land Acquisition Act, 1894 (1 of 1894), as if the preservation of a protected monument were a “public purpose” within the meaning of that Act.

(2) The powers of compulsory purchase conferred by sub-section (1) shall not be exercised in the case of—

(a) any monument which or any part of which is periodically used for religious observances; or

(b) any monument which is the subject of a subsisting agreement executed under section 5.

(3) In any case other than the cases referred to in sub-section (2) the said powers of compulsory purchase shall not be exercised unless the owner or other person competent to enter into an agreement under section 5 has failed, within such reasonable period as the Collector may fix in this behalf, to enter into an agreement

1. Subs. by the A.O.1937, for “L.G.”.
2. Subs., ibid., for “the L.G. may proceed to acquire it”.
proposed to him under the said section or has terminated or given notice of his intention to terminate such an agreement.

10A. Power Central Government to control mining, etc., near ancient monument.—(1) If the Central Government is of opinion that mining, quarrying, excavating, blasting and other operations of a like nature should be restricted or regulated for the purpose of protecting, or preserving any ancient monument, the Central Government may, by notification in the Official Gazette, make rules—

(a) fixing the boundaries of the area to which the rules are to apply,

(b) forbidding the carrying on of mining, quarrying, excavating, blasting or any operation of a like nature except in accordance with the rules and with the terms of a licence, and

(c) prescribing the authority by which, and the terms on which, licences may be granted to carry on any of the said operations.

(2) The power to make rules given by this section is subject to the condition of the rules being made after previous publication.

(3) A rule made under this section may provide that any person committing a breach thereof shall be punishable with fine which may extend to two hundred rupees.

(4) If any owner or occupier of land included in a notification under sub-section (1) proves to the satisfaction of the Central Government that he has sustained loss by reason of such land being so included, the Central Government shall pay compensation in respect of such loss.

11. Maintenance of certain protected monuments.—(1) The Commissioner shall maintain every monument in respect of which the Government has acquired any of the rights mentioned in section 4 or which the Government has acquired under section 10.

(2) When the Commissioner has accepted the guardianship of a monument under section 4, he shall, for the purpose of maintaining such monument, have access to the monument at all reasonable times, by himself and by his agents, subordinates and workmen, for the purpose of inspecting the monument, and for the purpose of bringing such materials and doing such acts as he may consider necessary or desirable for the maintenance thereof.

12. Voluntary contributions.—The Commissioner may receive voluntary contributions towards the cost of maintaining a protected monument and may give orders as to the management and application of any funds so received by him:

Provided that no contribution received under this section shall be applied to any purpose other than the purpose for which it was contributed.

13. Protection of place of worship from misuse, pollution or desecration.—(1) A place of worship or shrine maintained by the Government under this Act shall not be used for any purpose inconsistent with its character.

(2) Where the Collector has, under section 4, purchased or taken a lease of any protected monument, or has accepted a gift or bequest, or the Commissioner has, under the same section, accepted the guardianship thereof, and such monument, or any part thereof, is periodically used for religious worship or observances by any community, the Collector shall make due provision for the protection of such monument or such part thereof, from pollution or desecration—

(a) by prohibiting the entry therein, except in accordance with conditions prescribed with the concurrence of the persons in religious charge of the said monument or part thereof, of any person not

1. Ins. by Act 18 of 1932, s. 2.
2. Subs. by the A.O.1937, for “L.G.”.
entitled so to enter by the religious usages of the community by which the monument or part thereof is used, or

(b) by taking such other action as he may think necessary in this behalf.

14. Relinquishment of Government rights in a monument.—With the sanction of [the Central Government], the Commissioner may—

(a) where rights have been acquired by [the Central Government] in respect of any monument under this Act by virtue of any sale, lease, gift or will, relinquish the rights so acquired to the person who would for the time being be the owner of the monument if such rights had not been acquired; or

(b) relinquish any guardianship of a monument which he has accepted under this Act.

15. Right of access to certain protected monuments.—(1) Subject to such rules as may after previous publication be made by [the Central Government], the public shall have a right of access to any monument maintained by [the Central Government] under this Act.

(2) In making any rule under sub-section (1) [the Central Government] may provide that a breach of it shall be punishable with fine which may extend to twenty rupees.

16. Penalties.—Any person other than the owner who destroys, removes, injures, alters, defaces or imperils a protected monument, and any owner who destroys, removes, injures, alters, defaces or imperils a monument maintained by [the Central Government] under this Act or in respect of which an agreement has been executed under section 5, and any owner or occupier who contravenes an order made under section 7, sub-section (1), shall be punishable with fine which may extend to five thousand rupees, or with imprisonment which may extend to three months, or with both.

Traffic in Antiquities

17. Power to Central Government to control traffic in antiquities.—(1) If the Central Government apprehends that antiquities that are being sold or removed to the detriment of India or of any neighbouring country, it may, by notification in the Official Gazette, prohibit or restrict the bringing or taking by sea or by land of any antiquities or class of antiquities described in the notification into or out of [the territories to which this Act extends] or any specified part of [the said territories].

(2) Any person who brings or takes or attempts to bring or take any such antiquities into or out of [the said territories] or any part of [the said territories] in contravention of a notification issued under sub-section (1), shall be punishable with fine which may extend to five hundred rupees.

(3) Antiquities in respect of which an offence referred to in sub-section (2) has been committed shall be liable to confiscation.

(4) An officer of Customs, or an officer of Police of a grade not lower than Sub-Inspector, duly empowered by the [Central Government] in this behalf, may search any vessel, cart or other means of conveyance, and may open any baggage or package of goods, if he has reason to believe that goods in respect of which an offence has been committed under sub-section (2) are contained therein.

1. Subs. by the A.O.1937, for “the L.G.”.
2. Subs., ibid, for “Govt.”.
3. For notification, see Gazette of India, 1917, Pt. I, p. 989.
4. Subs. by Act 3 of 1951, s. 3 and the Schedule, for “the territories for the time being comprised within Part A States and Part C States”.
5. Subs. by the A.O. 1950, for “the Provinces”.
6. Subs. by the A.O. 1937, for “L. G.”.
(5) A person who complains that the power of search mentioned in sub-section (4) has been vexatiously or improperly exercised may address his complaint to the Central Government, and the Central Government shall pass such order and may award such compensation, if any, as appears to it to be just.

Protection of Sculptures, Carvings, Images, Bas-reliefs, Inscriptions or like objects

18. Power to Central Government to control moving of sculptures, carvings or like objects.—(1) If the Central Government considers that any sculptures, carvings, images, bas-reliefs, inscriptions or other like objects ought not to be moved from the place where they are without the sanction of the Central Government, the Central Government may, by notification in the Official Gazette, direct that any such object or any class of such objects shall not be moved unless with the written permission of the Collector.

(2) A person applying for the permission mentioned in sub-section (1) shall specify the object or objects which he proposes to move and shall furnish, in regard to such object or objects, any information which the Collector may require.

(3) If the Collector refuses to grant such permission, the applicant may appeal to the Commissioner, whose decision shall be final.

(4) Any person who moves any object in contravention of a notification issued under sub-section (1), shall be punishable with fine which may extend to five hundred rupees.

(5) If the owner of any property proves to the satisfaction of the Central Government that he has suffered any loss or damage by reason of the inclusion of such property in a notification published under sub-section (1), the Central Government shall either—

(a) exempt such property from the said notification;
(b) purchase such property, if it be moveable, at its market-value; or
(c) pay compensation for any loss or damage sustained by the owner of such property, if it be immovable.

19. Purchase of sculptures, carvings or like objects by the Government.—(1) If the Central Government apprehends that any object mentioned in a notification issued under section 18, sub-section (1), is in danger of being destroyed, removed, injured or allowed to fall into decay, the Central Government may pass orders for the compulsory purchase of such object at its market-value, and the Collector shall thereupon give notice to the owner of the object to be purchased.

(2) The power of compulsory purchase given by this section shall not extend to—

(a) any image or symbol actually used for the purpose of any religious observance; or
(b) anything which the owner desires to retain on any reasonable ground personal to himself or to any of his ancestors or to any member of his family.

[Archaeological Excavation]

20. Power of Central Government to notify areas as protected.—(1) If the Central Government is of opinion that excavation for archeological purposes in any area should be restricted and regulated in the interests of archeological research, the Central Government may, by notification in the Official Gazette specifying the boundaries of the area, declare it to be a protected area.

(2) From the date of such notification all antiquities buried in the protected area shall be the property of the Government and shall be deemed to be in the possession of the Government, and shall remain the
property and in the possession of the Government until Ownership thereof is transferred; but in all other respects the rights of any owner or occupier of land in such area shall not be affected.

20A. Power to enter upon and make excavations in a protected area.—(1) Any officer of the Archeological Department or any person holding a licence under section 20B may, with the written permission of the Collector enter upon and make excavations in any, protected area.

(2) Where, in the exercise of the power conferred by sub-section (1), the rights of any person are infringed by the occupation or disturbance of the surface of any land, [the Central Government] shall pay to that person compensation for the infringement.

20B. Power of Central Government to make rules regulating Archaeological excavation in protected areas.—(1) The Central Government may make rules—

(a) prescribing the authorities by whom licences to excavate for archeological purposes in a protected area may be granted;

(b) regulating the conditions on which such licences may be granted, the form of such licences, and the taking of security from licensees;

(c) prescribing the manner in which antiquities found by a licensee shall be divided between [the Central Government] and the licensee; and

(d) generally to carry out the purposes of section 20.

(2) The power to make rules given by this section is subject to the condition of the rules being made after previous publication.

(3) Such rules may be general for all protected areas for the time being, or may be special for any particular protected area or areas.

(4) Such rules may provide that any person committing a breach of any rule or of any condition of a licence shall be punishable with fine which may extend to five thousand rupees, and may further provide that where the breach has been by the agent or servant of a licensee the licensee himself shall be punishable.

20C. Power to acquire a protected area.—If the Central Government is of opinion that a protected area contains an ancient monument or antiquities of national interest and value, it may direct the State Government to acquire such area, or any part thereof, and the State Government may thereupon acquire such area or part under the Land Acquisition Act, 1894 (1 of 1894), as for a public purpose.

General

21. Assessment of market-value or compensation.—(1) The market-value of any property which Government is empowered to purchase at such value under this Act, or the compensation to be paid by Government in respect of anything done under this Act, shall, where any dispute arises [in respect] of such market-value or compensation, be ascertained in the manner provided by the Land Acquisition Act, 1894, sections 3, 8 to 34, 45 to 47, 51and 52, so far as they can be made applicable:

Provided that when making an inquiry under the said Land Acquisition Act, 1894, the Collector shall be assisted by two assessors' one of whom shall be a competent person nominated by the Collector, and one a person nominated by the owner or, in case the owner fails to nominate an assessor within such reasonable time as may be fixed by the Collector in this behalf, by the Collector.

1. Subs. by the A.O. 1937, for “the Govt.”.
2. For such rules, see Gazette of India, 1934, Pt. I, p. 1103.
3. The words “amount of” omitted by Act 18 of 1932, s. 4.
4. Subs. by s. 4, ibid., for “touching the amount”. 
22. **Jurisdiction.**—A Magistrate of the third class shall not have jurisdiction to try any person charged with an offence against this Act.

23. **Power to make rules.**—(1) The Central Government may, by notification in the Official Gazette, make rules for carrying out any of the purposes of this Act.

(2) The power to make rules given by this section is subject to the condition of the rules being made after previous publication.

24. **Protection to public servants acting under Act.**—No suit for compensation and no criminal proceeding shall lie against any public servant in respect of any act done, or in good faith intended to be done, in the exercise of any power conferred by this Act.

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1. The words “or the L.G.” omitted by the A.O. 1937.
Appendix-B Interview with Shubhra Raje

The interview was conducted on October 27th, 2022, via zoom as Shubhra was in India. Previous correspondences with Shubhra were majorly email chains. Before our meeting, I identified a few questions about Anant Raje's design philosophy and approach.

*The questions are in black, whereas her answers are in blue.*

The questions were:
- How did Raje talk about his learnings from Kahn’s office? Was there anything in particular that he claimed was ‘American’?
  
  Raje understood the relationship between open and close and the play of shadows in space. He understood the generation of forms based on the activity of the space.

- Was there any influence of the Indian Independence movement or Kahn’s work in his design process? If yes, what were they?

- What method did Raje adopt in understanding context?

  For Raje, the nature of use- is specific to the component of the user activity and their relationship to nature. Working with the climate of Mumbai- hot and humid was the primary design concern for the MAFCO Market. He emphasized the importance of open courts and semi-open spaces to form a transition between the inside and the outside.

  The other design aspect is to use concrete as a building material. It was easy to work with, with larger spans, and did not require craftsmanship as required in working with brick.

- How did Raje develop the structural module in MAFCO Wholesale Market?

  The MAFCO Wholesale project was at the same time as the Kimbell Art Museum. Hence, there were some similarities while designing both projects. However, there were different details of construction for the MAFCO Wholesale market.
- Who worked on the project?

I do not know in detail who worked on the project, but by learning the title blocks on the drawings, one could identify who worked on those drawings. I remember Mr. Satsangi, the structural engineer working on the project, but I need his contact information.

I feel the architectural archives at the University of Pennsylvania play an essential role in understanding the projects and reading between the lines (literally). For an architectural student, to understand someone's design method- interpretations are critical to generating one's opinion, and hence, in Raje's case it's only what we have- his drawings.
APPENDIX-C Interview with Ram Prasad

10 Local vendor who has a spot in the Auction Hall (F in the Fig. 1,7,8,9)

11 Date and time: 05/31/2022, afternoon

12 ND: How is the situation here on a day-to-day basis?

13 RP: Every monsoon there is lots of water leaks from those big holes in the windows. (Pointing towards those holes). It enters from here, then there and from there and there!

14 ND: What do you do when the water comes in through the holes?

15 RP: Madam, what can we do, we just try our best to prevent it with the blue tarps, but you know the Mumbai’s rains, how ruthless they could be, right?

16 ND: Yes, that’s true! Is the MSFCO Corporative Society doing anything?

17 RP: I don’t know, they just charge us maintenance fee every month but hardly we see any signs of repair and maintenance. But they make efforts to daily clean the place once we leave

18 ND: Hmmm.. at least some efforts are better than no efforts, right?

19 RP: yes, Madam, will you be re-designing the space for us?

20 ND: I do not know for now, but definitely would be working towards it!
Appendix-D: Interview with Sashi Seth.

President of the MAFCO Market Corporative Society Ltd.

The interview took place in his office on May 31st, 2022, when I visited the site. Seth was contacted beforehand visiting the site with a short background on this research. He was quite enthusiastic about the interview and had no objections when I asked recoding the interview. I had preliminary research in place about Raje, his design intentions regarding MAFCO Wholesale Market, Navi Mumbai. I as in interviewer was more interested in understanding the complex governance structure in the administration structure for the MAFCO Market. I had prepared a few questions on the top of mind to ask Seth, but nothing in writing. The idea of the interview was to have an informal conversation with the president of the MAFCO Corporative Society Ltd.

Interviewer: Namrata Dadawala (ND)

Location: Trading cells in the MAFCO Wholesale Market, Navi Mumbai

Date & Time: 05/31/2022; 3:30 PM in the afternoon

ND: Hello Sethji, how are you? I hope I would not be consuming much of your time.

SS: No, not to worry at all! I have been here since the past 40 years and have seen this place change.

ND: So Sethji, I am more curious to know about the history of the building, how and what did the changes were made to the building? Also, aiming to ask about the evolution of the complex especially with respect to the Auction Hall is my interest. Could you please let me know more
about it? What reasons led to the unimaginable deterioration for the Wholesale Market (B in Fig. 1, 7, 8, 9)?

SS: the building started function in 1972, and possession was given in 1977 by the MAFCO. This market was only for the buying/selling of potatoes and onions.

ND: then?

SS: the business model didn’t work, hence it expanded to the selling and buying of all sorts of fresh produces. Wholesale market was thus closed from 1972-77. No function during that time. 1977- Corporative society was formed and still function. MAFCO Ltd. commissioned this market.

ND: Can you please explain more about the organization structure for MAFCO Ltd.?

SS: CIDCO leased the land for the MAFCO Wholesale market to the APMC and MAFCO for 99 years. MAFCO Ltd. Company developed and funded this company. Architect was Anant Raje. MAFCO Ltd. dissolved and currently MAFCO, APMC and CIDCO oversees the funding for the day-to-day activities for the market. To felicitate the repair work is the responsibility of the MAFCO Corporative Society Ltd. Powai IIT- private structural auditors declared the Wholesale Market (B in Fig.1, 7, 8, 9). They have put it in C-1, meaning its extremely dangerous. Until and unless the issues of the titles are resolved, there is nothing we can do to improve its condition.

ND: you want to design one more structure space?

SS: there are total 314 tenants, 288- people are inside the building. This building is under our supervision. Municipality declared it under C-1 category, all the buildings were constructed during the same time. Evidence is important.

ND: Hmm… so you are suggesting that you would be responsible for all the buildings in the 100th year?
SS: Yes, evidence is important. All the buildings were built together at the same time, so we will own it when we get the possession.

ND: true! What about the situation of the bathrooms in the MAFCO Wholesale Market?

SS: Everything is there on the site. Their location is authentic to the original design intent. We have not changed the location for it. But the women bathroom has been modified to accommodate 2 cubicles instead of 5. As women footfall is less on the site. There is also a canteen in the same line, again authentic to the original design intent without major modifications. Auction Hall (F in Fig 1,7,8,9) accommodates all the vendors who used to sell their produces in the Wholesale Market (B in Fig 1,7,8,9). They had to be relocated because of the structure’s abandonment.

ND: What about the new extension to the Auction Hall (F’ in Fig. 1,7,8,9)?

SS: It was made by the MAFCO Corporative Society Ltd. They made the building on the loading/ unloading platform. Its like a mini market now. More retail size business happens rather than the wholesale business.

ND: What about the vehicular traffic inside the premises of MAFCO market?

SS: Due to the shift in business model, now smaller trucks come more often into the site, rather than big vehicles and so the Corporative Society thought to build the temporary structure on the loading/ unloading platform. Would you like tea/ coffee?

ND: No thank you! You are giving us your time and it is more than enough! Did you notice any other changes to the structure of Auction Hall (F in Fig. 1,7,8,9)?

SS: No! People are not allowed to construct anything permanent without the permission from CIDCO. It’s a very complex structure. Hence, we are fighting to gain rights over the MAFCO
Wholesale Market, Navi Mumbai so that we can start making amendments. CIDCO should have no rights over this from now.

ND: Why?

SS: CIDCO’s aim was to prepare planning strategies for the new developing towns. Its role and responsibilities have been accomplished as now Navi Mumbai is functioning as a vibrant sister city for Mumbai. It’s high time that they now start sharing responsibilities and power with the other stake holders. CIDCO is taking advantage of its position and we cannot see any efforts towards maintenance for this site.

ND: In your opinion, what should be the priority in terms of development for this site?

SS: Our goal is to promote smooth retail business. But the infrastructural limitations are inhibiting the business model development. There are heavy losses incurred

ND: Do you mean that you do not have the capacity to host more than 314 tenants?

SS: development, what do you mean? The only business we can do is agricultural, we cannot expand it as it comes under APMC.

ND: How do you envision the development on this site?

SS: It is a lengthy procedure. Change of use is necessary. More functions need to be added to generate more incomes of revenue. High power committee, and MAFCO are in the favor of transfer of ownership, but CIDCO has always been opposing it. We are constantly fighting for it.

ND: What do you imagine the place to be once the titles and ownership issues are settles?

SS: We cannot think of anything else for now! all the concerned architects that we have approached asks us the same questions about ownership. None of them want to be involved in this complicated and lengthy process and also no one wants to work with the Government.
ND: I can understand the complexity of the case, but let’s imagine a scenario where the ownership issues are resolved, how would you like to transform this place?

SS: The main goal for us is development!

ND: What do you consider as development?

SS: Development is the only way to go ahead, to improve things. We need more bathrooms and better quality, more parking, more pedestrian safety, designated routes for the entry and the exit to and from the site. Market condition is poor. Us Indians are responsible for this! We do not know how to maintain things. We do not have the time and energy to go to the court and resolve this issue. I have successfully presided over three terms of presidency, 20 years and still going. It hurts us to see the market deteriorating in shape. If we approach a builder, he will ask his share for the prestige location of shops/trading cells. Either we give our vendors those shops, to promote fair trade or we give it to the builders developing this place. It’s a tough choice! There is always heavy footfall in this place. Everything depends on the FSI.

SS: More the FSI, more units can be stacked on top of each other.

ND: How about waste management on this site?

SS: We spend approximately 1.75 lacs INR\(^1\) ($2120)/month, for the waste disposal and everyday cleaning for the Auction Hall and its extension (F and F’ in Fig 1,7,8,9). Security is additional for the site. Common electricity bills are $400/month.

ND: Do you think, there needs to be issues of more hygiene for the site?

SS: We have everyday cleanings on the site. But the people administrating the site are from Uttar Pradesh\(^2\). They do not understand the importance of hygiene. I am not saying that they have not

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\(^1\) INR - Indian National Rupee (India’s currency)

\(^2\) A state in India in the North-Western part with the lowest literacy rate.
improved, they have! But every market is going to face this. They do not value it, they do not use it carefully hence we result in these problems.

ND: do you need more space?

SS: we need more FSI to stack more units. But we need to improve the physical condition for the Auction Hall, its deteriorating at an alarming rate. Every monsoon we have water coming in from the holes in the window, we have pigeons flying inside and outside, we need more care and attention towards the structure.

ND: Hmmm, so the main issues are related to the governance, and only then you can decide on the future life for the building.

SS: Yes, that is the problem! I am hopeful about it. We will fight it.

ND: No of course, I will be sending you copies of my research- on interpretations for this place.

Thankyou Sethji, so much for your time and voicing out your opinions.
Appendix-E: SWOT Analysis

Undertaking a SWOT Analysis of the Auction Hall and its contemporary extension (F and F’) helps to understand the internal and external factors affecting the day-to-day functioning of the Auction Hall, factors that can be put to use to strengthen the bonds of the local community and interpretation of new meanings for the place. The objective of this analysis was to acknowledge the potential for the Auction Hall (F) and its extension (F’), which would, in return, help decide the future trajectory of the place.

The author identifies the biggest strength of the Auction Hall and its extension: its location inside the MAFCO Wholesale Market and also the site of the complex in the Vashi township, which has become a landmark for Sector 12. They can entertain a large number of people from the neighborhood. Other design aspects, such as the flexibility of the space in both the Auction Hall (F) and its extension (F’), with an open plan structure, enable multiple types of adaptations to the place as and when the need changes for the community and hence demonstrate the advantage of having the component of incrementality in spaces.

The MAFCO Market could take advantage of recent progress in the awareness and appreciation of modern heritage in India by organizing fund-raisers and contacting the organizations involved in the stewardship of modern heritage to help the MAFCO Market organization formulate a strategic plan for future repairs and maintenance.

Identifying the right resources, issues of funds scarcity, appreciation among the locals, and problems with the recognition could be readily solved. Issues related to design interventions and material conservation could be addressed by involving professionals and using their skills to facilitate the community’s needs. However, it is essential to any resolution of these issues that the questions of ownership and issues of tangled titles need to be
solved at the policy level, even though answering this question does not constitute the scope of this thesis.
HELPFUL

Strengths: Positive tangible and intangible attributes, internal to organization and within the organization’s control

- Attraction for the neighborhood
- Modular style design; easy to expand
- Open floor plan to accommodate for different needs for the community
- Sense of Community ownership
- Part of landmark: MAFCO market in Vashi Township
- Open to air market
- Designed by Anant Rajee
- Secular use of material in spaces

HARMFUL

Weakness: Internal factors within the organization’s control that detract it from achieving the set goals. Which areas might the organization improve?

- Scarcity of funds
- Lack of recognition
- Lack of appreciation for the modernist style of architectural design
- No maintenance plan
- No accommodation for the pedestrians
- Absence of Recreation space in the Market Complex
- Less interest of the stakeholders

SWOT

INTERNAL ORIGIN

- Recent awareness regarding modern architecture in India
- Willingness of the corporative society to improve the physical conditions for the auction hall
- Recent appreciation for the South East Asian modern architecture
- Shubhra Rajee’s work and exhibitions throughout India on Anant Rajee’s work and design principles.

EXTERNAL ORIGIN

- Problems of bureaucracies
- Tangled titles
- Alarming deterioration rate
- Less research and implication of the material conservation
- Economic factors governing the repair and maintenance
- Disjointed development

Opportunities: External attractive factors that represent the willingness of the organization to improve. What opportunities exist in the environment that will propel the organization and facilitate desired outcomes?

Threats: External factors beyond the organization’s control that could place the organization mission at risk. The organization might have contingency plan to address them if they should occur.

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