Madras Vs Bombay in 1871-1872

A Study on Caste based Residential Segregation

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Contents

Chapter 1

Introduction

1.1 Madras and Bombay

In India, port cities have unique structure and characteristics as they were the entry point for the colonisers. In the first contact between India and England, the Britishers (East India Company) built warehouses and factories to hold trade in Madras and Bombay, the very first port cities. These factories and warehouses grew enclosing large amount of lands as settlements for merchants and soldiers who trade and safeguard the warehouses which led to segregated spaces between the Indians and the British. According to Kosambi and Brush (1988), Madras and Bombay served as 'the principal seats of English economic and military power on the subcontinent and were the bases for expansion inland'. People were attracted to these towns by the economic opportunities under the English and I believe that this influx of people did not blur the lines between castes and spatial segregation persisted.

MADRAS

In 1639, Madras was built on the coromendal coast of southeast India and it was the very first port city of India. The city developed around the Fort st. George which was the nuclei of the settlements (Kosambi and Brush, 1988). The immediate settlement outside the nuclei was the fortified British settlements (White Town) and then the native merchants settlement (Black Town). After the attack from French in the mid-eighteenth century, the fort was became a military defense zone to prevent inland expansion and protect the British settlement.

According to Kosambi and Brush (1988), by the end of eighteenth century, East India Company took complete control of these places and marked the era of suburbanisation. This meant migration of people from other parts of the providence entering Madras city and settling to take part in trade and commerce. The fort turned into an administrative structure from military base in the early nineteenth century which meant expansion of the settlement to accommodate the military. The Black Town of Madras had large mixed population - a mixture of Region, Religion, Caste and Language - and this diverse population is attributed to the early development of trade and commerce in Madras.

BOMBAY

Following Madras, Bombay was was the next port city established by British. This established site was an island in the western coast of India. It was originally a group of seven island which were merged together by filling the salt marshes (Kosambi and Brush, 1988). The island came under the control of the East India Company from Portugal in late 17th century and Bombay fort was built which is the center of development in Bombay. Just like Madras, erecting this fort meant building a wall between the European settlements and native settlements. The native Indian settlements consisted of diverse variety of merchants from diverse backgrounds.

In the early nineteenth century, the wall of separation between the two settlements was fortified more after a fire which damaged the wall and created panic among European settlers who believed that the Indian will infiltrate their settlements. This wall was completely brought down by the end of the nineteenth century as the city started greatly developing with the help of trade and commerce.

1.2 Caste

In India, Caste is one of the oldest structure which has neither perished nor changed over a long period of time. Caste is often considered as the foundation stone for the existing discrimination, segmentation and segregation in different markets of the economy. Caste system has been considered a part and parcel of the Indian/Hindu tradition. Historically through Hindu mythology, the caste system arose from different body parts of the Hindu god Brahma. The Brahmins from forehead, the Kshatriyas from arms, the Vaisyas from thighs, the Sudras from feet and the Dalits were not part of the god's body, hence the term 'Hindu outcastes' is associated with them. Dalits are the very bottom of the caste hierarchy which puts them at disadvantage in the society. The dominant mode of thinking about caste was tided up with evolution until late 20th century, then this discourse of thinking was dropped as it failed to include different manifestations of caste in economic, social and political fields (Jodhka, 2015).

In the 20th century, many literature arose on how caste has no future as we modernise and caste structure will be eventually replaced some modern structure like class - income based (Jodhka, 2015). In contemporary India, we can see that modern structures arose due to modernisation but they did not abolish caste system but grew mutually and complexly interlinked.

Caste, in contemporary India, reproduces through active processes of discrimination and prejudice, and with modern structures of inequality, some groups face double discrimination and that to at a greater extent.

According to Andre Béteille (1965), caste is highly correlated with both power and class. Caste hierarchy has been higher in urban India in dimesnsions such as education, income, housing and social networks (Sidhwani, 2015). In contemporary India, caste continues to have a major impact - positive for some groups and negative for many more - on various socio-economic outcomes like education, health, labor markets and electoral politics and individual outcomes such as access, Rights, citizenship and privileges (Bharathi, Malghan, Rahman, 2018). In this paper, we will looking at how the Hindu caste system influences spacial distribution of Hindu population in Madras and Bombay.

1.3 Residential Segregation

One of the most important manifestation of castes is Residential Segregation. Residential segregation is prominent and not blurred in both rural and urban parts of India. The social distance and hierarchies of various castes are reflected in the spatial segregation of residential localities in a settlement (Mukherjee 1968). It is important to focus on residential segregation because where people live inevitably shapes their social interactions,

networks, health outcomes, and sense of self, other and the community (Vithayathil and Singh, 2012).

Historically, the upper hand of castes on spaces/residences would have been more outright and direct in comparison to today's society. The so called economically and socially progressive cities - due to strong foreign presence and trade - in history such as Madras and Bombay, how were they segregated in 1871-1872? Did caste really have influence on how the city was arranged? This paper aims to answer the above questions by using Multigroup Entropy Index to study the evenness in Hindu caste distribution of the two cities - Bombay and Madras.

Chapter 2

Literature Review

2.1 Global Context Literature

Spatial/Residential segregation studies have been common in the West, particularly in the US, where studies on discrimination of African-American and Hispanic communities have been very common (Burgess, 1928). According to Logan (1978), there is a hierarchy of neighborhoods in most cities whose racial/ethnic composition mirrors a durable hierarchy of groups that is normally seen in the society. In US context, the literature shows that there is usually a comparison with two groups mostly black and white and this gave rise to many measurement indices which are often used in dual setting. Massey and Denton (1988) used factor analysis to classify segregation indices into five distinct dimensions, which they named evenness, exposure, concentration, centralization, and clustering which were measured using common segregation indices such as Dissimilarity Index, Gini, Interaction Index, Divergence Index etc. Reardon and Firebaugh (2002)

point how there is a lack of multidimensional indices and elevate different multiple group indices which can be used in Indian context.

2.2 Indian Context

The caste System in India is an evolving form of stratification' and 'institutionalise domination and exclusion' (Singh, Vithayathil, Pradhan, 2019). Sabatini et. al (2001) define residential segregation as "the extent of spatial proximity, or territorial agglomeration., of households belonging to the same social groups, where a social group can be understood in terms of race, age, religion, or income". Mehta's work on residential segregation in Pune (1968, 1969), found that the residential segregation was highest in the case of groups on either end of the spectrum, both on the basis of caste and socio-economic status. Ethnographic work of Shah (2006) on rural–urban migrants from the state of Jharkhand finds that the people' reason to move to the city includes an expectation of liberation from rigid caste structures in villages. Kapur (2017) points out that the urban governance and planning must be drastically developed in order to break away from identities such as caste in India. Caste hierarchies experienced by the people do not disappear within cities, but are rather reproduced as a new set of identities with a reformulated caste structure which is unique to the urban context (Singh, Vithayathil, Pradhan, 2019).

Chapter 3

Methodology

3.1 Data and Data Source

In order to study and measure segregation in history, I will be using old census documents and tables to collect data on Madras and Bombay. I will be using the census report from 1871 and 1872 of Madras and Bombay respectively from the Indian Government's Digital Library of Censuses to study the cased-based residential segregation in these cities. These records are the few historical records with direct information on population which was digitized quite recently. The appendixes of the historical census document has data in the form of tables regarding types of houses, religion, castes, sub-castes, gender, disabilities, births and deaths. I will be using the tables on castes and wards to measure segregation in Madras and Bombay in 1871 and 1872.

	Madras	Bombay
Number of Divisions	8	7
Number of Wards	17	29
Number of Castes	18	62

Table 1: Madras and Bombay

The Madras city 1871 census records that the city was divided into eight divisions and seventeen wards under it while the Bombay city 1872 census records seven divisions and 29 wards. The number of castes in these two cities have a big difference but also there are many overlapping Hindu castes in both cities. Bombay city Hindu caste population is divided into Hindu castes and Hindu out-castes while Madras does not specify the Hindu out-caste. The Hindu caste population is around 4 Lakhs and Bomaby is around 8 Lakhs.

Cities	Population (Hindu Caste)
Madras	395013
Bombay	623373

Table 2: Hindu Caste Population in Madras and Bombay

3.2 Measuring Residential Segregation - Theil Entropy Index

The objective of a study on segregation is the rigorous documentation of its pattern at a point in time and its changes (differences) through time (across space) and indices should have relevant properties and characteristics to answer the question on segregation.

To answer the question embedded in this paper, we will be using entropy based measure Theil Entropy Index.The Theil (1972) index (H) is a comprehensive measure of segregation related to inequality measures. The entropy index can also be expanded to measure segregation across two or more variables (multiple caste groups) simultaneously. The entropy index is a measure of "evenness" — the extent to which groups are evenly distributed among organizational units (Massey and Denton 1988). More specifically, Theil described entropy index (H) as a measure of the average difference between a unit's group proportions and that of the system as a whole (Theil 1972). H can also be interpreted as "the difference between the diversity (entropy) of the system and the weighted average diversity of individual units, expressed as a fraction of the total diversity of the system" (Reardon and Firebaugh 2002).

Theil - Entropy Index:

$$h_i = -\sum_{j=1}^{k} P_{ij} \ln(P_{ij})$$

In the above index, k is the number of caste groups, P_{ij} is the proportion of population of j^{th} caste in ward i, n_{ij} is the number of population of j^{th} caste in ward i and n_i is the total number of population in ward i.
The maximum value for h is $\ln(k)$. The wards with higher values of h are more diverse. The entropy index measures how evenly groups are distributed across wards of the city, regardless of the size of each of the groups. Reardon and Firebaugh (2002) believe that the Theil's index is better than other multi-group indices as it follows the principle of transfers and it can be decomposed into parts.

I will also be using the entropy index to calculate the H value for the cities as a whole. To compare Entropy Indices between different cities as a whole, White (1986) uses:

$$H = \hat{H} - \bar{H}/\hat{H}$$

where $\hat{H}$ is the Entropy Index for the city as a whole and $\bar{H}$ is the average of the individual wards' values of h, weighted by population.

The maximum value of H is 1, when each ward contains only one group

($\bar{H} = 0$). The minimum value of H is 0, when every tract has the same composition as the city ($\bar{H} = \hat{H}$). Cities with higher values of H have less uniform ethnic distributions. Cities with lower values of H have more uniform ethnic distributions.

Chapter 4

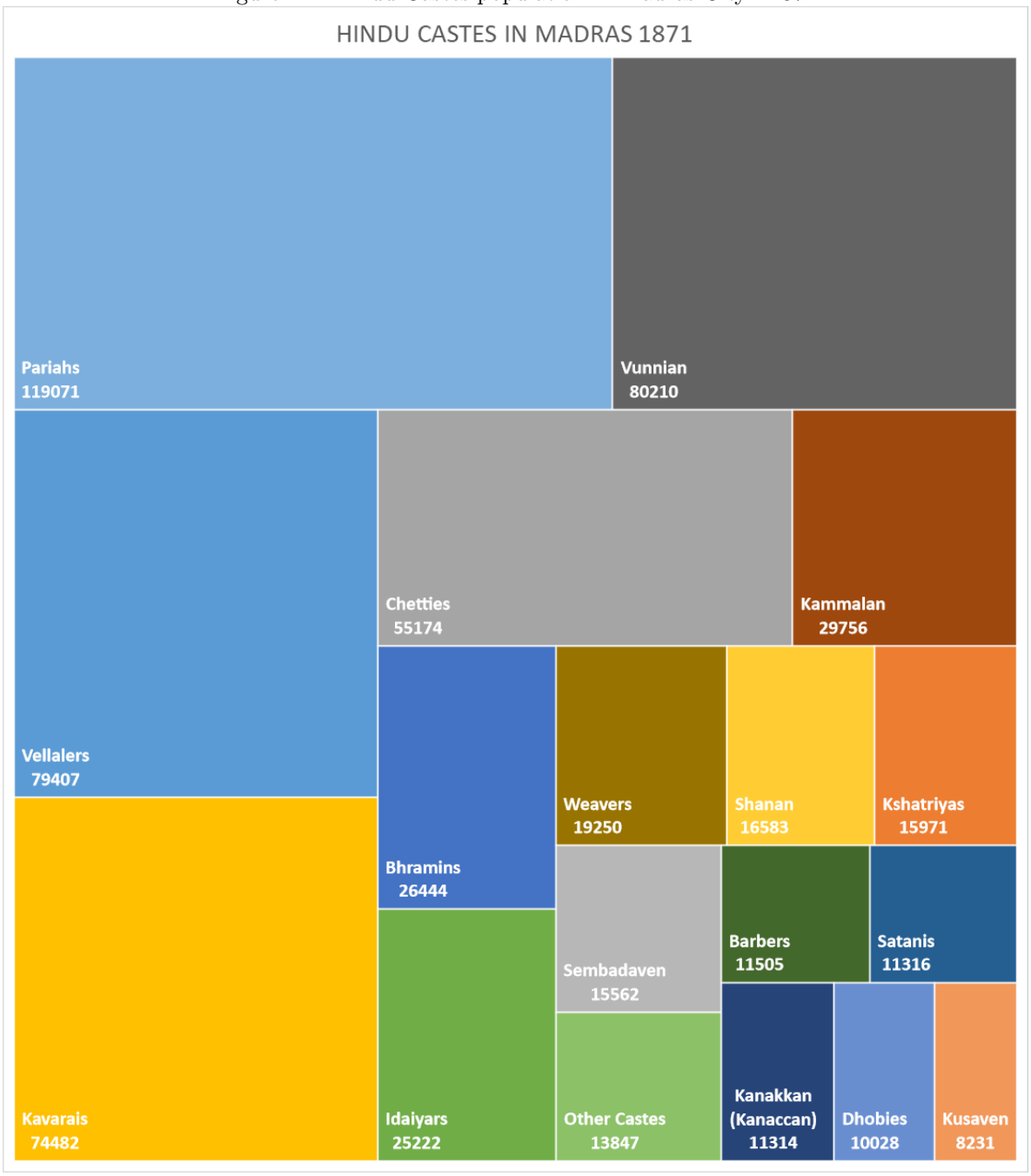
Results

4.1 Residential Segregation - *Madras*

From Figure 4.1, we can see that the size of each Hindu caste in comparison with each other. Pariahs, Vunnian and Vellalars are the three big Hindu castes in Mardas in 1871 while the Dobies and Kusaven are the low population Hindu caste.

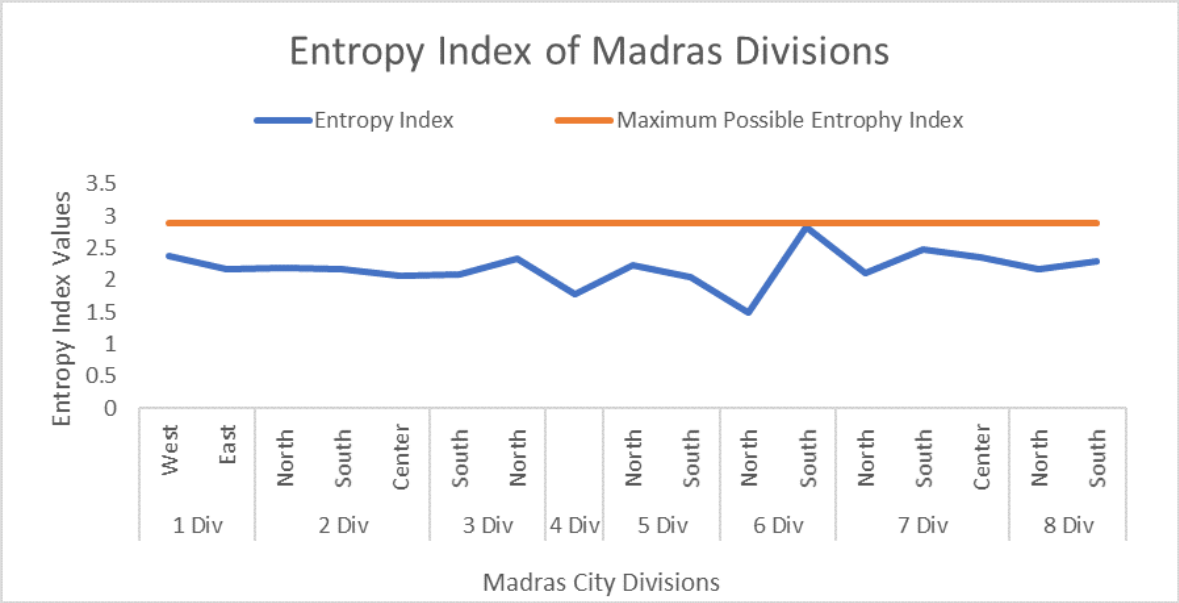
In current Chennai (Tamil Nadu), the caste Pariah belongs to the SC category and the Vunnian, Vellalars, Dobies and Kusaven come under general category. It is fascinating to see that the pariahs were the biggest Hindu caste population in 1871 in Madras.

Figure 4.1: Hindu Castes population in Madras City - 1871



By using Theil Index, the h value for the wards of Madras was calculated. In figure 4.2, we can see that the Division six wards are different.

Figure 4.2: Entropy Index of wards in Madras City - 1871



The South Ward of Division 6 has value of h very close to the maximum value of h possible. This is means that the south ward of division six is highly diverse in comparison to other wards. It is also interesting to look at the North ward of division six as it has the lowest h value in the whole madras city and geographically, North and South ward of Division six are neighbours.

4.2 Residential Segregation - *Bombay*

From Figure 4.3, we cam see that the Bombay city had many different castes and there was a clear division between Hindu castes and Hindu outcastes in the census records. The caste group Marathee had the highest population in Bombay 1872. The outcastes also had a big presence in the city.

Using Theil Index, on the twenty nine wards of the city in Figure 4.4, we can see that many of the wards belonging to the seven divisions had high values.

None of the divisions did homogeneously well but the D and W (Harbour) Divisions had low h values homogeneously and relatively in comparison with other divisions. It is interesting to notice that next to a ward that has done well in the entropy index is a ward with low entropy index.

Figure 4.3: Hindu Castes population in Bombay City - 1872

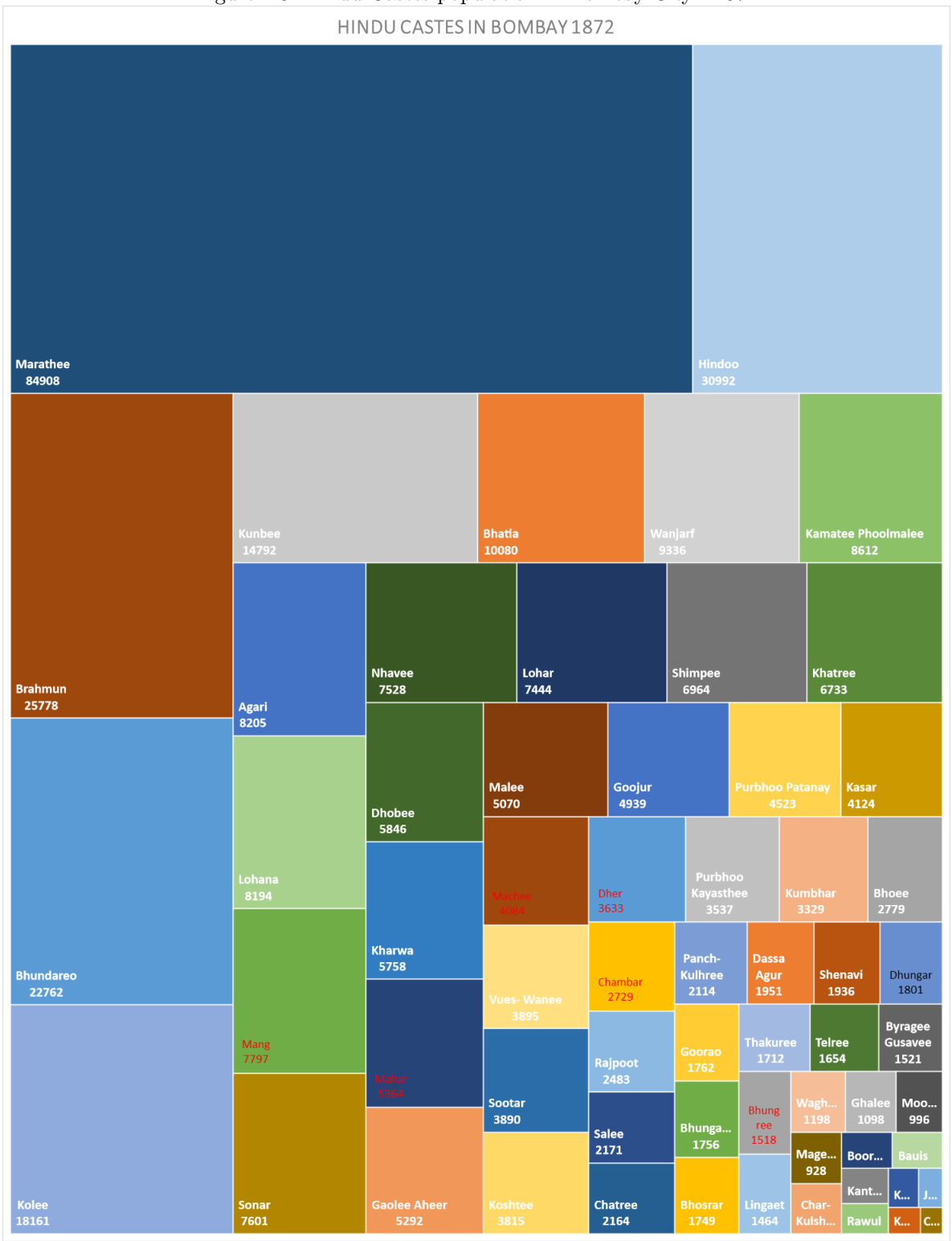
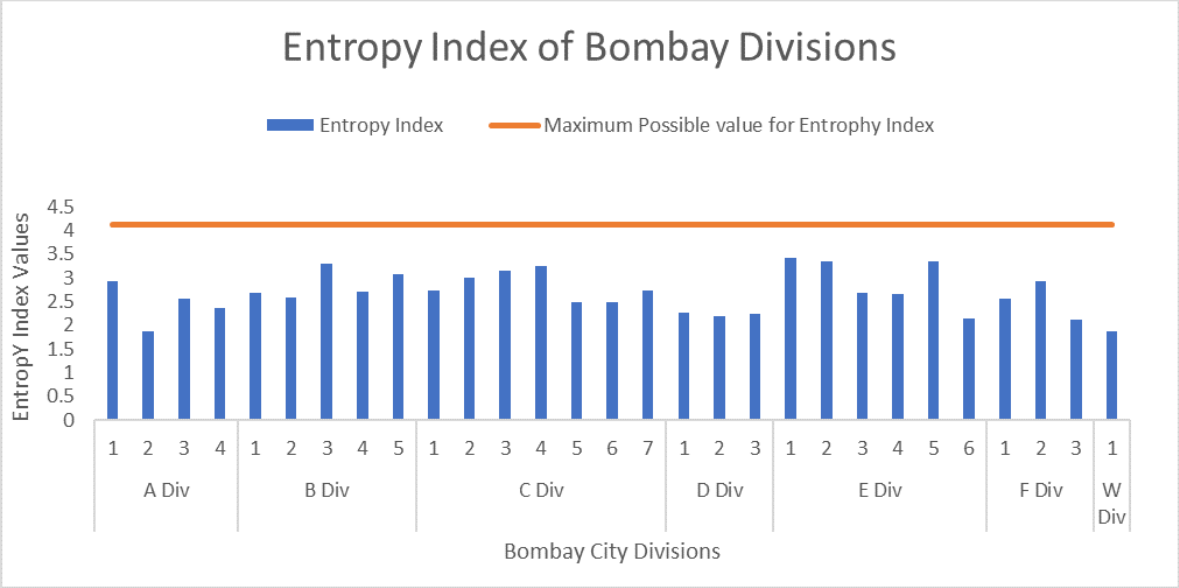


Figure 4.4: Entropy Index of wards in Bombay City - 1872



By White's (1986) method on calculating H for the whole city, we will be using it to compare between Bombay and Madras.

Cities	H value
Madras	0.350958261
Bombay	0.181660368

We can see that Madras has a higher value of H which means it is less diverse in comparison to the Bombay as it has lower value of H.

Chapter 5

Conclusion

The segregation comparison between Bombay and Madras over the same period of time was done through this paper but this also lays foundation for future studies which can measure segregation for the same cities over a period of time. The historical census data is highly valuable when used right as it can give many insights on the arrangement of the city, caste groups and even the house types of these caste groups. This paper , using its methods, was able to identify segregation was greater in Madras in comparison to Bombay and comparing this to the current scenario, can give us many insights on what kind of development our country went through.

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