

Spatial Analysis of Social Inequality in Moradabad City

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ABSTRACT

Social inequality is a universal social problem with several manifestations. In every society or country, some people have a great share of resources such as capital, education, property, health, and power over others. Economic, cultural, and social capital are three types of capital used to classify these resources. Social inequality is when the resources in a society are distributed unevenly along the lines of socially salient categories of people. It emerges when these resources are allocated unevenly in any society. Therefore, unequal access to social resources is called social inequality. The present research paper aims to analyse the level and causes of social inequality and social fragmentation in Moradabad city, and to identify the causes, consequences, and level of social inequality among respondents, and suggest some solutions to the problems. The present study is based on both primary and secondary sources of data. Various statistical and analytical methods and techniques are used to analyse data. The present study reveals a significant inequality among various social groups in the area of education, employment, income, and political representation and participation. The education, employment, and income levels are comparatively low among marginalized populations in the study area, and they face problems of social inequality and stratification.

KEYWORDS: *Social Inequality, Social Capital, Poverty, Education, Gender, Caste, Moradabad*

1. INTRODUCTION

The concept of social inequality relates to the disparity between hierarchical groups of people in nature. In basic terms, social inequality refers to the hierarchical distribution of social, economic, political, and cultural resources. In every society or country, some people enjoy a greater share of resources such as money, education, property, etc. These resources can be grouped into three forms: *economic capital, cultural capital, and social capital*. Whenever these resources are distributed unevenly in any society, they create social inequality. So, in this way, patterns of unequal access to social resources are called social inequality. Social inequality is a significant roadblock in creating sustainable economies that optimise people's and society's well-being because inequality leads to a societal breakdown in trust, solidarity and social creation; it reduces people's willingness to act for the common good (Pickett & Wilkinson). One of the worse impacts of social inequality is that it hampers the socio-economic progress of a society or

country. In urban areas, economic, social, and spatial dimensions of social inequality exist at varying levels; however, economic inequality is higher in urban areas than in rural areas. Inequality increases as the city grows until proper policies are implemented. Cities are more prosperous and unequal than villages, and a group or neighbourhood in these cities does not have better access to health care, education, sanitation, and employment opportunities, which poses a great divide between the urban area's population. Slum formation is the best example of this divide in various cities worldwide and India.

In the same way, significant inequality in education, employment, income, and political representation and participation exists among various social groups based on their gender, caste, and religion in the study area. The level of education, employment, and income is comparatively low among marginalized populations in the study area, and they face problems of social inequality and stratification.

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1.1. Objective of the Study

The main objective of this study is to identify the ward-wise levels and causes of social inequalities in education, employment opportunities, income and political participation and representation among respondents in the context of Moradabad city.

1.2. Database and Research Methods

The present research paper is based on primary of data of 2022. A total of 700 respondents from 70 wards, 10 from each ward were selected through simple random and convenience sampling method from different age group, gender, religion, caste, and economic status.

The main two main statistical techniques namely; Sopher's Disparity Index and Z-score are used to analysis the data to obtain the result. A detailed description of these two statistical methods is as follow:

Sopher's Disparity Index-

Sopher's disparity index is one of the most significant and widely used index to analysis the disparity between two groups in relation to different variable. It developed by Davis V Sopher in 1974. The level of disparity among respondents based on their gender, caste and religion is measured with the help of disparity index by using following formula;

$$Di = \text{LOG} \left(\frac{X1}{X2} \right) + \text{Log}(100 - X2)/(100 - X1)$$

Where,

$Di =$ Disparity Index Value

$X1 =$ Per cent value of group one

$X2 =$ Per cent value of group two

The value of DI (Disparity Index) ranges from 0 to 1. In the case of perfect equality, i.e., no disparity, the value of the disparity index will be 0. The disparity rises with the rising value of the disparity index; if the value of the disparity index is recorded as 1, it indicates perfect inequality (Sopher, 1974). Sopher's disparity index only can be used when data in given in percent.

Z-score

Z-score is a technique to measure the position of raw data score compared to its mean, when it is measured in terms of standard deviation unit. If the value of z-score is positive, it indicates that value lies above the mean (average) and negative when value is less than mean.

Z-score is calculated with the help of following formula;

$$Z = \frac{(x - \mu)}{\sigma}$$

Where,

$Z =$ z score,

$X =$ raw score,

$\mu =$ Means of population

$\sigma =$ standard deviation of population.

The Z-score and composite Z-score is used to calculate the level of infrastructural facilities and social well-being at ward.

Besides above-mentioned methods various others research methods and statistical techniques have been adopted for the purpose of achieving the objective of the study. Some cartographic techniques such as pie diagrams and Choropleth maps are used to represent the data more meaningfully, and various statistical methods such as Mean, Standard deviation, GINI Index and, Karl Pearson correlation, and composite Z-score are used to represent and analyse data with the help of SPSS and Excel and for the purpose of maps making ArcGIS 10.8.2 software is used.

1.3. Review of Literature

Social inequality is an unconsciously evolved device by which societies ensure that most important positions are conscientiously filled by the most qualified persons (Davis & Moore, 1945)(Marsh and Blackburn 1992) stated that there is structural and social inequality in our society. Social and occupational stratification and social inequalities relating to consumption affect higher education participation and these inequalities are impossible to separates. (Israel, E. & Frenkel, 2018)explored the relationship between suburbanization and social inequality. This study shows the spatial inequality in metropolitan region of Israel by using data of 1063 households from eight different suburbs. This study reveals that there is a positive relationship between suburbanization and social inequality in metropolitan areas of Israel. It is clear from this study as the level of suburbanization increase, social inequality also increases in the suburbs of Israel. (Muntazim, 2022) discussed the role of urbanization in contributing social inequality in Moradabad city, rapid and unplanned urbanization, because of continuous migration from rural areas, created many problems in Indian cities, and social fragmentation and inequality is one of them. (Bormann, 2021) analysis of the role of research knowledge of social inequality in education during the pandemic in Germany. The situation of COVID-19 pandemic has brought significant changes worldwide in various fields, including education. School closer after March 2020 led to digital distance education which contributed to the worsening situation of inequality in education. (DiPrete & Fox-Williams, 2021) analysis the relevance of research on inequality in the field of

sociology. The study reveals that during the last 40 years social inequality increased significantly in America, which has become an issue of great concern to trickle down the poverty. Therefore, apart from effect size, durability, and feasibility and research of sociology as well as social science must be focused the depth, level, and consequences of social inequality. (Jun et al., 2022) discussed the chronic frame of social inequality and mainstream media's role in framing racial, gender, and wealth inequality based on topic modelling, manual coding for archival data, and experimental approaches. Social inequality is a situation in which one group or individual possesses a different share of valued resources such as income, wealth, and opportunities than another group or individual, and this picture of inequality be explained using at least one of two frames: as one group's advantages or another group's disadvantages. Inequality frames are also powerful because they impact how individuals prefer to address inequality.

The above-mentioned review of major work on social inequality in India as well as abroad shows that most of the studies are either time-specific or region-specific and deal with a particular aspect of social inequality. Hence, there are very limited studies on all the aspects of social inequality.

1.4. Study Area

Moradabad city has been selected as the study area for the present research article. One of the biggest urban centres of Ganga Doab, Moradabad, is situated on the Middle Eastern edge of the Doab on the bank of river Ramganga and developed as a node for many routes, roads, railways, and water. Moradabad city extends from 28°49' to 28°53' North latitudes to 78°45' to 78°48' East longitudes. Moradabad is a city, municipal corporation as well as commissioner in Moradabad district of Uttar Pradesh in India. It is also head-quarter of Moradabad district.



Fig 1: Administrative Division of Moradabad City.

Entire city is divided into 70 different wards that categorise into four zone as North, South, East, and West. City is also further divided into 340 *mohallas*. The total area of Moradabad city is about 79 sq. kilometres (*Nagar Nigam Moradabad*, 2011). Moradabad is one of the most populated cities of Uttar Pradesh with a population of 887871. Census of 1901 revealed that the total population of Moradabad city was 75082 persons. It was recorded 81,118 according to 1911 census with a population growth of about 8.04 percent. In 2011, sex ratio of the city recorded 911, it was much positive in compare to previous decades; however, it was less than the state and national level sex ratio of 912 and 943 respectively. The literacy rate of Moradabad city in 2011 was recorded 68.75 percent cent.

2. Result and Discussion

The study reveals that significant social inequality is recorded in Moradabad city based on gender, caste, and religion in educational attainment, employment rate and income, political participation, and representation. To show the ward-wise spatial variation of the level of social inequality in Moradabad city, fifteen indicators of social inequality have been selected, and ward-wise, their average value is calculated. All the seventy wards of the city have been divided into five categories: very high, high, medium, low, and very low, based on the average values.

Table 2.1: Selected Indicators of Social Inequality.

Sr. No.	Indicator	Description
1	Gender-Based Inequality	Gender-Based Disparity in Literacy Rate
2		Gender-Based Disparity in Average Years of Schooling
3		Gender-Based Disparity in Employment Rate
4		Gender-Based Disparity in Monthly Income
5		Gender-Based Disparity in Political Participation
6	Caste-Based Inequality	Caste-Based Disparity in Literacy Rate
7		Caste-Based Disparity in Average Years of Schooling
8		Caste-Based Disparity in Employment Rate
9		Caste-Based Disparity in Monthly Income
10		Caste-Based Disparity in Political Participation
11	Religion-Based Inequality	Religion-Based Disparity in Literacy Rate
12		Religion-Based Disparity in Average Years of Schooling
13		Religion-Based Disparity in Employment Rate
14		Religion-Based Disparity in Monthly Income
15		Religion-Based Disparity in Political Participation

Table 2.2: Ward-Wise Level of Social Inequality in Moradabad City-2022

Sr. No.	Level	Total Wards	Ward Number
1	Very High	3	7, 47, 60
2	High	21	6, 8, 10, 15, 19, 24, 27, 33, 34, 41, 49, 52, 53, 55, 57, 59, 61, 62, 67, 69, 70.
3	Medium	22	2, 3, 9, 14, 16, 17, 20, 21, 23, 26, 29, 30, 32, 36, 38, 48, 51, 58, 63, 64, 66, 68
4	Low	12	1, 4, 5, 13, 18, 31, 39, 40, 43, 54, 56, 65
5	Very Low	12	11, 12, 22, 25, 28, 35, 37, 42, 44, 45, 46, 50

Source: Based on Primary Field Survey-2022.

To analysis the spatial pattern of social inequality at ward level the entire city is divided into 5 major categories based on the composite z-score value of Sopher's disparity index, and a detailed analysis of each category is provided as under.

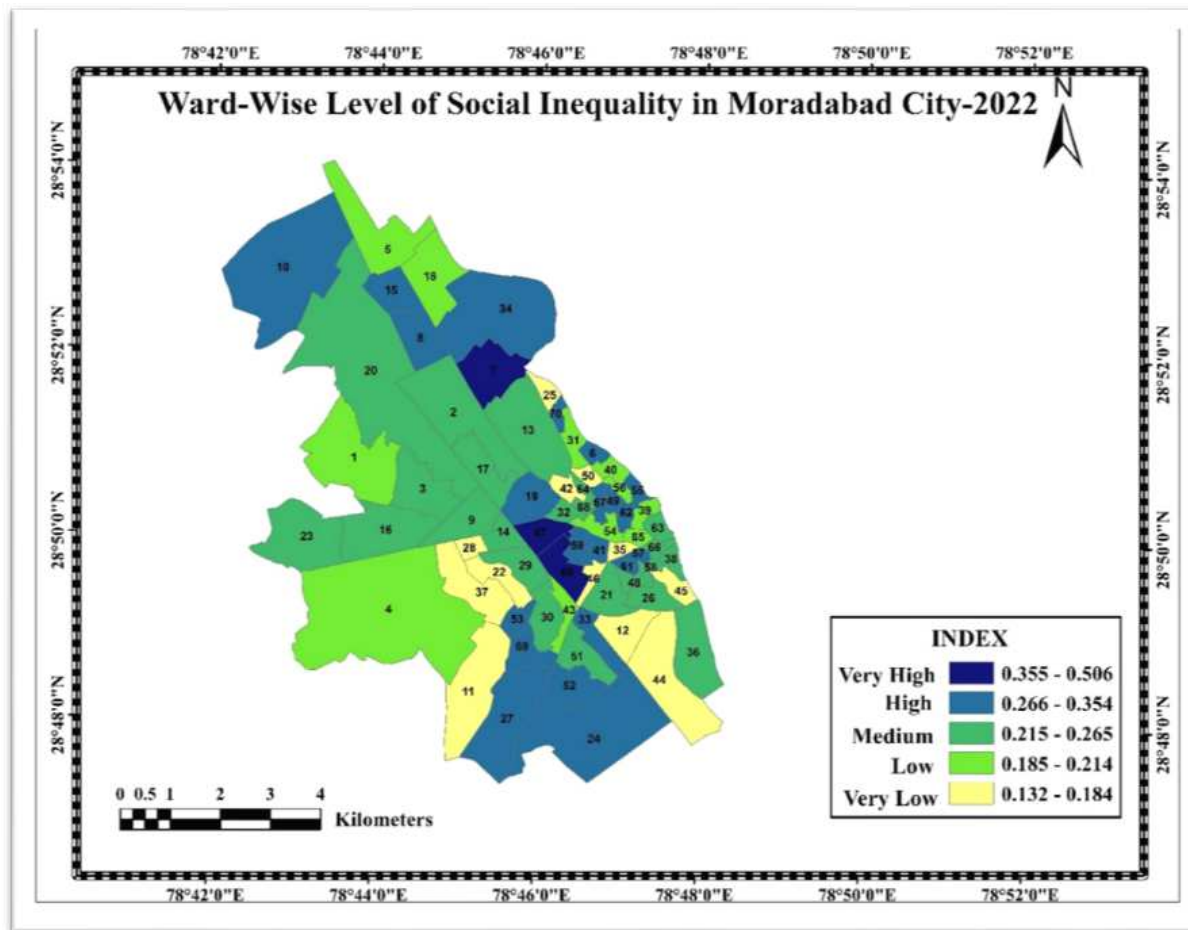


Fig2: Level of Social Inequality in Moradabad City-2022.

Very High Level of Social Inequality- The wards in which the average value of the disparity index ranges from 0.355 to 0.506 are categorised as wards of very high social inequality; these wards are 7, 47, and 60. Two wards of this category are in the city’s central area, whereas one ward, i.e., ward number seven, is situated in the northeast part of the city. In these wards, a level of disparity is recorded in education, income, employment, and political participation based on gender, caste, and religion. In these wards, most of the population belongs to the vulnerable section of the city, where social stratification, poverty, unemployment, and illiteracy are recorded at a very high level.

High Level of Social Inequality – A high level of social inequality is recorded in 21 wards; in these wards, the value of the disparity index varies from 0.266 to 0.354. These wards are ward number 6, 8, 10, 15, 19, 24, 27, 33, 34, 41, 49, 52, 53, 55, 57, 59, 61, 62, 67, 69, and 70. Most of the wards in which high social inequality is recorded are in the city's peripheral area, especially in the south and eastern part of the city. Most of the wards of these categories are newly developed colonies, where lack of basic infrastructural facilities and low level of socio-economic development of the people is the main causes of the high level of social inequality.

Medium Level of Social Inequality- The wards in which the average value of the disparity index is recorded between 0.215 to 0.265 are categorised as wards of medium level of social inequality; in 22 wards out of 70, medium level of social inequality is recorded, these wards are ward number 2, 3, 9, 14, 16, 17, 20, 21, 23, 26, 29, 30, 32, 36, 38, 48, 51, 58, 63, 64, 66, and 68. Most of this category’s wards are located in the city's north-central and south-eastern parts.

Low Level of Social Inequality- Low level of social inequality refers to a more equal society or a low level of disparities among people. A low level of social inequality is recorded in 12 wards; in these wards, the value of the disparity index varies from 0.185 to 0.214. These wards are ward number 1, 4, 5, 13, 18, 31, 39, 40, 43, 54, 56, and 65. Most of the wards in which low level of social inequality is recorded are in the city's peripheral area, except the southern part of the city. Most of the population in these wards belongs to the private working class and medium-level businessmen. In this ward, a high level of employment rate, literacy, and better infrastructural facilities are found.

Very Low Level of Social Inequality- The wards in which the average value of the disparity index ranges from 0.132 to 0.184 are categorised as wards of very

low level of social inequality; in 12 wards out of 70, very low level of social inequality is recorded, these wards are ward number 11, 12, 22, 25, 28, 35, 37, 42, 44, 45, 46, and 50. Most of the wards with very low levels of social inequality are in the south and east-central area. In these wards, a very low level of disparity in literacy rate, employment rate, income, and political participation is recorded based on gender, caste, and religion. Most of the population of these wards have better socio-economic conditions and better access to basic facilities such as health care and education. Social evils such as poverty, gender stereotypes, and social stratification based on caste are minimum.

3. Conclusion

It is clear from the foregoing discussion that a significant inequality is recorded in Moradabad city at ward level. All social groups are on an equal footing and are vital to the advancement of society. However, various social groups record significant social inequality in all socio-economic aspects, such as education, employment, income, and political fields. At gender level, education level, employment rate, income, and political participation and representation of females was recorded low compared to males. The wards where Muslims make up a sizable percentage of the population show a high level of gender-based inequality. A notable difference in the educational attainment, employment rate and income level were recorded among various castes that leads to social inequality. The general caste population recorded the high level of literacy, employment and income as compared to OBCs, SCs, and STs. The socioeconomic conditions of the Muslim population are not comparable to that of Hindus or other religious groups. Therefore, the educational development, income level and political participation and representation of the Muslim population was also recorded very low.

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