

## GENDER DIFFERENCES IN COMMUTING AMONG “OTHER WORKERS” IN URBAN INDIA

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**Abstract:** Mobility has been the core of traditional gender ideologies whereby women are confined to domestic spaces leading to restricted mobility and men to the public domain leading to extensive mobility. Denial of mobility is used for oppression, and women have long been victims of such oppression. So gender and mobility are inseparable, influencing each other. With growing participation of women in the labor market of the urban areas, gender has become a key target for planners and scholars. This paper frames to study the difference between women and men workers' commuting distances and the modes of transportation being used for commuting. To explore this possibility, census data is used and it is seen that gender differences in mobility exists in all urban areas with regional variations. The socio-cultural factors strongly affect the mobility of women in the region. Opportunities for females seizes as they do not travel longer distances and may be underemployed. Women's mobility looks more like Sustainable Transport as commuting is localized with short distances and higher share in use of public transport. Gender differences are a sensitive issue for planners and thus should be interpreted with caution.

**Keywords:** Commuting, Gender, Travel, Region.

**Introduction:** In simple terms commuting refers to the regular travels between home and workplace or school. So, commuting continues as a fixed and majority portion of the flow of traffic in the urban areas. Commuting is a direct derived demand whereby supply of work is in a location i.e. residence and demand of labor in another and transportation being derived from this relationship. Commuting is a part of the larger mobility paradigm. Women's travel patterns are different from men's and these are characterized by deep persistent inequalities (Cristaldi, 2005 ; White, 1986 ; Madden, 1980). Women form an integral part of the society and yet are subjected to oppression, which is often done through denial of mobility. The physical spaces of women are restricted and controlled by the patriarch (Mathur, 2008). Women's spaces are defined by the social norms, and their work limited to caring and nurturing. Mobility restrictions for women are dependent upon how the family and community view women's rights. They also, however, are intrinsically dependent on the prevailing levels of violence against women in the household and the community. Despite the many studies of gender-based differences in commuting behavior over the past decade, scholars still have not been able to agree on the reasons males commute longer distances than females. In the milieu of dissecting mobility, past research has demonstrated that access to mobility entails processes which are essentially highly differentiated along the lines of structural differences in society, related to gender, class, race, caste, and so on. Women's mobility patterns across the globe links it with sustainable mobility. But this sustainability is only interms of two dimensions i.e. environment and economic. It fails to capture social equity (Bergman,

2002). Women have inferior access to both public and private means of transport in any urban setting, while their share of household travel trips are more which is associated with reproductive and care taking responsibilities (Hanson, 2010). Women as a means of commercial goods transport has been existent in the developing countries whereby women's heads and backs are used to perform load carrying functions while men typically do it with the use of technology. The gender inequality not only exists in the modes and distances travelled, but also interms of the females in the transport department. The transport departments across the cities have been masculine (Hanson, 2010).

The new spatial order generated by decolonization process has affected the workplace of men and women, whereby firms tend to move away from the city centers to the suburbs. For women, shorter home-work trips have always been preferred, leading to a tradeoff between choosing a new residence or seeking fresh employment (Cristaldi, 1986). Participation of women in the labor market is strongly conditioned by decentralization of economic activities but women may also draw benefit from resulting greater home-workplace proximity in the suburbs.

Women's mobility is highly affected by the social factors rather than economic and environmental. Education has been seen as the most dominant factor shaping mobility as it gives women more autonomy. According to White, female commuting distances are unresponsive to any demographic variable except the presence of a young child in the household reflecting the role of women as a nurturer. While at the same time, male commuting distances shorten with the

presence of a second worker in the family, but only under the presence of children in the household.

Access to and the use of various travel modes shows differences among male and females. Women are much more likely to use non-motorized mode or public transportation, whereas males show higher tendency towards motorized individual modes of travel (Astrop et.al ,1996 ; Cristaldi, 2005 ; White, 1986). Studying gender and mobility as a cause and effect relationship fails to bring about underlying synthesis.

#### **The Study: Data and Method**

In order to find answers to the objectives mentioned above, it is important to have appropriate data. Out of the two categories of data sources, i.e. primary and secondary, secondary data-sources has been used in the study. The main data source is Census Of India, 2011. B-28 of General Economic Table is the main data that is being analyzed for the study. It is the basic table that gives the range of the distances travelled by the different modes of transportation from residence to the place of work by other workers. For the other variables used for the study, PCA of Census 2011 has been used.

Simple percentages have been calculated for different modes of transportation according to the distance from the total other workers. Sex ratio, Female literacy rates, Female WPR, average household size had been calculated using standard definitions. Correlation matrix has been used to see the association between commuting and different factors. For looking into the gender disparity in mobility of "other workers", Sophers Index is used to. This method of calculating disparities has been developed by David Sopher (1974). According to this method:

If  $X_1$  and  $X_2$  represent the respective percentages of female and male mobile "other workers", then the disparity index (D) can be calculated by the formula

$$D = \text{Log}(X_2/X_1) + \text{Log}[(100-X_1)/(100-X_2)]$$

Where  $X_2 \geq X_1$ .

This is because it is generally assumed that males are more mobile than females. It is a relative measure. In the case of perfect equality i.e. no disparity at all the value of D will be Zero. Higher the value of D, higher is the extent of disparity and lower the value of D shows Lower the disparity.

Mapping is an integral part of geographical research as it provides a clear visual impression of the phenomena over space. Choropleth maps have been generated using ArcGIS10 software.

#### **Defining "Other Workers"**

According to the Census of India, "workers other than cultivators, agricultural labourers or workers in Household Industry, as defined above are termed as 'Other Workers' (OW). Examples of such type of workers are government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport, banking, mining, construction, political or social work, priests, entertainment artists, etc." (Census, 2011)

Over 94 percent of India's working population is part of the unorganised sector. In 2011-12, 80 per cent of the urban workforce in India was informally employed. Of the urban informal workforce, just over half were self-employed (51%) and just under half were wage employed (49%). The first-ever estimates of domestic workers, home-based workers, street vendors, and waste pickers indicate that these four groups represented 23 per cent of total urban employment and 29 per cent of urban informal employment in that year. Home-based work was the largest sector: representing 14 per cent of total urban employment and 17 per cent of urban informal employment. Domestic work was the second largest sector: representing 5 per cent of total urban employment and 6 per cent of urban informal employment (WIEGO).

**Regional Pattern of Urban Mobility among "Other Workers"** : Discourses on the concept of mobility have traditionally described it as physical movement (operating in the domains of geography, urban planning and transport) on one hand and a change in social status on the other (a sociological construct). Mobility as a movement that is socially produced, is variable across space and time, and has visible effects on people, places, and things, and the relationships between them. Mobility, unlike movement, is therefore a contextualized phenomenon. The interaction between spatial mobility for negotiating daily lives and other forms of mobility (social, economic, political etc.), has not been substantially explored.

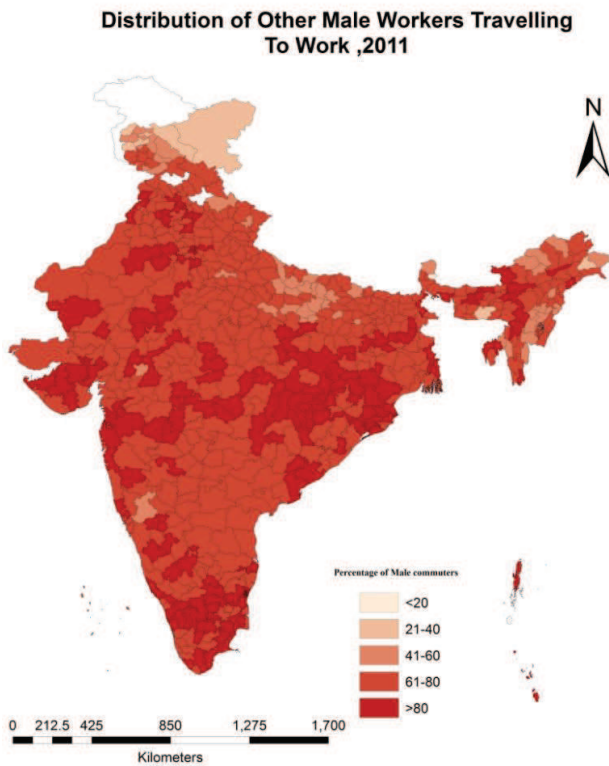


Fig. 1

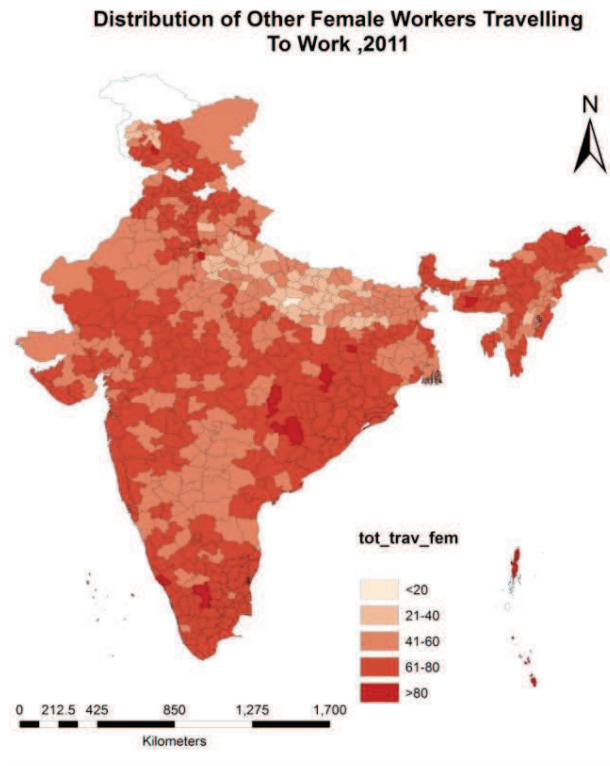


Fig.2

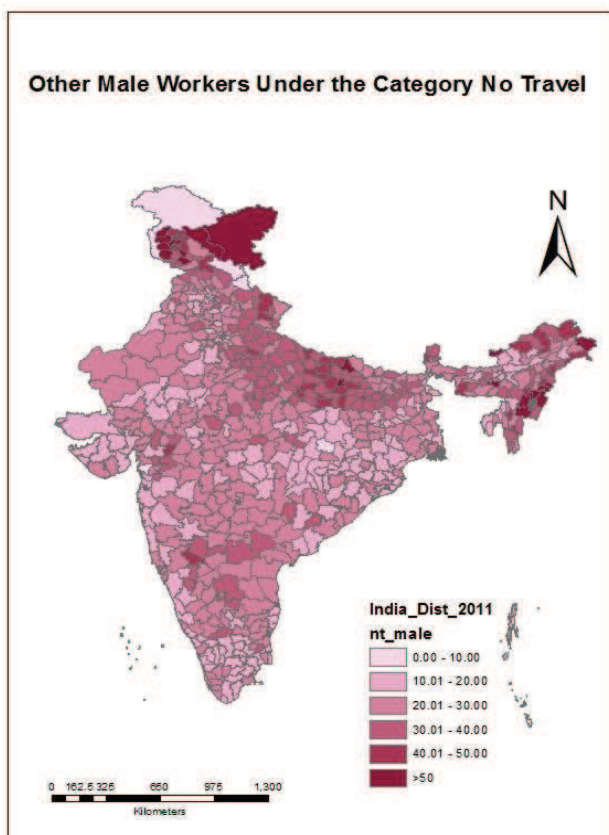


Fig 3

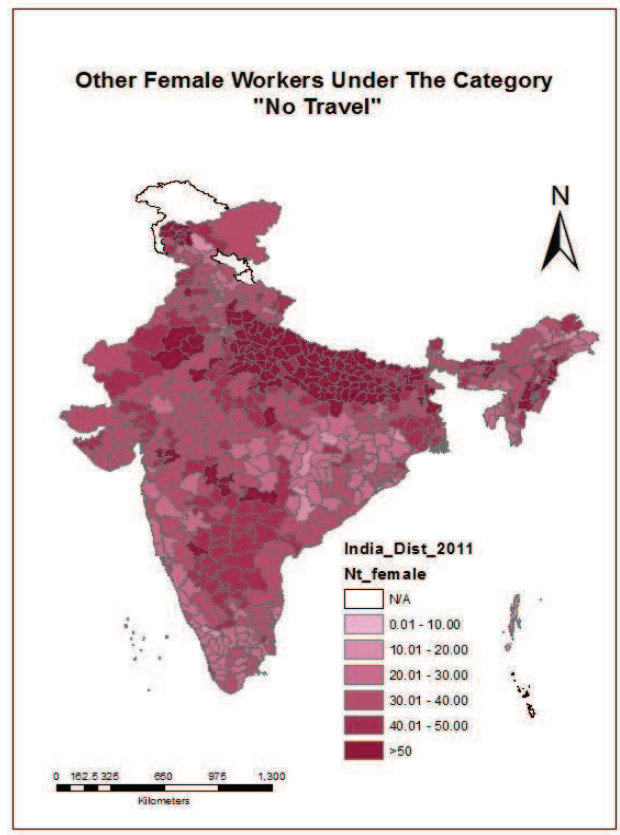


Fig 4

Fig 1 &2 depict the distribution of other workers commuting to work combined for all modes of transportation. In the case of male other workers, most of the urban districts have more than 60% of its workers travelling to work where except for some districts in Jammu & Kashmir, western Bihar and some north eastern districts. Overall no such regional pattern emerges for male “other workers” which shows that mobility of men is not controlled by regional social factors.

In the case of female “other worker” there seems to be a regional pattern emerging. The districts of the middle Ganga plain region has relatively low women workers mobility i.e. most of the workers do not commute to their place of work. Very high mobility i.e. above 80% of the workers commuting is extremely low and confined only to a handful of 10 districts unlike that of men workers. The pattern and data suggests that in the urban areas also the mobility of women workers is restricted. Although working, most of them do not commute and it coincides with the regions of patriarchy and rigid societal norms against women.

Fig 3&4 are for male and female other workers who so not travel to work. They are mainly the home based workers. They can include doctors, musician, Dancer, Waterman, Astrologer, Dhobi, Barber, etc., or merely trade or business.

Other male workers who do not travel to work are very few in proportion across all districts of India,

except in the Border States where there is huge deployment of army men and they usually reside in their place of work. Women working from home are very high again in the Indo-Gangetic plain area. Female mobility in the eastern part and west-southern region is relatively higher but still lower compared to that of the males.

So overall we can say that there is some kind of divide in the regional pattern between the northern plains with the other regions of the country.

**Gender differences in Commuting (Mobility):**. It is widely assumed that in the era of globalization, there is convergent effects and cross border organizational learn-ing that have rapidly outpaced the divergent effects of culture and social systems. Women’s work is basically confined to nurturing and taking care of the house. Women have been confined to the domain of home whereby they work for the family but at the same time it is not counted as work as it is not economically productive. The Indian caste system according to Ambedkar has survived for one of the reason associated to women. In the caste structure, there is oppression of women and they are subjugated to men.

Lower educational level and restrictions on women mobility has made females dependent on their male counterparts in the family. The economy of the house is controlled by the male. Now even if women are working, there is still is limit to her mobility by the distance factor

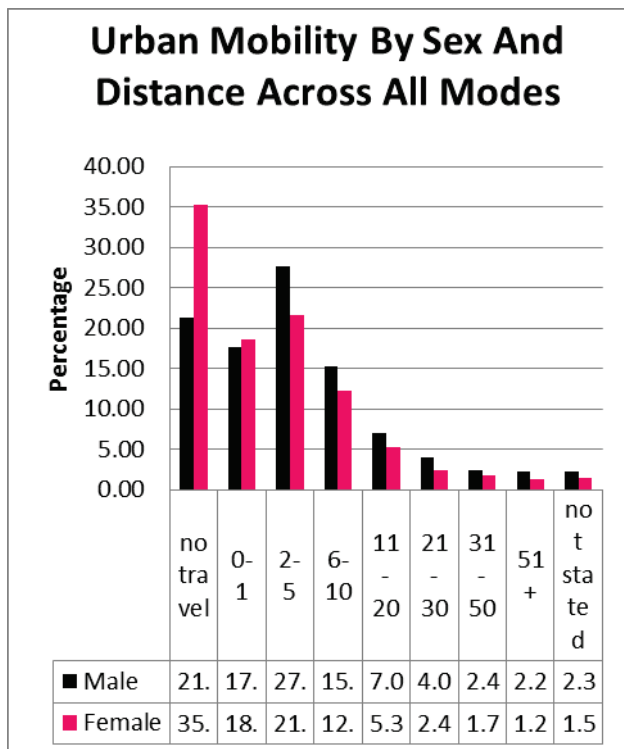


Chart 1

	Tot_ Trav_ Fem	Female_ Literacy_ Rate	FWPR	Family_ Size	Sex Ratio
Tot Trav Fem	1	.302**	.229**	-.533**	.282**
		.000	.000	.000	.000
	637	637	637	637	637
Female Literacy Rate		1	-.209**	-.335**	.238**
			.000	.000	.000
			.641	.641	.641
FWPR			1	-.170**	.470**
				.000	.000
				.641	.641
Family Size				1	-.157**
					.000
					.641
Sex_Ratio					1

Chart 2

In Chart 1, it is clearly seen that sphere of influence for women is less for females and opportunities tend to decrease with distance. Firstly majority of the female workers do not travel to work and are basically home based workers. While there is lesser percentage of male workers who do not travel to work. • Secondly, most females travel only upto a distance of 1km to work. And the gap between male and female is also less but females are more than males.

- There is a steady decline in the percentage of women travelling to work as the distances goes beyond 5km. whereas in the case of males the proportion of commuters increases to 5km and then declines, but still in all further categories of distance, there are more male commuters than females.
- The WPR of females is lower than that of males, and from the graph above it is clear that even the mobility of the females is highly restricted and they are engaged in activities that do not require commuting.

#### **Different Correlates Of Urban Female Mobility:**

Women's autonomy is related to her decision making power. And various socio-economic factors influence women's autonomy. Education is considered as one of the important indicators that affect women's status positively. In a study by Norton and Tomal, it was found that women with just primary education were economically more productive than sons attaining secondary education. Female education and workforce participation would lead to better sex ratios as the mothers will be well informed and would have say in bringing up of the child. Different studies have shown better child nutritional levels with better education of the mother and also for working mothers.

From the correlation matrix it is clearly seen that the mobility of workers is directly related to the socio-economic conditions prevailing.

- Female literacy rates:- Educated women not only tend to promote education of their girl children, but also can provide better guidance to all their children. Moreover educated women can also help in the reduction of infant mortality rate and growth of the population. Female literacy rates have a positive correlation with the mobility of women, which means that as women become more educated, their bargaining power increases as to what kind of work to do and how far to travel. Although still there boundaries for them too, but still higher literacy leads to higher mobility of women.
- Female Work Participation Rates- it has a positive correlation with the mobility of women and is

statistically significant. Higher work participation rates imply that women are now more economically independent. But the relation is not very strong because even though female work participation leads to social as well as physical mobility of women, but none the less the distances to be travelled remain less as working women also take care of their homes and are engaged in household labor also.

- Family Size: - It has a strong negative correlation with the percentage of women commuting to work. This shows that as the family size decreases, women are able to travel to work and no more confined to work from home.
- Sex Ratio: - it is one of the most important proxy variables to examine the status of women in the society. Sex ratio is positively related to the mobility of women. As sex ratio increases, more female workers are able to commute to work. This shows that with better sex ratios, there will be gender equality where both men and women have access to different resources at same levels.

**Modes of transportation:** as the urban areas are adapting to the characteristics of neo-liberalism, the notion of affordability and who has access to what transport resources becomes important. Cities reflect a pattern of mixed mode of transportation used practices and they somehow reflect the social class differences among the population of the cities.

To look into the regional pattern of the different modes of transportation used by the Other Workers for commuting, the three broad categories are taken into consideration. They are as follows.

1. Public -collective
2. Public- individual
3. Private individual

When we look into the mode of transportation used from the gender lenses then we see stark choices and discriminations interms of using private modes. Women's percentages are higher in modes like by foot, bus and auto rickshaw. Out of the three only two are motorized mode of transportation while walking is non-motorized. This shows that women prefer using public transportation which is relatively cheaper and here the women's individual choices are compromised. Most women travel by foot because it has no cost of travelling attached to it and are basically used to cover shorter distances. But when it comes to the non motorized private individual modes there is a vast gap between men and women who use it. So it can be said that women go for transportation that are cheap or which have no cost attached to it, while men ave wider options and own private vehicles more than women workers.

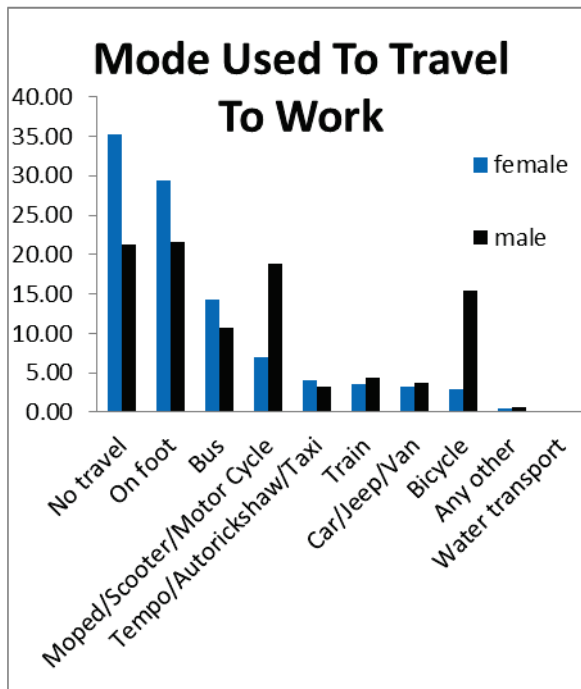


Chart 3

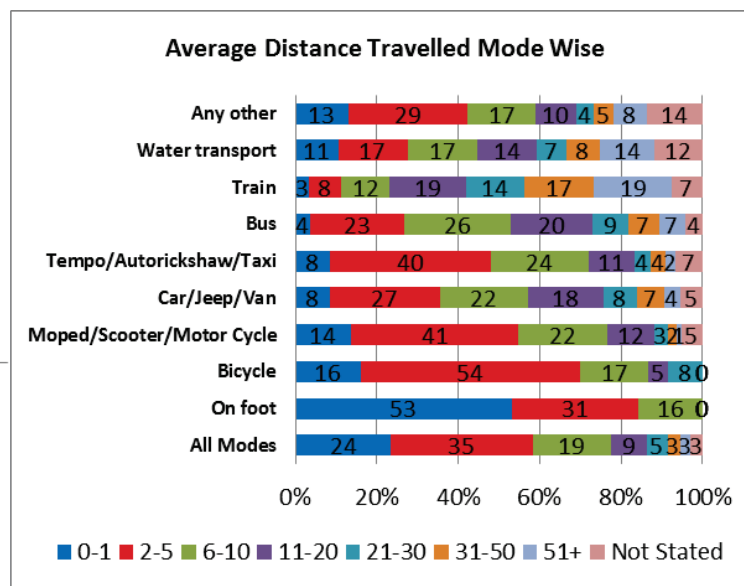


Chart 4

Chart 4 shows the average distances travelled for different mode. It clearly shows that majority of the workers travel distances for non motorized modes till 5km of distance and for non motorized modes to 10 to 20km of distance (taking 50% workers as the reference). The graph also shows that as distances increases, hence the mobility decreases. And moreover people tend to use private transportation services for short distances and public transportation for longer distances.

From the above two charts it can be inferred that even if women have more share in using of some modes, but the distances travelled by females is much lower as compared to males. Men travel much longer distances for commuting and go for faster and choice preferred mode of transportation.

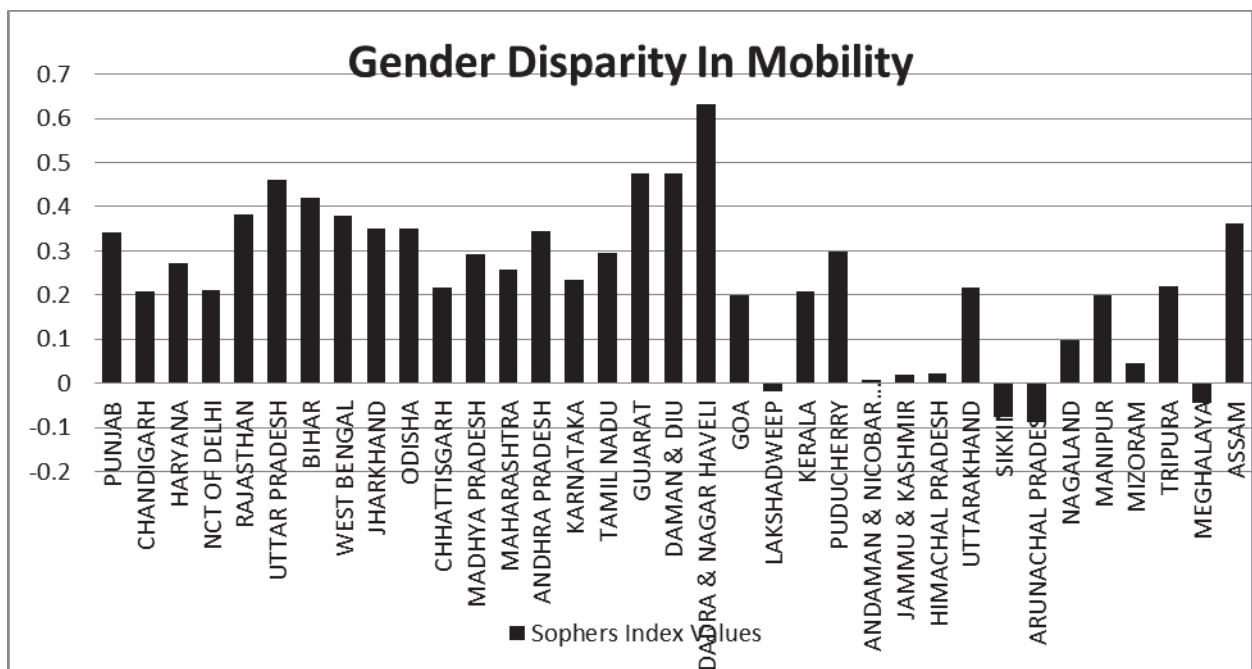


Chart 5

**Disparity in Urban commuting:**

The social structures in India perpetuate the marginalization and oppression of women in the form of cultural norms and legal codes. As a result of this unequal social order, women are usually relegated into positions

where they are deprived of education, health services, and choice of working and also to their mobility. Gender disparity refers, then, to statistical differences in the possessions, statuses, and opportunities between men and women.

By plotting the values of Sopher’s index we get to see that there is high disparities interms of male and female mobility to work. Higher value shows that there is higher disparity between the two sexes. The graph represents the disparity that exists in different states across India.

Highest disparity is seen in Gujarat, Dadra and Nagar Haveli and Daman and Dui. From the regional point

of view it can be seen that the islands and mountain states in general have less disparity, rather negative disparity meaning that female are more mobile in the urban areas than the males. And the states falling in northern plain region have more gender disparities as the social norms in these areas restrict the mobility of women.

**North-South divide for women?**

From the above analysis we have seen that women mobility is lower as compared to that of male workers. There are differences both in the mode of transportation used as well as the distances travelled to work. The two modes of transportation used by females were found to be bus and walking.

Walking represents non motorised transportation mode and maximum of the female workers in urban areas travel to work by walking. It is a private transport without any costs attached to it.

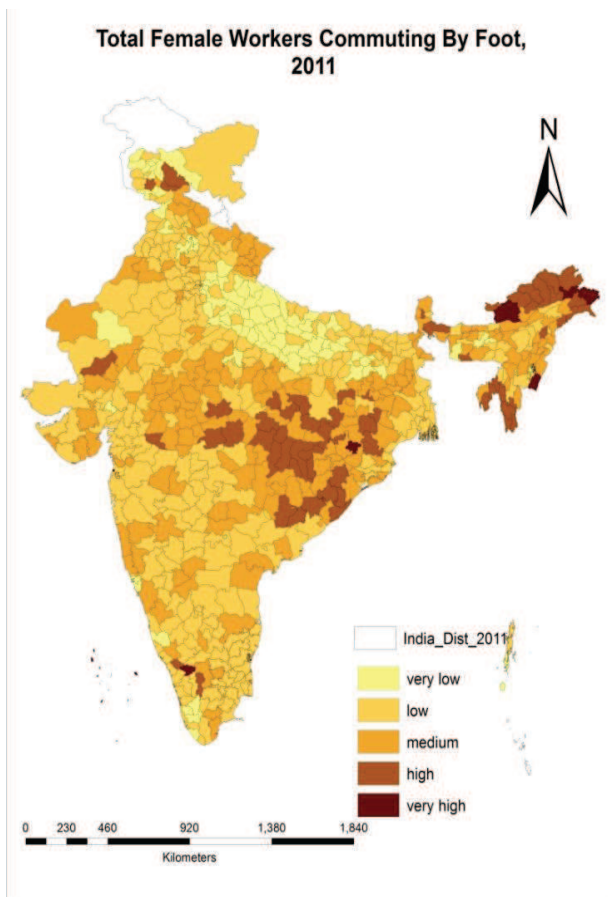


Fig 5

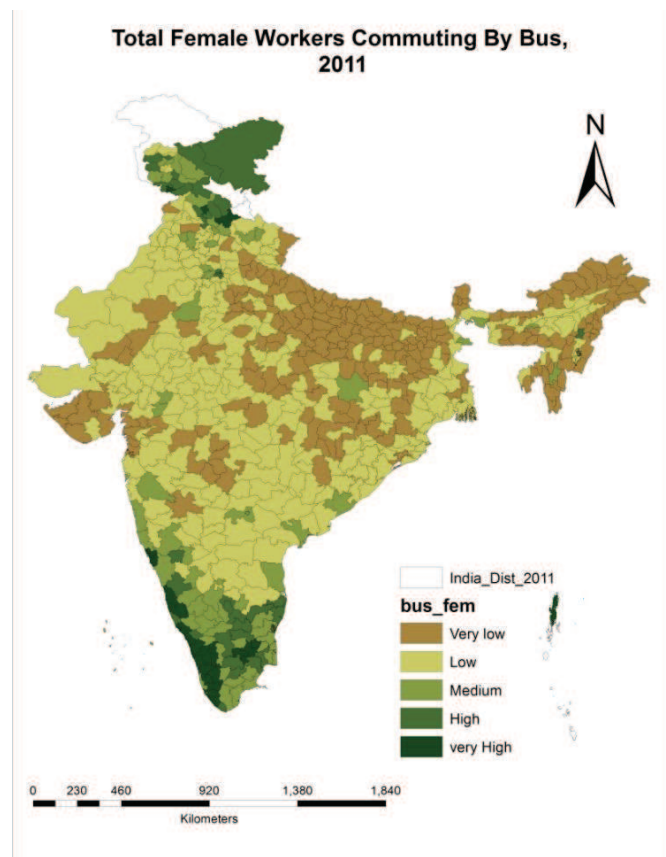


Fig 6

Secondly bus is motorized mode of public transportation and women use it for travelling to longer distances. So inorder to see if the region plays an important role in shaping the mobility pattern, the above two modes of transportation used by female workers are used to map the regional pattern.

When we compare both the maps, we do not see a clear north-south divide interms of women’s mobility. The southern region has high mobility of women as women travel to greater distances for work. This also shows

that the southern region is more egalitarian in terms of gender roles. One striking outcome from both the maps reveals that the Indo Gangetic plains have very low female mobility as both buses and by walking mode is low. This is the Hindu heartland where the caste system is very rigid and area of strong patriarchal relationships.

#### Findings

- There are gender differences in the commuting patterns of urban areas but at the same time they vary regionally.
- Women tend to use public transportation for commuting to longer distances while men avail both public and private modes.
- Majority of the women workers do not travel to work. This can be attributed to the deeply rooted patriarchal structures, where women are confined to home. Even though they work, the options are basically home based work mainly tailoring, handloom, eatables, etc.

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