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Stepping Out to Work

Women's Work and Local Infrastructure in Rural India

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Gender-sensitive public infrastructure that enables women to balance care and market activities, is essential for work outside the home. Including a gender perspective in village-level infrastructure planning promotes women's work quality, inclusion, and sustainable development.

Introduction

The women's labour force participation rate is often treated as a key indicator of women's economic status, and inclusive and sustainable development. Concerns have often been raised about the low labour force participation rates for women in India. The approximate causes that have been identified in the literature are economic growth, increasing education attainments, falling fertility rates, social norms, and issues of measurement.

The quality of women's work is considered important, more critical given the overall trends in women's labour force participation. Women's labour force participation may increase on account of unpaid family labour and self-employment, both considered as indicators of distress. On the other hand, the availability of salaried work is thought of as a better option.

The critical distinction between unpaid family work and own account work on the one hand and salaried employment and casual labour on the other hand is that women must step out of the household for the second type of work while the first type is often carried out within or close to the household. Work that requires stepping out of the household and being away for extended time periods is a different qualitative dimension.

Care work that women must carry out, regardless of whether they participate in the labour force or not, is easier to balance with market work when the worksite is close to home or is the home. In India, women spend a significant time in care and unpaid domestic work. The burden of unpaid domestic work falls on women. Women are also the primary care providers. There is hardly any escape from these responsibilities.

> Work that requires women to step out of home is especially challenging. On the other hand, work that can be carried out close to home or at home is a little easier to manage.

Therefore, market-based work requires time commitments over and above the time that must be necessarily allocated to unpaid domestic and care work. Work that requires women to step out of home is especially challenging. On the other hand, work that can be carried out close to home or at home is a little easier to manage.

The argument in this paper is that the availability of gender-sensitive public infrastructure-that is, infrastructure that makes it easier to balance care and market activities-is particularly important for work that requires women to step outside home. Working outside home, like salaried work, is better quality work, paying better than own account work. Hence, quality public infrastructure, which is gender sensitive, is important for the quality of women's work as well as for inclusive and sustainable development. It is important to specifically include a gender dimension at village-level infrastructure planning exercises.

Section 1: Defining and Measuring "Gender-sensitive Rural Infrastructure"

We use the publicly available all-India village-level dataset collected by the union ministry of panchayat raj for 2022-23 (Data are available for free download at https://missionantyodaya.nic.in/.) Our methodology is analogous to that for computing multidimensional poverty, except that our unit is the village rather than households (UNDP 2024). Our index is based on data from four domains-the gender sensitivity of governance-related infrastructure, physical infrastructure, education-related infrastructure, and health-related infrastructure. Each of these indicators is based on a question. If the answer to the question is "Yes", the indicator value is coded 0. If the answer is "No', the indicator value is coded 1, indicating its "deprived" status. The specific sub-indices of each of these categories are given in Table 1.

Table 1: Indicators Used for Creating the Gender Deprivation Index

No.	Domain	Question	Indicator value if the answer is "Yes"
1	Village governance-related infrastructure	Does the gram panchayat have a community hall with electricity?	0
2	Village governance-related infrastructure	Does the gram panchayat have a panchayat bhavan with separate toilets for women?	0
3	Village governance-related infrastructure	Does the gram panchayat have a community hall with separate toilets for women?	0
4	Village governance-related infrastructure	Is the percentage of female members present in the gram sabha (the average over the last three sabhas) at least 33%?	0
5	Village governance-related infrastructure	Has at least one mahila sabha been conducted in the last year?	0
6	Village governance-related infrastructure	Does the gram panchayat have at least one elected woman representative?	0
7	Village governance-related infrastructure	Are self-help groups represented in the standing committee?	0
1	Physical infrastructure	Is the village connected to an all-weather road?	0
2	Physical infrastructure	Does the village lack irrigation entirely?	1
3	Physical infrastructure	Does the village lack internal pucca roads in any form?	1
4	Physical infrastructure	Does the village lack access to public transport (bus, auto, train) within a radius of 1 km?	1
5	Physical Infrastructure	Does the village lack domestic electricity	1
6	Physical infrastructure	Does the village lack access to a bank within a radius of 10 km?	1
7	Physical infrastructure	Does the village lack access to an ATM within a radius of 10 km?	1
8	Physical infrastructure	Does the village lack access to telephone services (mobile or landline)	1
9	Physical infrastructure	Does the village lack access to broadband facilities?	1
10	Physical infrastructure	Does the village lack access to a market (hat, mandi, regular market) within a radius of 10 km?	1
11	Physical infrastructure	Does the village lack access to a public distribution outlet within a radius of 10 km?	1
12	Physical infrastructure	Does the village not have a children's playground?	1
13	Physical infrastructure	Does the village not have any streetlights?	1
1	Education	Is the distance to the nearest primary school more than 10 km?	1
2	Education	Is the distance to the nearest vocational centre more than 10 km?	1
3	Education	Is the distance to nearest middle school more than 10 km?	1

For every village, we compute a deprivation score for each of the domains by averaging the value of the respective indicators (1s and 0s) across that village. We then create a composite deprivation score for each village by averaging the deprivation scores across the four domains. This gives a single composite deprivation score.

> For every block, district, and state, we compute the multidimensional deprivation index by multiplying the headcount ratio and the intensity measure. This gives us a composite measure of the incidence and depth of deprivation.

We define a village to be multidimensionally deprived if its composite score exceeds 0.2. This is really a subjective cut-off point. The usual practice in the literature on multi-dimensional poverty is to choose 0.33 as the cut-off point. However, since the deprivation indicators that we have used are stark, we have chosen a smaller cut-off value. We calculate two measures based on the village-level composite deprivation score.

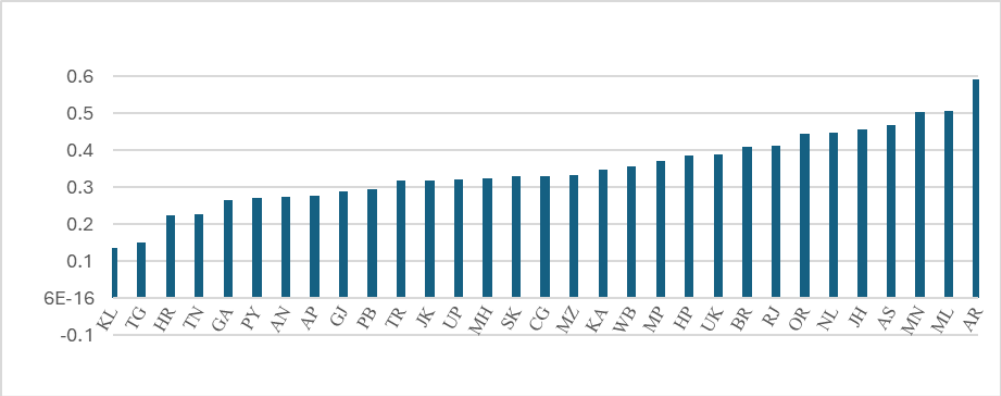
1. The headcount ratio: The headcount ratio is the percentage of total villages in a block/district/state that are multidimensionally deprived (that is, have a composite deprivation score of more than 0.2).

2. The intensity: This is the average composite deprivation score of villages that are multidimensionally deprived in a block/ district/ state. This is like the depth of poverty idea in the literature on poverty.

Finally, for every block, district, and state, we compute the multidimensional deprivation index by multiplying the headcount ratio and the intensity measure. This gives us a composite measure of the incidence and depth of deprivation. The greater this value, the less gender friendly the infrastructure in the block, district, or state.

Figure 1 gives the values for the index for each state and selected union territories.

Figure 1: Values for the Multidimensional Deprivation Index for States and Selected Union Territories

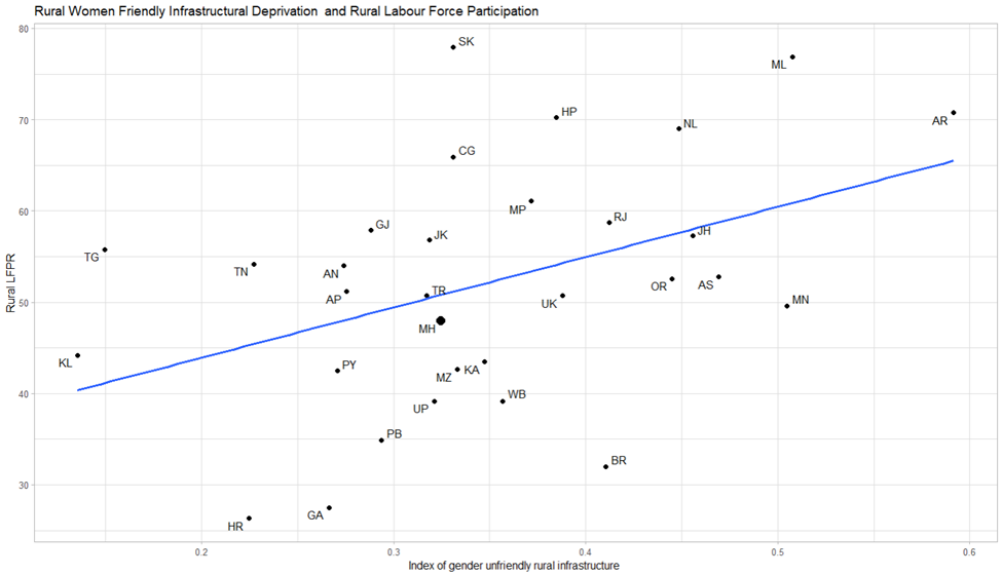


As can be seen from the chart, the north-eastern states do not do very well. Kerala and Telangana are the better performers.

Section 2: Gender Derivation Index, Women's Work, and Human Capital Formation

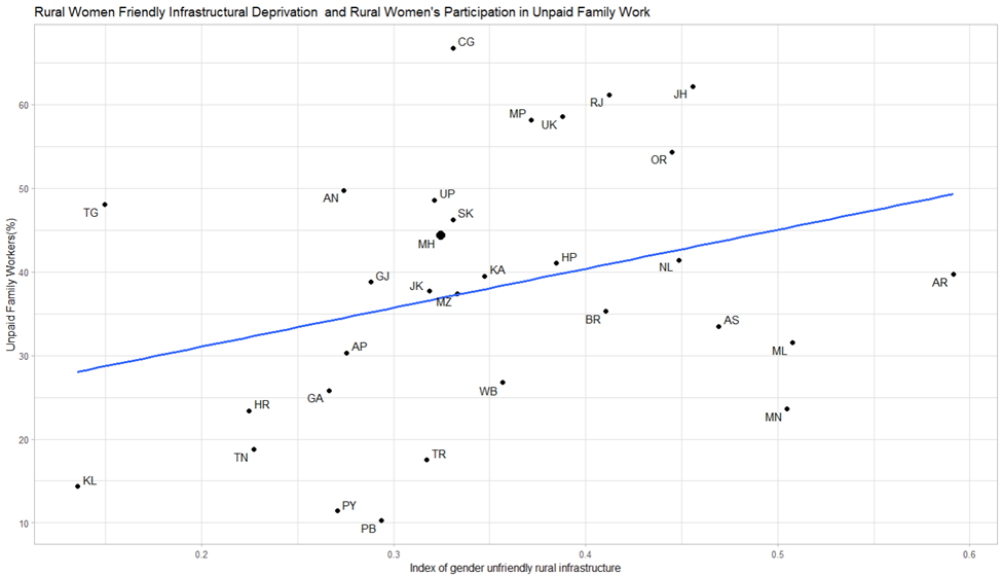
Figure 2 shows the relationship between women's labour force participation rates and the gender friendliness of rural infrastructure.

Figure 2: Women Friendly Rural Infrastructure and Women's Labour Force Participation



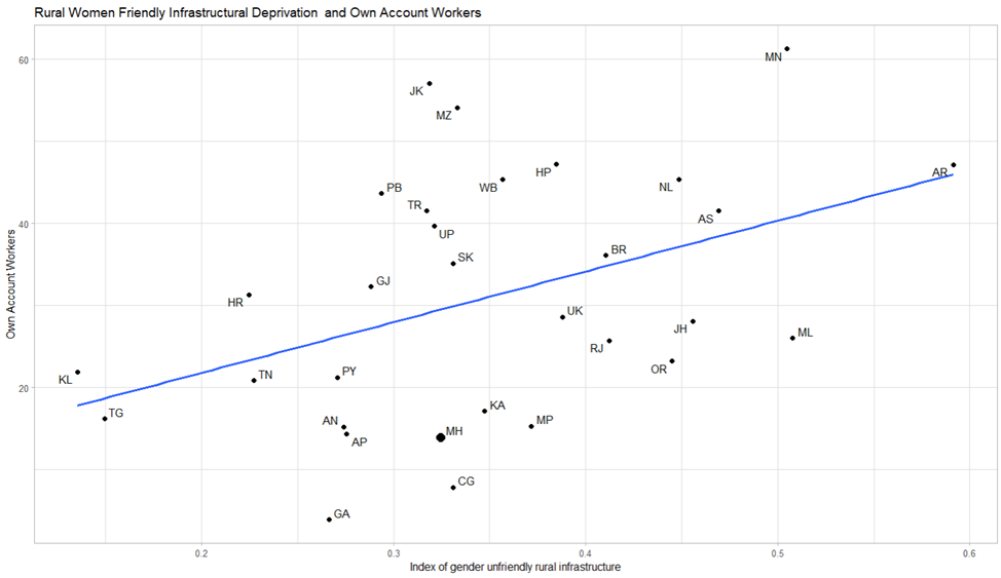
As can be seen from the Figure 2, rural women's labour force participation across states is positively correlated with the unfriendliness of gender infrastructure. That is, the more unfriendly the gender infrastructure, the greater the labour force participation for women in rural areas. However, this apparent paradox disappears if we drill down a little more into sub-categories of the labour force participation. Figure 3 examines the relationship between gender unfriendliness and women's participation in unpaid family work.

Figure 3: Women Friendly Rural Infrastructure and Women in Unpaid Family Work



As expected, states with a more gender insensitive infrastructure have a greater percentage of women who are unpaid family workers. This is essentially work that does not require women to step out of home. Figure 4 examines the relationship between women's own account work and gender unfriendliness of rural infrastructure.

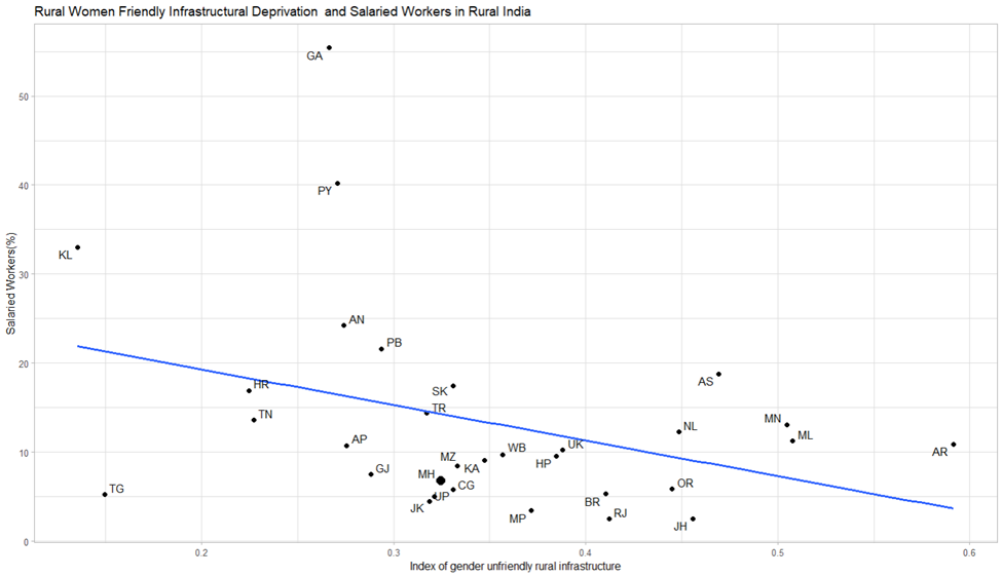
Figure 4: Women Friendly Rural Infrastructure and Women's Own Account Work



The majority of own account work in rural India is either working in one's own fields or running small businesses from home. As we can see, there is a positive correlation between the gender unfriendliness of rural infrastructure and the percentage of women who are own account workers.

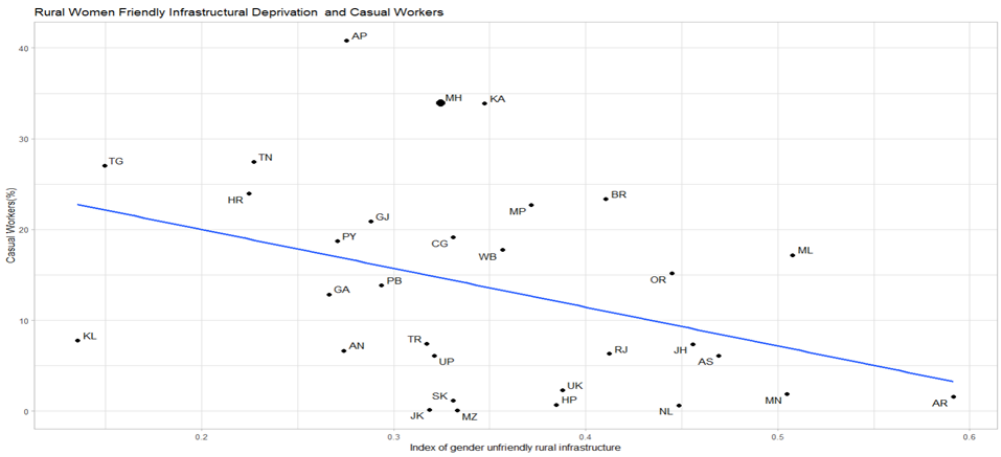
On the other hand, both salaried work and work at casual labour sites requires women to step out of home for a considerable time and sometimes travel considerable distances. Figure 6 examines the relationship between the gender unfriendliness of rural infrastructure and the percentage of women who are into salaried work.

Figure 5: Women Friendly Rural Infrastructure and Women in Salaried Work



As expected, the relationship is negative. The more women unfriendly the infrastructure, the smaller the percentage of women who are in salaried work. Figure 6 examines the relationship between the gender unfriendliness of rural infrastructure and the percentage of women who are in casual work.

Figure 6: Women Friendly Rural Infrastructure and Women in Casual Work



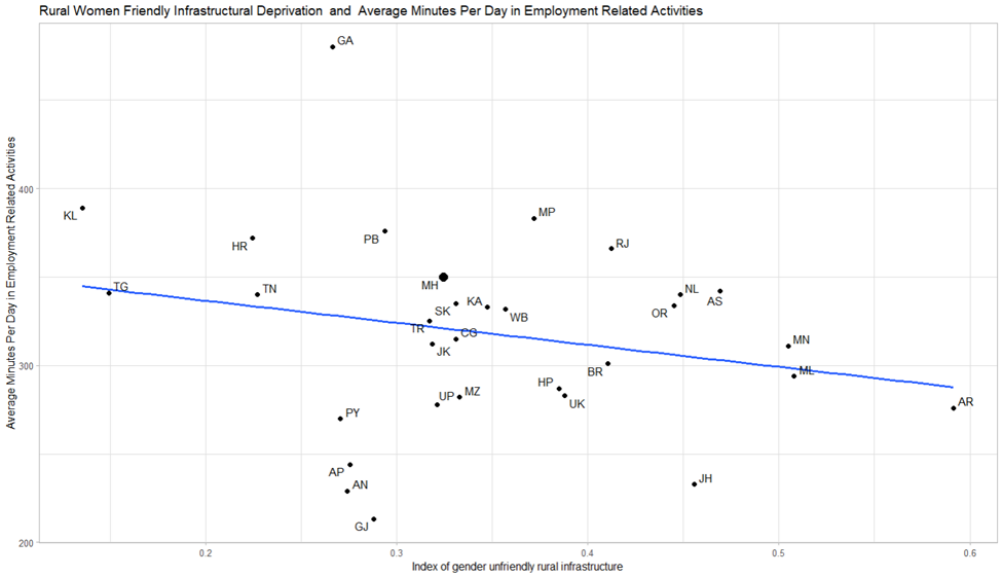
As expected, the relationship is strongly negative.

One thing is clear from the figures. There is a correlation between the quality of women's market-based work and the gender sensitivity of rural infrastructure. If the infrastructure is more inclusive and sensitive to women's concerns, the better the quality of work that women can find. A larger percentage of women are likely to be employed in jobs that require them to step out of home for work.

However, these are only correlations. It is entirely possible that a third factor, invisible so far, is driving both the phenomena. However, since we have only aggregate state-level data that limits the degrees of freedom that we have, it is very difficult to set up a model that can convincingly demonstrate causation. Yet, intuitively, it seems likely that better streetlights, access to transport facilities, schools, and health facilities nearby are more likely to help women find work that allows them to balance their work and care responsibilities more effectively.

To cross check our results, we also look at the relationship between the time that women in rural India spend in employment and related activities according to the 2019 time use survey and the gender-sensitivity of the rural infrastructure. This is presented in Figure 7.

Figure 7: Women Friendly Rural Infrastructure and Time Spent on Work-related Activities



One can discern a negative relationship, though perhaps a weak one. One more question of interest is whether the gender unfriendliness of rural infrastructure could be deterrent to attending educational institutions. Figure 8 explores the relationship between the time that rural women spend (in minutes per day) attending educational institutions and the gender un-friendliness of rural infrastructure.

Figure 8: Women Friendly Rural Infrastructure and Time Spent in Educational Institutions

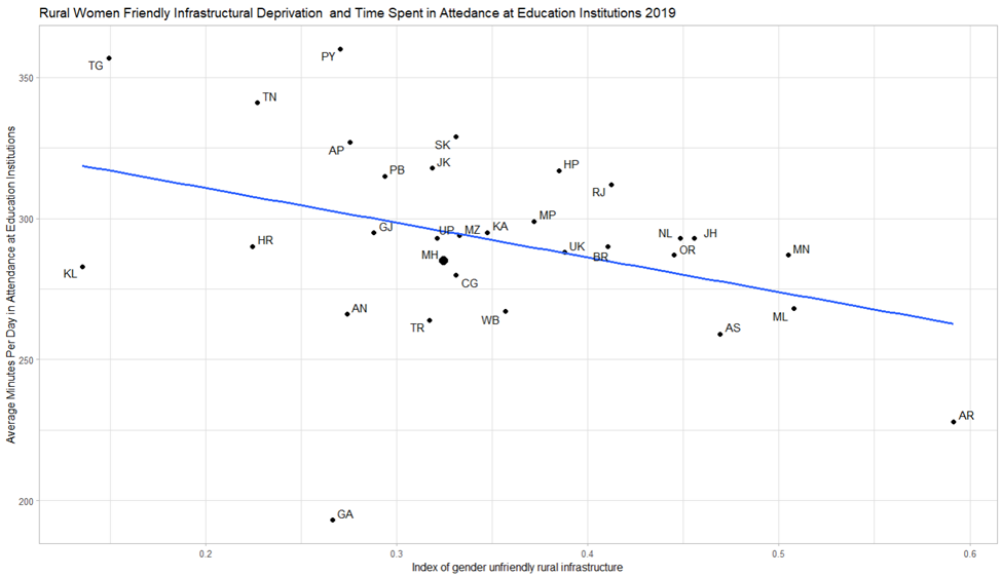


Figure 8 confirms our intuition. There is a definite negative correlation between the time that rural women spend in educational institutions and the gender unfriendliness of rural infrastructure.

Putting all the graphs together, it seems clear that in states with a women unfriendly rural infrastructure, women are more likely to be unpaid family workers and own account workers. They are less likely to be salaried or casual workers, and less likely to spend time in employment-related activities and in attending educational institutions.

> States where infrastructure is less conducive to stepping out experience an increase in own account and unpaid family work and a reduction in salaried and casual work.

How does one explain the paradox of increasing labour force participation associated with worsening of the gender friendliness of local infrastructure? The answer lies in the sub-components of work. Unpaid family work and own account work forms the bulk of women's labour force participation. On the other hand, salaried work and casual work, work that requires women to step out of home, is the smaller part. States where infrastructure is less conducive to stepping out experience an increase in own account and unpaid family work and a reduction in salaried and casual work. The net result is an increase in labour force participation rate, but a decrease in the quality of work.

Conclusion

There is a great deal of discussion, in policy as well as academic circles, about women's labour force participation rates and the need to improve it from its low base. Several causes have been discussed, but the availability of public infrastructure that would help women step out of home for work or education has not been one of them.

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