

# An Empirical Investigation of the Rural-Urban Divide of Health Parameters in Tamil Nadu

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## Abstract

The Sustainable Development Goal (SDG) on "Good Health and Well-being" holds the nucleus place of the study, which aims to ensure healthy life and promotion of well-being for all lives. Equal status in health care is considered as the main long-term principle of health policy in India which satisfies the need of poor and underprivileged people. The equity of health parameters is best achieved with the assessment and direction of all the states of India working towards the same. In this aspect, the present study analyses the state-level disparities in health parameters on various dimensions. The rural-urban disparity in health is a common challenge for all the states of India and hence, the study assessed the extent of rural-urban disparity in the vital healthcare parameters in the state of Tamil Nadu, as observed by the data of the National Family Health Survey (NFHS 1, 2, 3 and 4). The disparity index calculated with the NFHS statistics on the achievements with regard to total fertility rate, crude birth rate, infant mortality rate, and child mortality rate, the rural population is at a greater disadvantage than the urban population in the case of Tamil Nadu. This calls for proper and adequate consideration by health officials to ensure equity in health care to achieve the SDG and the millennium development goals that will enable Tamil Nadu to achieve sustainable development over the long run.

**Keywords:** Health, Inequality, Rural-Urban Divide and Sustainable Development Goals

## 1. Introduction

The quality of growth of a nation is determined by better health, education, wider and equal employment, a clean environment, self-esteem, and life security. Health is considered important by all the people and hence XI Five Year Plan strives for health as a right for all the citizens. It also aims to minimize disparities in health in all regions and communities by providing maximum health care. Health equity studies the difference in access to health care between populations. It causes social injustice and moreover, those countries with major health inequities lose the benefit of skills, ideas, and productive capacity of the population. Equity in health care is considered to be the main long-term principle of health policy in India which satisfies the needs of poor and underprivileged people.

The Government of India has introduced a separate bill exclusively for recognizing the right to health care by addressing the societal impact of health. However, equity in the implementation of the health policy remains unanswered and it creates a challenge for the entire community. The current policy shift of the National Rural Health Mission (NRHM) is towards addressing health inequities, by improving the Information System, widening the participation of NGOs, more collaborations with the private sector, and a greater thrust by the public sector in providing social protection to the economically weaker sections.

The equity of health parameters is best achieved with the assessment and direction of all states of India working towards the same. Hence, the study analyses the state-level disparities in health parameters on various dimensions.

The rural-urban disparity in health has been a common challenge for all the states of India and hence the study attempts to assess the extent of rural-urban disparity relating to health care in Tamil Nadu<sup>1-4</sup>.

## 2. Review of Literature

Chakrabarty<sup>5</sup> found that the household incomes and the educational levels of the people strongly influenced their health condition. Bahuguna and de Haan<sup>6</sup> summarized the trends and changes in the Indian caste system, that had undergone major transformation, which had not influenced equality. Macinko *et al.*,<sup>7</sup> identified that there exist large inequities in the health conditions of the vulnerable class and Tamil Nadu was not an exception. It was noticed that the conditions of ill health had affected different population subgroups in different ways and those people of lower economic background experienced poor health conditions. Subramanian *et al.*,<sup>8</sup> illustrated the larger adult mortality rates in SC/ST as compared to the remaining population. Ravindran *et al.*,<sup>9</sup> discussed the advantage of equity when measuring the nature of health differentials. There was sufficient evidence from all over the world that showed differences in health conditions among various social groups not just as the result of genetic endowments, but also due to changes in lifestyle. Nagaraja and Veerabhadrapa<sup>10</sup> examined the rural-urban disparities using the vital health indicators compiled from various sources and analysed the causes for the same. The study concluded that the less attention paid by the administrators and policymakers to the rural population was the major cause for the large rural-urban divide in the health parameters achieved during the study period.

## 3. Objectives

- To examine the basic vital statistics at the all-India level and Tamil Nadu in particular.
- To analyse the extent of disparities in the health parameters between the rural and urban populations in Tamil Nadu.

## 4. Methodology

The study is related to the period 1992-93 to 2015-16, the

periods of reporting of the National Family and Health Survey of the country. The following variables are analysed in the present study: Total Fertility Rate (TFR), Infant Mortality Rate (IMR), Crude Birth Rate (CBR), and Child Mortality Rate (CMR) with data collected from,

- National Family and Health Survey (NFHS) report – 1, 2, 3, and 4 and
- Periodic report of Health Management Information System, GOI, 2016.

## 5. Findings and Discussion

### 5.1 Demographic Indicators of Tamil Nadu

The population size, the growth rate of the population, the distribution of territory, gender composition, its variations, and the components of variations such as nativity, mortality, and social morbidity predict the demographic profile of a nation. Demographic indicators can be classified as Population Statistics and Vital Statistics. Population Statistics involves size and growth of the population, sex ratio, density of population, etc., and Vital Statistics involves birth rate, death rate, natural growth rate, life expectancy at birth, mortality, and fertility.

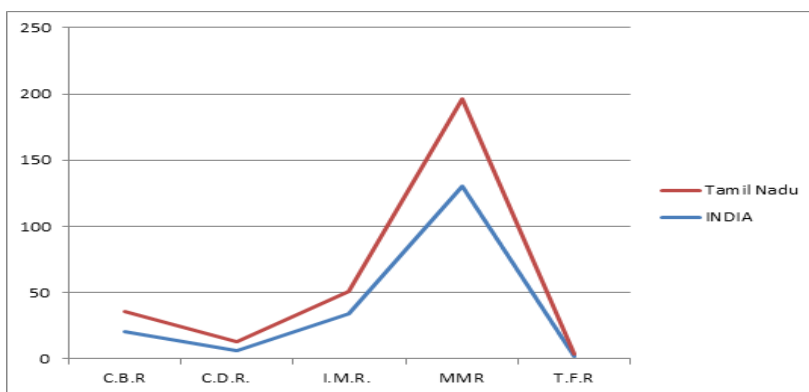
Table 1 gives the vital statistics at the all-India level and for Tamil Nadu reported for the year 2016. Tamil Nadu has shown better health standards than the all-India level in the following parameters:

- The female Literacy Rate is 73.4 compared to 64.6 at the all-India level.
- With regard to the sex ratio, Tamil Nadu recorded 911 in comparison to 900 at the all-India level.
- The infant Mortality Rate for Tamil Nadu is 17 compared to the all-India level of 34, which shows the significant role of government and families in reducing the infant mortality rate in Tamil Nadu.
- The maternal Mortality Rate for Tamil Nadu (66) is significantly lower than the all-India level of 130, showing the increased extent of early pre-natal and post-natal care available in Tamil Nadu.
- Early postnatal care helps the mother to protect herself thereby reducing maternal mortality. In Tamil Nadu, 88 per cent of mothers have a postnatal check after their last birth and 74 per cent of mothers had a postnatal check within two days of the birth. Postnatal care is the most

**Table 1.** Vital statistics reported by NRHM – Government of India, 2016

State/UT	Female Literacy Rate, Census 2011	Sex-ratio (Female per 1000 male) at birth, SRS (2013-15)	Crude Birth Rate 2016	Crude Death Rate 2016	Infant Mortality Rate 2016	Maternal Mortality Ratio 2014-16	Total Fertility Rate 2016
India	64.6	900	20.4	6.4	34	130	2.3
Tamil Nadu	73.4	911	15.0	6.4	17	66	1.6

Source: <https://nrhm-mis.nic.in/SitePages/HMIS-PeriodicReport.aspx>



**Figure 1.** Vital statistics reported by NRHM – Government of India, 2016.

common following births; seventy-five per cent of births in public health facilities and 74 per cent of births in private health facilities are followed by a postnatal check for the mother within two days of birth, compared with 20 per cent at home.

- The total Fertility Rate for Tamil Nadu is 1.6, which is also found to be lower than the all-India level of 2.3.

From Table 1 and Figure 1, it is evident that Tamil Nadu has shown increased progress in improving the vital statistics of its population. Tamil Nadu has fairly progressed in the human development indicators over the last few decades owing to the active participation of the Government, NGOs, and public and private health institutions.

### 5.2 Rural-Urban Disparities

The macro perspective of health parameters in Tamil Nadu reports positive improvements. However, when

looking at the inequities among groups and regions, it is found that there exist disparities in the health parameters in Tamil Nadu between the rural and urban areas as per the National Family Health Survey (NFHS) reports. Table 2 shows the disparities between rural and urban prevalent in the health indicators in Tamil Nadu.

The primary objective of public policies must address health, inequities with health systems having a specific role in the achievement of equity in access to health care and health status in the country. The present study tries to find the extent of disparity in the health status of the rural/urban population as compared to the total population by calculating the disparity index as follows:

$$\text{Disparity Index} = \frac{\text{Health Indicator of Rural/Urban population} * 100}{\text{Health Indicator of Total Population}}$$

Table 3 presents the estimated disparity index of the health indicators of Rural and Urban populations in

**Table 2.** NFHS reports I, II, III, and IV for the periods 1992-93 to 2015 -16

Health Indicators	NFHS report I 1992-93			NFHS report II 1998-99			NFHS report III 2005-06			NFHS report IV 2015-16		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Total Fertility Rate	2.36	<b>2.56</b>	2.48	2.11	<b>2.23</b>	2.19	1.7	<b>1.9</b>	1.8	1.54	<b>1.86</b>	1.70
Crude Birth Rate	23.4	<b>23.6</b>	23.5	21.3	<b>21.5</b>	21.4	16.0	<b>16.8</b>	16.4	13.9	<b>17.2</b>	15.5
Infant Mortality Rate	61.2	<b>71.4</b>	67.7	40.6	<b>52.1</b>	48.2	23.3	<b>36.2</b>	3.04	17.8	<b>22.6</b>	20.3
Child Mortality Rate	3.7	<b>28.7</b>	20.1	9.4	<b>19.3</b>	15.9	2.9	<b>7.3</b>	5.3	5.7	<b>7.7</b>	6.7

Source: NFHS Reports, GOI, TN FACT SHEET, 2016

**Table 3.** Estimated disparity index of the health indicators of rural and urban population in Tamil Nadu

Health Indicators	NFHS I		NFHS II		NFHS III		NFHS IV	
	DI for Urban	DI for Rural	DI for Urban	DI for Rural	DI for Urban	DI for Rural	DI for Urban	DI for Rural
Total Fertility Rate	95.1613	103.226	96.347	131.176	94.4444	105.556	90.5882	109.412
Crude Birth Rate	99.5745	100.426	99.5327	134.375	97.561	102.439	89.6774	110.968
Infant Mortality Rate	90.3988	105.465	84.2324	223.605	766.447	1190.79	87.6847	111.33
Child Mortality Rate	18.408	142.786	59.1195	665.517	54.717	137.736	85.0746	114.925

Source: Estimates based on National Family Health Survey Reports – 1, 2, 3 and 4. DI = Disparity Index

Tamil Nadu.

It is seen from Table 3 that the disparity value of the total fertility rate for urban areas has decreased from 95.16 to 90.58 between 1992-93 and 2015-16. The fertility rate for the rural areas has increased from 103.22 to 109.41 during the same period, which shows the fact that the population increase in rural areas has been higher than in Urban Tamil Nadu, owing to various demographic and societal factors. The Government with the support

of Local-self-Government should ensure promoting programs to create awareness on the significance of reducing the fertility rate for the development of the economy.

Similarly, the disparity index of crude birth rate has decreased from 99 to 89 for Urban Tamil Nadu, whereas Rural Tamil Nadu has seen an increase from 100 to 110 from the NFHS I period to NFHS IV period. This again

shows the need to ensure policies for rural Tamil Nadu to promote awareness of reducing population.

The disparity index of infant mortality rate has been declining in the case of Urban Tamil Nadu from 90 during 1992-93 to 87 in 2015-16. Rural Tamil Nadu has seen an upsurge in the infant mortality rate from 105 to 223 during NFHS I and II periods, which is an indication of the inequality in the health progress of the rural areas. This trend should be taken as the base for policy measures to curb this large disparity growth in rural Tamil Nadu. The infant mortality rate has dropped during the third and fourth NFHS surveys but the comparative figures of Urban to Rural shows the disparity to be higher than urban Tamil Nadu, which should be tapped by the policymakers and the local self-government.

With regard to the child mortality rate, unlike the other parameters, urban Tamil Nadu has recorded an increase in disparity in child mortality during the four surveys, from 18 during 1992-93 to 85 during 2015-16. This disparity in child mortality has to be further analyzed to find the cause of child mortality in urban Tamil Nadu and act to prevent the same. The lack of immunization programs and the prevalence of childhood-based infectious diseases have to be micro-managed to reduce child mortality in all areas.

The pattern of disparity is not consistent over the four surveys in the case of both Rural and Urban Tamil Nadu. It can be concluded from the data and the disparity index that considering the vital health parameter achievements, in the case of Tamil Nadu, the rural population is at a greater disadvantage than the urban population. This calls for the attention of the policymakers and health officials to ensure equity in health care so as to achieve the SDG and the millennium development goals that will enable Tamil Nadu to achieve sustainable development over the long run.

## 6. Conclusion and Policy Implications

Health is an important indicator of the Human Development of a country. The present study analysed the disparity in the major health indicators among rural-urban areas in Tamil Nadu and the findings indicated that there exists increased Rural-Urban disparity in the vital statistics of health over the NFHS periods from 1992-93

to 2015-16. This disparity is owed to the major factors like lack of basic amenities namely health, education, clean drinking water, and sanitation facilities which affects the empowerment of the population and becomes impossible. Poverty and economic backwardness are still dominant in the rural areas that have affected the individuals to reap the benefits of inclusive health programs in the rural areas of Tamil Nadu. Hence, inequalities and disparities in health status among rural and urban areas do not indicate a sound and inclusive policy for the development and growth of the country. Therefore, an urgent need is required to adopt checks and measures that are targeted by and large to remove disparities and bring about inclusiveness in the rural and urban areas to minimise the rural-urban divide in the long run.

The policymakers and the administrators have to plan to reduce the disparity in the vital health parameters among the rural and urban areas and this process should ensure people's participation with the help of the local self-government bodies, which will enable the grassroots levels to be monitored effectively.

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