ORIGINAL RESEARCH

Inequality Dynamics in Urban Manipur, India: A Decomposition Analysis

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Abstract

The high pace of urbanization in Manipur being confined to the valley regions has attracted much attention to researchers to explore the intra-state dynamics of urban inequality in the state. This study examines the role of spatial factors in determining consumption inequality in the state, especially in urban areas considering the unit-level National Sample Survey data from different rounds. Also, the Regression-Based Inequality Decomposition is estimated to understand the role played by relevant household characteristics in explaining the inequality patterns in urban Manipur. The study observes an increasing trend of Gini coefficient for the overall state despite its slow per-capita growth. While Gini measures of consumption have an overall increasing trend in the economy between 1993 and 2011, and inequality level in rural areas is greater than in urban areas in 2011–2012. This is in contrast to the overall Indian phenomenon. Also, the state per capita income is 43% lower than the all-India average in 2019–2020 at 2011–2012 prices. Within-component (both within-district and within-sector) is the major contributor to overall consumption inequality. The decomposition-based regression analysis shows that most of the estimated regression coefficients are statistically significant. Factors like age, possession of land, and regular salary earner in a household contribute to enhancing the level of total inequality of the average MPCE. This paper suggests that in order to avoid the negative consequences of rising consumption inequality in Manipur, a justiciable land redistribution policy, improving the level of education, and creating employment opportunities are necessary.

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1 Introduction

Economic inequality is now at the center of public debates. A significant rise in inequality during the current pandemic Covid-19, with a large number of workers in informal sectors losing their jobs and a hefty rise in earnings of a few giant corporates, raised the concerns of many (Bussolo et al, 2020; Ferreira, 2021). There has been a recent upsurge of interest among policymakers and researchers in the dynamics of inequality. Consensus is arrived at that high inequality can significantly dampen the impact of economic performance in both developed and developing countries. With the introduction of market-oriented economic reforms in the 1990s after the Nehruvian Socialism to transform the Indian economy, the focus has been shifted to achieving high economic growth and the issue of income inequality has not received due attention (Sawant & Mhatre, 2000). Datt and Ravallion, (2002) argued that achieving higher aggregate economic growth is only one element of an effective strategy for poverty reduction. They also emphasized the need to redress inequalities in human resource development and between rural and urban areas. Experiences of growth-oriented development elsewhere in the world reveal that relying only on economic growth to transform the living condition of underprivileged India would be a mistake (Dreze and Sen, 2011). Ghosh (2006) also suggested for sequencing of policy such that the human development-induced growth process is strengthened for lifting the states from the vicious to virtuous cycle category.

With the process of development, the growing urbanization is accompanied by potential inequality traps in income, consumption, housing, asset, education, health, and unemployment. Despite being a part of development process, urban areas are not only just a location for processes of inequality but also a mode of production and reproduction (Bhan & Jana, 2015). Since the 1990s, urban India registered faster growth than the rural India in terms of average consumption levels and inequality (Subramanian & Jayaraj, 2015). Despite high economic growth, more than three-fourths of Indians were poor and vulnerable in 2004–2005 with worsening inequality between the common people and the better-off sections of society in terms of per capita consumption ratio somewhat from 1: 2.7 in 1999–2000 to 1: 2.8 in 2004–2005 (Sengupta et al., 2008). There is also a sign of acceleration in the urbanization of poverty in India since 2000, from about 12.5 percent of the poor living in urban areas in the 1950s to 33.33 percent in 2012 (Datt et. al, 2016). Himanshu (2019) shows that economic growth in India is accompanied by an increase in the overall Gini coefficient (both in rural and urban areas). But the Gini coefficient in consumption again declined to 29.4 during 2020–2021, which is very close to its level of 28.4 in 1993–1994 (Anonymous, Business Standard, January 6, 2023). The worsening condition in the post pandemic period as revealed from the poor access to nutritional items, as well as health and sanitation facilities by weaker sections of the society in India (Oxfam India, 2021) has been trimmed due to the revamped scheme of public distribution system (PDS).

It is a widely accepted fact that though inequality of any form is always there in any society, it reflects the unbalanced development of an economy. However, the issue is that with huge divergence in the economic trajectories of the vast majority of the population versus the top 10 percent or top 1 percent, the high economic growth is almost meaningless. The Global Wealth Report (2021) states that the top 1 percent of Indians own 40.5 percent of the country's wealth in 2020 as against 33.5 percent in 2000. Such inequality creates impediments for the poorer section to take advantage of the economic opportunities associated with economic growth, which in turn affects the prospects for growth. It is always the endeavor of any progressive government and society that its economic and

social policies lead to inclusive and resilient economic growth with a more equitable pattern of human development realizing the equalization of associated opportunities. As a result, the government of India has set its objectives of "Inclusive Growth" in the 11th Five-Year Plan (2007–2012) (Azam & Bhat, 2016; Kurian, 2000).

2 Studies on Economic Inequality

The history of research on household expenditure patterns and their changes over time goes back to the nineteenth century with the works of Ernest Engel and others (Stigler, 1954). Hirschman and Rothschild (1973) coined the term "tunnel effect" to describe how rising inequality can lead to conflict that increases the happiness of the rich but decreases happiness among the poor. Sen (2000) argued that the reform package of 1991 increases the rural–urban divide by reducing the spillovers that the public sector effort can contribute by way of mitigating intersectoral and inter-regional inequalities. Rising inequality has become a major fault line for the adverse economic, social, and political consequences that ultimately dampen aggregate demand and productivity growth. It, therefore, has a depressing effect on economic growth. The "neo-material" interpretation asserts that income inequality reflects individual and community forms of absolute deprivation (Muller, 2002).

Using the 43rd (1987–1988), 50th (1993–1994), and 55th (1990–2000) Rounds of the National Sample Survey (NSS) data for the Indian states, Deaton and Dreze (2002) found two distinct trends of changing patterns of inequality during the 1990s—(i) a strong divergence of per capita expenditure across states, (ii) strong evidence of rural–urban inequality in terms of per capita expenditure within states and especially within the urban areas between 1993–1994 and 1999–2000. There was some intensification of economic inequality between occupation groups as the real wages of agricultural laborers have increased more slowly than the per capita GDP and conversely with public sector employees. The author commented that the rising inequality within states particularly in the urban sector has moderated the effects of growth on poverty reduction. Rajan (2010) argued that the refusal to tackle increasing inequality by the US-led federal policymakers to encourage the housing boom eventually led to the great depression of 2008.

There are also studies on the decomposition of the inequality effect based on the regression analysis. Araar and Timothy (2006) proposed a new theoretical framework linking poverty and inequality to decompose the Gini Index. Considering this framework, Tripathy (2013) found that within-group inequality contributes more than between-group inequality in the overall inequality in urban India. The higher level of inequality in India has contributed to less decline in poverty, even with a doubling of per capita consumption growth in the post-reform decade (Sarkar & Mehta, 2010). The increase in inequality from 1983 to 2004 in China has been an urban phenomenon that can be accounted for by increasing returns to education in the urban sector to a considerable extent (Wan & Zhou 2005; Cai et al., 2010). This is more pronounced among households that rely on income from education-intensive services and education-intensive occupations. Ravallion (2014) also pointed out three important roles of inequality influencing the pace of progress against poverty. First, poverty incidence tends to fall but at different rates—it declines at a slower rate in regions with high inequality. Second, if there is extreme initial inequality, growth alone cannot lift all the boats as poverty becomes less responsive to economic growth. Lastly, when there is a large volume of rent accruing to a small set of rich people, they try to impose barriers on policies promoting innovation and fostering market competition.

Applying regression-based inequality decomposition at household level consumption expenditure in Uttar Pradesh for the period 2005 to 2008 Pandey (2013) found the education level of the household head as the main determinant of inequality, followed by the household size and region (rural or urban). Azam and Bhatt (2016, 2018) found that the level of consumption inequality in urban India which is more of a within-district and within-state phenomenon is higher when compared to the level in rural India. This is in contrast to their findings of higher income inequality in rural areas as compared to urban areas.

3 Research Gaps and Objectives

Much of the previous literature on inequality decomposition has focused on trends and the contributing factors to inequality and does not provide a clear relationship between economic growth, employment, and inequality. The existence of large inequality in any economy depends on how the opportunities especially employment associated with economic growth are shared among different sections of the population. Moreover, the process of economic growth is mainly concentrated in urban areas with a change in economic structure and hence it is of great significance to have an in-depth analysis of the impact of economic growth in terms of urban inequality. Also, no significant study is made with respect to the regression-based inequality decomposition based on various household characteristics such as caste, household type, education, etc. in North-East India, particularly in Manipur.

This study seeks to address the urban inequality in the North-Eastern state of Manipur and the specific objectives are:

1. to decompose the total urban inequality to examine the importance of spatial factors (within- and between-district) in terms of their respective contribution to the change in total urban consumption inequality in the state.
2. to analyze the inequality decomposition based on the regression approach at the household level to understand the role of household characteristics in explaining the consumption inequality dynamics in urban Manipur.

4 Materials and Methods

There is no reliable income data at the household level separately for the rural and urban areas in India. The National Sample Survey Organization (NSSO) started the quinquennial series of all-India household surveys on consumer expenditure and employment in 1972–1973. Further, the expenditure data is considered in several studies on inequality and poverty for its more reliability than the income data in India (Deaton & Dreze, 2002; Sarkar & Mehta, 2010; Tripathy, 2013; Pandey, 2013; Bhalla, Bhasin and Virmani, 2022). The analysis here is based on the unit (household) level consumption expenditure and employment data of four quinquennial rounds of the NSS Survey namely 50th (1993–1994), 55th (1999–2000), 61st (2004–2005), and 68th Round (2011–2012). For the 68th round of consumption expenditure, data from Schedule Type-I are taken. Here we have taken the Monthly Per Capita Expenditure (Uniform Reference Period) (MPCE-URP) for all the NSS rounds in order to facilitate a comparative analysis of the data considered. However, for the Regression-Based Inequality Decomposition (RBID), only 61st Round and 68th round data are considered by taking MPCE (MRP) (Mixed Reference Period), as MRP-based estimates capture the household consumption expenditure of the

poorer households on items of low-frequency of purchase more satisfactorily than URP-based MPCE.

5 Regional Decomposition of Inequality in Manipur

Gustafsson and Shi (2002) assert that individual income can be aggravated hierarchically to districts and district-level income can be clustered to state. Following this logic, we can express state-level consumption inequality as the weighted sum of inequality within each district and between districts. In the same way, we can also write the overall inequality in a state as the weighted sum of inequality within the same sector (rural or urban) and between the sectors:

Total inequality in Manipur = Within-District Inequality + Between-District Inequality

Or

Total inequality in Manipur = Within-Sector Inequality + Between-Sector Inequality

Or

Total urban inequality in Manipur = Within-District Inequality + Between-District Inequality

By implementing the above decomposition, the relative importance of spatial factors at different levels of aggregation to consumption Inequality in Manipur can be estimated. For this, we use the decomposable index namely, the Mean Logarithmic Deviation (MLD) to estimate the consumption in Manipur. This index belongs to the family of Generalized Entropy (GE) inequality measures and satisfies the criterion of a good measure of inequality. The MLD Index is defined as

$$L = \frac{1}{n} \sum_{i=1}^{n} \log\left(\frac{\bar{y}}{y_i}\right) \tag{1}$$

In can be decomposed as.

$$L = \sum_{j=1}^{k} \frac{n_j}{n} L_j + \sum_{j=1}^{k} \frac{n_j}{n} \log\left(\frac{\bar{y}}{\bar{y}_j}\right) \tag{2}$$

The first term of Eq. (2) represents Within-Group Inequality while the second term measures Between-Group Inequality.

6 Regression-Based Decomposition of Inequality

The regression-based decomposition method was proposed in the early 1970s (Blinder, 1973; Oaxaca, 1973) but gained much attention later (Juhn et al., 1993; Bourguignon et al., 2001; Wan & Zhou, 2005). Wan (2002) provided a detailed account of development of this technique. Here, the household income (or log-income) is expressed as

$$Y = X\beta + \mathcal{E} \tag{3}$$

where, X is (n×k) matrix of explanatory variables (including a constant), β is (k×1) vector of co-efficient, and ϵ is a (n×1) vector of error terms. Given a vector of consistently estimated coefficients b, income can be expressed as a sum of predicted income and a prediction error as

$$Y = X\hat{b} + \hat{\epsilon} \tag{4}$$

Per capita income of the household is thus represented as (Cowell and Fiorio, 2006).

$$y_i = \sum_{m=1}^{M} \hat{b}_m x_i^m + \hat{\epsilon}_i \tag{5}$$

Again, inequality measures can be written as a weighted sum of incomes (Shorrocks, 1982) i.e.,

$$I(y) = \sum_{i=1}^{n} a_i(y) y_i \tag{6}$$

where, a_i is the weight for y_i (the household income, I), and y is the vector of household incomes.

Substituting (3) into (6) and dividing by I(y), the share of inequality attributed to explanatory variable m is obtained as.

$$S_m = b_m \sum_{i=1}^{n} a_i(y) x_i^m \bigg/ \sum_{i=1}^{n} a_i(y) y_i \tag{7}$$

Using regression coefficients, the income shares of the explanatory variables can be computed as

$$a_m = b_m \sum_{i=1}^{n} X_i^m \bigg/ \sum_{i=1}^{n} y_i \tag{8}$$

Therefore, the marginal effect of the Gini index of inequality of a uniform increase in an explanatory variable m, can be computed as $(S_m - a_m.G(Y))$ (Lerman & Yitzhaki, 1985).

7 Choice of Variables

Regression-based inequality decomposition is primarily based on income data. However, due to the lack of income data, consumption data is used in the present analysis. Therefore, the average MPCE_MRP of each person in the household is taken as the dependent variable for the analysis based on the data available from NSSO. Inequality and inequality decomposition of household consumption expenditure is calculated with respect to age, gender, marital status, education level, and total land possessed at the individual level; household size, dummy of regular salary earner, household type, social group, and dwelling unit at the household level, but possessed by the respondent (head of the household). Finally, the dependent variable in logarithmic form is used. It is because the income (in this case consumption) variable can be better approximated by a log-normal distribution, instead of a semi-log specification (Shorrocks & Wan, 2004). The regression model is written as

$$\text{Ln (consumption)} = \text{f (age, gender, land, } \ldots \ldots \ldots \text{, dummy variable)} \qquad (9)$$

The following variables are considered for the estimation of Eq. 9.

7.1 Dependent Variable

Log of average Monthly Per Capita Consumption Expenditure (MPCE).

7.2 Explanatory Variables

Gender: female = 1, male = 2; 2. Age: age of a person in years; 3. Household size: number of household members; 4. Land: Total land possessed by a person (Hec.); 5. Salary earner: whether any household member is a regular salary earner (yes = 1 and no = 2); 6. Household type: Other = 1, self-employed = 2/casual worker = 3/regular wage earner 4; 7. Marital status: others = 1, currently married = 1; 8. Social group: Others/Other Backward Class (OBC)/Scheduled Caste (SC)/Scheduled Tribe (ST) – dummy is used for each; 9. Dwelling unit: owned/ hired/ no dwelling unit/others; 10. Education: Illiterate = 1, literate till primary = 2, Sec = 3, Higher Sec. = 4, Graduate & above = 5.

8 Economic Growth in Manipur (at a glance)

Manipur, a small but ethnically diverse state in North-East India, is now undergoing a transitional phase toward the neo-liberal strategy of development. Even after 71 years of planned development, inter-state or intra-state imbalances are prevalent in India. It is truer in the case of North-East India and particularly Manipur. The state remains backward in both physical and social infrastructure trailing behind in almost all the indicators from the rest of the country. Though the economy of Manipur achieved some respectable growth during the 10th Five Year Plan (2002–2007), it was not enough and it has replaced Sikkim as the poorest state in North-East India in terms of per-capita income (PCI) in the post-reform period (Roy & Debnath, 2010; Singh, 2009).

PCI is one of the most important economic indicators of development and quality of life of the people in the economy. The per capita income (an important indicator of development) is 43% lower than the all-India average (INR 54,119 as against INR 94,954 all-India average at 2011–2012 prices) in 2019–2020 (Fig. 1). Till now, Manipur has attained the highest growth rate of PCI (8.61%) in the year 2017–2018 and it dramatically declined to −0.06% in 2018–2019. Manipur experienced a much lower economic performance during 1999–2000 to 2002–2003 than that of all India average, which registered a negative growth rate of −8.31 in 2000–2001 (Fig. 2). However, the state economy showed an improvement with a growth rate of 5.74% in 2019–2020, which is much higher than the all-India figure of 3.11%. Despite this, the per-capita Net State Domestic Product (NSDP) in Manipur is not only lower than the national average per-capita Net National Product (NNP), the gap has been widening over the years (Fig. 1). This signifies the inconsistent growth of per capita NSDP and Manipur has been lagging behind the all-India average continuously. This shows the regional imbalances in the economic growth process in India which are not inclusive or equitable in nature.
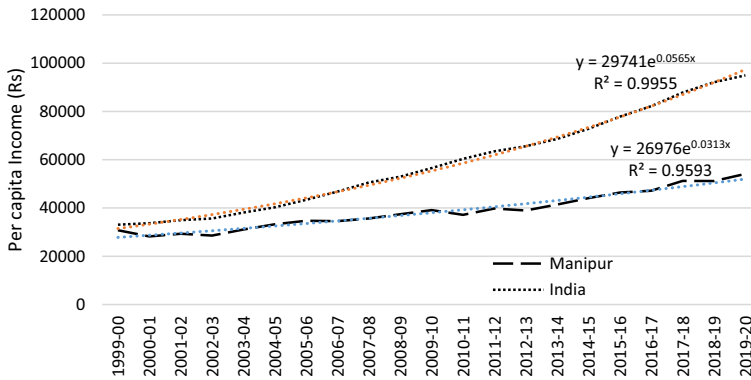
Fig. 1 Per Capita Income at Constant Prices (2011–12): India and Manipur (INR). Source: Directorate of Economics and Statistics of Manipur and CSO
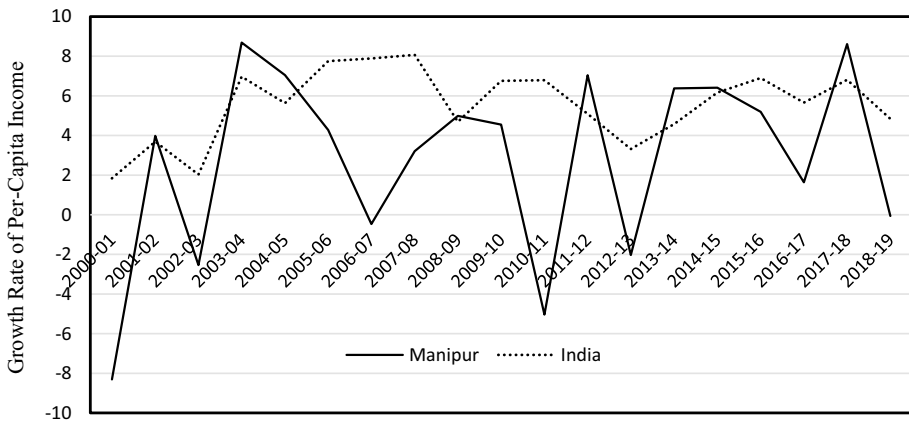

Fig. 2 Growth Rate (%) of Per Capita NSDP (2011–12) of Manipur Vs All India Per Capita NNP

9 Urbanization in Manipur

The process of urbanization in the North-Eastern Region (NER) of India appears to be relatively slow as compared to the All-India figure. The proportion of the urban population was merely 3.57 percent in 1951 which increased to 16.03 percent in 1981 and finally attained 18.36 percent in the 2011 census (Table 1). Whereas at all-India levels, 17.29 percent of the total population lived in the urban area in 1951, and this increased to 31.14 percent in the 2011 census (Fig. 3). The census reports also suggest that the urban population in North-East India is not evenly distributed across the states. For instance, Mizoram has already attained an urbanization level of about 52 percent, while in Assam and Meghalaya, it is still crawling at 14.10 percent and 20.01 percent respectively (2011 Census). At present, Manipur stands 2nd in the NER next to Mizoram in terms of urbanization. The 2011 census reports that 29.21% of the state population of Manipur were living in the urban area constituting 51 towns (28 statutory and 23 census towns) as against only 1 town in 1951 and 1961.

Table 1 Trend of urbanization in Manipur vis a vis North-Eastern region

Year	No of town (s) (Valley + Hill)	Percentage of urban population		
		Manipur	North-Eastern region (NER)	India
1951	1 (1+0)	0.50	3.57	17.29
1961	1 (1+0)	8.68	6.87	17.97
1971	8 (7+1)	13.19	10.17	19.91
1981	32 (23+9)	26.42	16.03	23.34
1991	30 (29+1)	27.52	19.72	25.70
2001	33 (32+1)	25.11	21.50	27.81
2011	51(44+7)	29.21	18.36	31.14

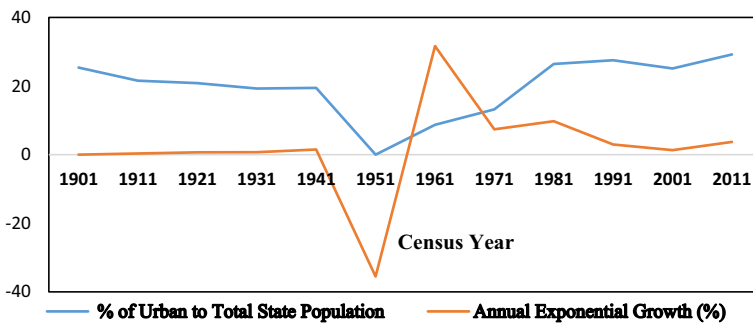Source: Office of the Registrar General of India

Fig. 3 Urbanization in Manipur, 1901–2011 Census. Source: Census of India (1951–2011), Government of India

The pace of the urbanization process in Manipur since independence has been slow. Though the rate was a little above the national average during the census years 1981 and 1991, gradually it declined in the 2001 and 2011 censuses. The sluggish growth of urbanization in recent decades in Manipur perhaps indicates a slower occupational shift in the state or the legal check of illegal immigrants from neighboring countries into the state. The concentration of urban population is in the valley region especially in Imphal city as compared to hilly areas. This is clearly reflected in the decadal census reports of various rounds of the country with a much bigger number of towns in the valley. The census reports of 2001 and 2011 portray that the Imphal-West district tops the urbanization rate in the state in both years with more than half of the population residing here (Fig. 4). Wide intra-state disparities in the level of development between valleys and hills have been observed. Apart from its geographical factors, higher urbanization rate in the valley districts than its hill counterparts would be due to the concentration of infrastructural facilities, availability of economic opportunities, marketing centers, government offices. People from different parts of the state also migrated to the Imphal region for better employment opportunities, health care facilities, and educational institutions. People in hilly areas have only limited occupations and are deficient in infrastructural development for its difficult topographic conditions.
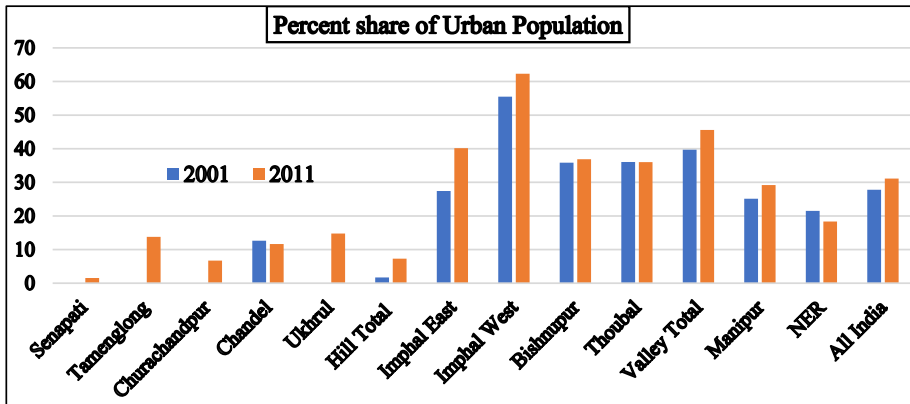
Fig. 4 District-wise Percentage Share of Urban Population in Manipur. Source: Office of Registrar General of India

10 Employment Scenario in Manipur

Disparities in the living standard of individuals in an economy can be an outcome of income inequality, which in turn is a result of inequality in the distribution of employment opportunities. In the early stage of economic planning in India, employment was not considered as an important objective presuming employment generation would be one of the consequences of the growth process. It was only after the 5th Five Year Plan (1974–1978) that unemployment was conceived to be a major cause of poverty and a growth retarding factor. Chandrasekhar and Ghosh (2015), opined that economic inequalities in India have been driven by employment patterns and inefficient labour markets as well as forms of social discrimination and exclusion. Providing employment opportunities as a perennial source of income is the best way to combat poverty.

There are two sources of employment data in India—the national sample survey and employment exchange. However, these sources show widely different pictures because of institutional factors. Table 2 shows the comparative labor force participation rates (LFPR) between Manipur and All-India from NSS data. It shows that the proportion of persons belonging to the labor force in Manipur is higher in rural areas except in 2011–2012. Moreover, the LFPR is much higher for males as compared to females in both rural and urban areas of Manipur as the case in overall India. This vindicates the existence of gender bias in the division of labor in Manipur. Further, urban female labor force participation in Manipur has always been higher in Manipur than the all India level.

Table 3 shows a separate pattern of unemployment rates across gender in both rural and urban Manipur. In urban areas, the long-term unemployment rates for both genders gradually increased. Yet, all rates registered a slight decline in 2004–2005 as shown in bold figures. The case is the same in rural areas as well. The table also reveals that every category of unemployment rate in the state is relatively higher in urban areas which is also true for both males and females. Moreover, it is to be noted that the urban female unemployment rate far exceeded the urban male unemployment rate. This shows the urbanization of the unemployment problem in Manipur. In short, the unemployment problem in Manipur is increasingly urbanized and feminized.

Table 2 Labour force participation rate (per 100) for persons of all ages according to the usual status (US) approach in Manipur and All-India

NSS data	State/ Country	Rural			Urban		
		Male	Female	Persons	Male	Female	Persons
50th round (1993–1994)	Manipur	48.3	31.1	39.7	45.6	23.0	34.3
	India	56.1	33.0	44.55	54.3	16.5	35.4
55th round (1999–2000)	Manipur	50.6	25.7	38.7	47.8	22.5	35.3
	India	54.0	30.2	42.1	54.2	14.7	34.45
61st round (2004–2005)	Manipur	53.1	35.4	44.5	48.2	23.6	35.8
	India	55.5	33.3	44.4	57.0	17.8	74.8
68th Round (2011–2012)	Manipur	76.8	23.1	49.95	78.1	24.0	51.05
	India	82.7	27.1	54.9	80.6	19.3	49.95

Source: National Sample Survey Organization (NSSO), Various Rounds on Employment & Unemployment Surveys

Table 3 also provides the NSS-based estimates of the distribution of workers in rural and urban Manipur according to usual status by broad employment status, like self-employment, regular salaried, and casual labor. The majority of the workers are in self-employment in both rural and urban areas. The table also reveals that the share of self-employment among workers has increased in urban areas from 63% in 1993–1994 to 73% in 2011–2012. But there has been a declining trend in rural areas. While there is a sharp decline in regular employment, casual contracts have increased over time. It may be noted that self-employment here is mainly distress-driven, which is probably a response to income crisis and this evidence on employment in the state basically lead to low quality of employment both in rural and urban Manipur. It is also worth noting that seasonality of employment and high level of underemployment or disguised unemployment (not generally reflected in employment figures) can fail to provide a realistic picture of the employment situation.

11 Inequality in Manipur

Inequality of any dimension is a concern around the world that strikes people as inherently unfair and they are often trapped in poverty with almost little chance to climb up the social ladder. With increasing urbanization and greater economic openness, the importance of spatial (rural–urban) and regional inequalities in terms of economic activities, education, and other indicators of social development have increased substantially in a transition economy like India. Though inequality exists in many dimensions, the focus is usually on income or consumption disparities that can be examined at different levels of aggregation. This spatial disparity can be assessed on the basis of differences in the level of household consumption expenditure that could also be served as a proxy for household monthly income. Figure 5 shows the monthly per-capita consumption expenditure (MPCE) based on the Unified Reference Period (URP) in rural and urban Manipur. As can be observed from the table, the Rural–Urban disparity in Manipur has been sharply increased during the reform period. At the current 2004–2005 prices, the MPCE (URP) of urban areas was about 18 percent higher than that of rural area, which is the highest gap till now. However, the gap was reduced in 2011–2012 and urban MPCE (URP) was just about 9 percent

Table 3 Unemployment in Manipur by Gender and Residence and Distribution of Workers (per '000)

Year	Rural (R)						Urban (U)						M–F		Rural (R)			Urban (U)		
	Male		Female		Overall		Male		Female		Overall		R	U	Self-employed	Regular salaried	Casual labour	Self-employed	Regular salaried	Casual labour
	US	US*	US	US*	US	US*	US	US*	US	US*	US	US*	US	US	US	US	US	US	US	US
1993–1994	19	12	11	7	17	10	53	48	44	32	40	42	08	09	830	121	49	639	333	28
1999–2000	24	21	25	15	24	19	74	69	103	62	81	67	–01	–29	800	100	100	603	306	91
2004–2005	20	14	12	7	18	11	53	52	82	63	61	55	08	–29	851	95	54	654	299	46
2011–2012	35	26	50	35	39	29	58	58	129	108	76	72	–15	–71	656	121	223	730	221	50

Source: National Sample Survey Organization (NSSO), Various Rounds on Employment & Unemployment Surveys

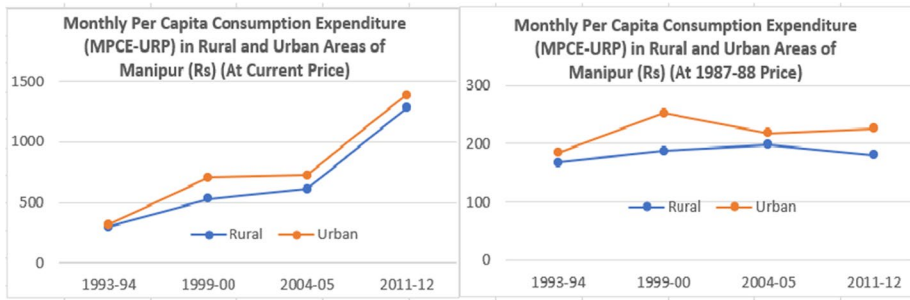Note: US indicates Usual Status and US* the Adjusted Usual Status

Fig. 5 Over Time Changes in Monthly Per Capita Consumption Expenditure. Source: National Sample Survey Organization (NSSO), Various Rounds of Consumer Expenditure Surveys

above the rural area. This confirms the convergence of household consumption expenditure in terms of MPCE (URP) between the rural and urban areas. After correcting the current values using the national rural and urban deflators implicit in the official poverty lines for temporal comparison, the real value of MPCE (URP) is found to decline in 2004–05 for urban areas and in 2011–12 in rural areas even though the long-run trend is rising for both rural and urban areas in Manipur. It shows that the well-being of the people in Manipur has fluctuated instead of a consistent upward trend.

Using the individual-level consumption expenditure data from NSS for 1999, 2004, and 2011 and an additively decomposable class of generalized entropy (GE) Indices, namely the Mean Logarithmic Deviation (MLD), we estimated the contribution of regional disparities (Table 4). The spatial factors are found to have a significant role in the rising consumption inequality in Manipur. Further, the within-component or the household-level disparity has become an important contributor to the overall consumption inequality in Manipur in all three rounds.

12 Inequality in Urban Manipur

Consumption inequality in urban Manipur and its decomposition at different levels of regional aggregation using the consumer expenditure data from different rounds of NSSO is presented in Table 5. Looking at the urban situation based on the spatial decomposition of consumption inequality in Manipur, it is confirmed that the consumption difference based on MLD is more of a household level difference within the same district i.e., within-district phenomenon than the between-district component. For instance, we find that the mean consumption difference within the same district can explain almost more than 90 percent of the total urban inequality in Manipur. The between-district component accounts for an increasing rate of 7 percent of the total consumption inequality in 2011 in urban Manipur, which was only 3 percent in 2004. This reveals that although a significant part of total consumption inequality in urban areas can be attributed to within-district inequality, between-district inequality cannot be neglected in understanding inequality patterns in urban Manipur.

Inequality indices of household expenditure (MPCE-URP) in urban areas increased until 2004–2005 and thereafter fell slightly (Table 6). On the contrary, inequality in rural areas shows a fluctuating trend. Though inequality in rural areas was declining

Table 4 Decomposition of Inequality (MLD) at the State Level (Manipur)

NSS Data	Total (% to Total)	District		Sector	
		Within (% to Total)	Between (% to Total)	Within (% to Total)	Between (% to Total)
55th Round	0.073 (100)	0.054 (75)	0.018 (25)	0.066 (91)	0.006 (9)
61st Round	0.066 (100)	0.056 (85)	0.010 (15)	0.065 (98)	0.001 (2)
68th Round	0.081 (100)	0.071 (88)	0.010 (12)	0.081 (100)	0.000 (0)

Source: Author's own calculation using Various Rounds of Consumer Expenditure Surveys, NSSO

Table 5 Total urban consumption inequality decomposition (MLD) of Manipur

NSS data	55th Round (1999–2000)	61st Round (2004–2005)	68th Round (2011–2012)
Total inequality	0.074 (100)	0.074 (100)	0.075 (100)
Within district (% of Total)	0.069 (93)	0.072 (97)	0.070 (93)
Between district (% of Total)	0.005 (7)	0.002 (3)	0.005 (7)

Source: Author's own calculation

MLD Mean logarithmic deviation

Table 6 District wise urban inequality in Manipur

	50th Round	55th Round	61st Round	68th Round
Manipur	0.162	0.207	0.198	0.225
Rural (total)	0.162	0.195	0.184	0.230
Urban (total)	**0.161**	**0.201**	**0.380**	**0.217**
Bishnupur	–	0.54	**0.31**	**0.48**
Chandel	–	–	**0.27**	**0.65**
Churachandpur	–	0.56	0.46	–
Imphal-East	0.62*	0.67*	0.52	0.32
Imphal-West			0.60	0.27
Thoubal	–	0.46	0.33	0.24

Source: Author's own calculation

Notes: (i) (*) In 1997, Imphal district was split into Imphal East district and Imphal West district; (ii) Here—indicates only rural

during 1999–2000 to 2004–2005, it has been increasing since 1993–1994. It is also evident that the overall inequality level during the period 1999–2000 to 2011–2012 in rural areas has been increasing though it has a declining trend in urban areas. The result is quite different from that of all-India inequality levels which shows higher inequality levels in urban areas throughout the period with an increasing trend separately for both rural and urban areas (Tripathy, 2016). However, overall Manipur follows a marginal increasing trend in terms of consumption inequality.

Table 6 also provides a profile of the level of urban inequality in all the districts of Manipur to examine the regional disparity within the state. There is a strong indication that dealing with merely state-level aggregate might not reveal the true extent of disparity prevailing in the state. It is found that the Imphal district has the highest level of inequality in consumption expenditure in both the 50th and 55th Rounds of NSSO data, and the Imphal-West district (previously a part of the Imphal district) in the 61st Round. However, it is being replaced by Chandel district in 2011–2012. There appears to be a huge decline in the inequality level in the Imphal West district which is likely to be a good sign. However, it is also observed that Manipur recorded the highest urban poverty in India in 2011–2012, where the maximum urban population (almost 40%) of the state is concentrated in the Imphal-West district. This may mean

Table 7 Regression-based inequality decomposition in urban manipur: regression results for 61st and 68th rounds of NSS unit-level data of consumption expenditure

| Variables | Dependent Variable: Log MPCE (MRP) | | | |
| | 61st Round (2004–05) | | 68th Round (2011–12) | |
	Coeff	Std error	Coeff	Std error
Age	0.001*	0.000	0.001**	0.000
Household size	−0.030***	0.002	−0.066***	0.002
Total land possessed	0.060***	0.005	0.00003***	7.21e−06
Dummy if any member of HH is a regular salary earner	0.119***	0.016	0.030	0.022
Reference category: Female				
Gender	−0.015*	0.008	−0.008	0.008
Reference category: Others				
Currently_married	0.025**	0.011	0.043***	0.011
Reference category: Others				
HH_type2	0.168***	0.018	0.276***	0.025
HH_type3	−0.177***	0.023	0.557***	0.032
HH_type4	−0.020*	0.011	0.265***	0.023
Reference category: Others				
Social_group2	0.164***	0.016	0.017	0.010
Social_group3	0.037	0.026	0.007	0.015
Social_group4	0.021	0.016	−0.019	0.022
Reference Category: Others				
Dwell_unit2	0.023	0.049	0.109**	0.054
Dwell_unit3	−0.008	0.022	−0.163***	0.023
Reference Category: Illiterate				
Education2	−0.087***	0.018	−0.088***	0.014
Education3	−0.209***	0.016	−0.178***	0.015
Education4	−0.164***	0.016	−0.084***	0.014
Education5	−0.134***	0.014	−0.108***	0.012
Intercept	6.722	0.032	7.387	0.037
R^2, Adj. R^2 (F value)	0.027, 0.267 (100.63)		0.336, 0.334 (161.18)	
No of observations	4917		5752	

***, **, and * indicate statistical significance at 1%, 5% and 10% levels respectively

Marital status: others—1, currently married—2

Household type: others—1, self-employed—2, regular wage/salary earning—3, casual labour—4

Social Group: others—1, Scheduled Tribes—2, Scheduled caste—3, Other backward castes—4

Dwelling unit: others—1, owned—2, hired—3

Education: Illiterate—1, literate till primary—2, secondary—3, higher secondary—4, graduate and above—5

The estimation is done in STATA-17

that the decline in consumption inequality has translated into a sharp increase in poverty in urban Manipur. The urban inequality has increased continuously except in the last round. Districts of Bishnupur and Chandel saw noticeable rise in inequality from 61st to 68th round.

13 Regression-Based Inequality Decomposition in Urban Manipur

Table 7 presents the regression-based inequality decomposition of consumption expenditure results for urban Manipur as per the NSS 61st Round (2004–2005) and 68th Round (2011–2012). It is observed that the size of the household has a significantly negative effect at 1 percent on MPCE in urban areas in both periods. On the other hand, the age, marital status and total land possessed at the individual level have significant positive impacts on MPCE in urban Manipur in both the studied periods. This indicates a high value of land in urban areas in terms of production or other sources of income that contribute a higher proportion of income towards the consumption expenditure of a person. In the state, majority of the individuals (more than 50 percent) are never married and their average MPCE in both periods is the highest as compared to currently married and other categories. Moreover, the widowed which has the least consumption expenditure in 2004–2005 has been replaced by the currently married couple in 2011–2012. However, gender disparity is significant with males tending to spend less on consumption in both 2004–2005 and 2011–2012.

The table also reveals that the dummy variable representing households having at least one person earning a regular salary has no effect on the consumption expenditure of the urban people in 2011–2012 though it had a significantly positive effect in 2004–2005. The variable representing household type is also a significant determinant. It is found that the majority of households are self-employed (more than 50 percent) and most of them are OBC. The casual laborers and regular wage earners tend to spend less as compared to the reference category i.e., the lower-income group in 2004–2005. However, the regular wage earners spend the most in terms of consumption in 2011–2012. As usual, regular wage earners or higher-income people tend to have a higher consumption intensity as compared to lower earners. This is in contrast to the expectation that higher-income people spend a lesser proportion of income on consumption than the lower-income groups. In both periods, OBC spends the minimum in consumption and scheduled tribes (ST) appear to have significantly higher consumption intensity than the other social groups. It is also noted that the consumption gap across castes increased over the years.

Having a dwelling house or not was not a factor for consumption expenditure in 2004–2005 in the urban areas of Manipur. However, it had a significantly negative effect on their consumption expenditure in 2011–2012, implying that those who have their own house tend to spend significantly less on consumption. This may also reflect a high value of land or rental earnings of those who rent out dwelling houses in urban areas of Manipur.

Education is found to have a negative impact on the average MPCE in urban areas. This indicates that the higher the level of education of people the more equal is the society. It is clear that the threshold level of education for obtaining a job has gone up with a corresponding rise in both income and consumption. 21.1% of the individuals are illiterate in 2004–2005 and that declined to 17% in 2011–2012. Among the just literate people, the majority are without formal schooling in both periods under study.

Maximum literate people are in middle schooling in 2004–2005 and it is being replaced by graduates in 2011–2012. The average MPCE for people who are post-graduate and above is found to be the maximum for both periods and is followed by people having a diploma or certificate course. Individuals having a higher level of education and technical knowledge have a greater chance to get a job or higher earnings which lead to higher consumption expenditure.

Table 8 Regression-based Decomposition of Inequality in *ln*MPCE_MRP for 2004–05 (Urban)

	100*s_f	S_f	100*m_f/m	CV_f	CV_f/CV(total)
Residual	73.0028	0.0376	0.0000	7.71e + 14	1.50e + 16
Age	0.1809	0.0001	0.2452	0.6687	12.9900
Household size	1.6409	0.0008	−2.6677	−0.3555	−6.9057
Total land possessed	2.0847	0.0011	0.4489	1.7229	33.4703
Dummy if any member of HH is a regular earner	6.3151	0.0033	0.5594	1.5087	29.3091
Reference category: Female					
Gender	−0.0178	−0.0000	−0.1171	−0.9810	−19.0565
Reference category: Others					
Currently married	−0.0752	−0.0000	0.2374	0.8084	15.7036
Reference category: Others					
HH_type2	9.0305	0.0046	0.7373	1.5788	30.6707
HH_type3	1.5198	0.0008	−0.1129	−4.7948	−93.1450
HH_type4	0.8049	0.0004	−0.1576	−0.9902	−19.2356
Reference category: Others					
Social_group2	0.6408	0.0003	0.1688	3.7286	72.4338
Social_group3	−0.0246	−0.0000	0.0145	6.2437	121.2915
Social_group4	0.0150	0.0000	0.0236	3.5689	69.3310
Reference category: Others					
Dwell_unit2	0.0178	0.0000	0.0030	10.7747	209.3132
Dwell_unit3	0.0252	0.0000	−0.1264	−0.2215	−4.3038
Reference category: Illiterate					
Education2	−0.7051	−0.0004	−0.1407	−2.9271	−56.8626
Education3	3.7193	0.0019	−0.6813	−1.9251	−37.3976
Education4	1.7675	0.0009	−0.6543	−1.6903	−32.8359
Education5	0.0573	0.0000	−0.6477	−1.4719	−28.5941
Total	100.00	0.0515	100.00	0.0515	1.0000

Note: Results are based on STATA 17.0 "ineqrbd" developed by Fiorio and Jenkins (2007). Proportionate contribution of composite var f to inequality of Total, s_f = rho_f*sd(f)/sd(Total). S_f = s_f*CV(Total). m_f = mean(f). sd(f) = std.dev of f. CV_f = sd(f)/m_f. Total = lnMPCE_MRP

Table 9 Regression-based decomposition of urban inequality in *ln*MPCE_MRP (2011–2012)

	100*s_f	S_f	100*m_f/m	CV_f	CV_f/CV(total)
Residual	66.3982	0.0345	−0.0000	−3.57e+14	−6.88e+15
Age	0.0791	0.0000	0.2268	0.6738	12.9625
Household size	9.0606	0.0047	−5.0164	−0.3171	−6.1008
Total land possessed	−0.0390	−0.0000	0.1316	1.9904	38.2899
Dummy if any member of HH is a regular earner	1.6172	0.0008	0.1567	1.2902	24.8195
Reference category: Female					
Gender	−0.0265	−0.0000	−0.0630	−0.9815	−18.8815
Reference category: Others					
Currently married	0.0220	0.0000	0.3241	0.9211	17.7204
Reference category: Others					
HH_type2	−2.4279	−0.0013	0.4355	2.7970	53.8087
HH_type3	31.1276	0.0162	2.6826	1.3751	26.4529
HH_type4	−10.3376	−0.0054	1.8777	0.9835	18.9209
Reference category: Others					
Social_group2	0.1524	0.0001	0.0424	2.1576	41.5136
Social_group3	0.0036	0.0000	0.0080	3.4246	65.8809
Social_group4	−0.0172	−0.0000	−0.0094	−5.2692	−101.3679
Reference category: Others					
Dwell_unit2	0.1190	0.0001	0.0103	12.1042	232.8578
Dwell_unit3	0.9326	0.0005	−2.1863	−0.1999	−3.8458
Reference category: Illiterate					
Education2	−0.0861	−0.0000	−0.1742	−2.4579	−47.2850
Education3	2.8752	0.0015	−0.4206	−2.2123	−42.5597
Education4	−0.0838	−0.0000	−0.2590	−1.8797	−36.1613
Education5	0.6297	0.0003	−0.4381	−1.5629	−30.0667
Total	100.00	0.0520	100.00	0.0520	1.0000

Note: Results are based on STATA 17.0 "ineqrbd" developed by Fiorio and Jenkins (2007). Proportionate contribution of composite var f to inequality of Total, s_f = rho_f*sd(f)/sd(Total). S_f = s_f*CV(Total). m_f = mean(f). sd(f) = std.dev of f. CV_f = sd(f)/m_f. Total = lnMPCE_MRP

14 Determinants of Consumption Inequality

Table 8 displays the estimated results of the decomposition of inequality in average MPCE for urban Manipur in 2004–2005. The self-employed household type appears to be the maximum contributor to the total consumption inequality in urban Manipur in the said period, followed by other variables like households having at least one regular salary earner (6.31 percent), persons having secondary level education (3.71 percent), total land possession (2.08 percent), persons having higher secondary educational qualification (1.76 percent), and household size (1.64 percent). However, social groups (SC) and illiterate people contribute negatively to the urban inequality in Manipur during 2004–05.

The estimated results of the decomposition of urban consumption inequality in 2011–2012 are given in Table 9. Household type (urban regular wage earner) is found to contribute the maximum (31.12 percent) to the total inequality of average MPCE. The results show that

household size, literate persons till secondary education level, and households having at least one regular salary earner contribute 9.06, 2.87, and 1.61 percent respectively to the total inequality of urban average MPCE in the study period. On the other hand, variables like land possessed by a household, urban households being engaged as self-employed and casual labourers add negative value in inequality decomposition of average MPCE. As in the previous study period, persons who are illiterate also contribute negatively to the total urban inequality in Manipur.

15 Discussion of the Empirical Findings

The present analysis tries to identify the relevant sources of consumption-based inequality in urban Manipur for the years 2004–2005 and 2011–2012. It is clear from the evidence that households engaged as self-employed laborers contribute the maximum to the total urban inequality in 2004–2005 and that has been replaced by the regular salary earner households in 2011–2012. It is obvious that regular salary earners would have more income than self-employed and casual labourers contributing to a more unequal economy. In both the study periods, almost half of the population are self-employed labourers and approximately 30 percent are regular salary earners in urban areas. The results indicate that providing training for the improvement of skill of the workers coupled with the creation of more regular opportunities for self-employed and casual laborer is required for eventual inequality reduction in Manipur. Both owned and hired dwelling houses also found to contribute positively to the inequality level in the urban economy.

There is an increasing trend in the contribution of household size to overall consumption inequality from 1.64 to 9.06 percent. A large household size would show a lower level of average MPCE, which may be because of a higher number of dependent members in the household. Therefore, the results point to the need to lower the household size or alternatively reduce the number of dependent members in the household to reduce inequality in Manipur. From the regression results, it is also evident that social group or caste is also an important factor behind the economic inequality in the state.

Ownership of land tends to create a huge difference in a household's earning capacity as compared to a landless household with other things being identical. In fact, the total land possessed by a person contributed to a higher share of inequality in the total inequality level of the state. Land distribution is highly skewed in Manipur. The estimated Gini-coefficient of land ownership in rural Manipur was 0.622 in 2011–2012 while the corresponding figure in urban areas was 0.682, which implies a huge mass of the landless population in the state. Therefore, it is important to emphasize land distribution for a more equal society in Manipur.

It is true that higher educated people can potentially earn more than uneducated ones and also contribute to a more unequal society. Here, it is observed that illiterate persons have a negative contribution, and those literates create a gap in earning and expenditure capability, thus contributing to total inequality in urban Manipur. However, if the education level of all the persons is improved it would have helped in reducing MPCE inequality. Thus, providing higher education to all is essential for inequality reduction in Manipur.

The present analysis gives significantly different results than the findings of Cai et al. (2010), Pandey (2013) and Azam and Bhatt (2018). Those prior studies used MPCE (URP) for the purpose of analysis, while in the present study more relevant consumption expenditure data based on Mixed Reference Period (MRP) has been used. Apart from that, instead of considering only the household head, here we considered individual level data of every member

of the households, which is more relevant to explain the consumption inequality across the households.

16 Concluding Remarks

This paper attempts to analyze consumption inequality in Manipur, especially in urban areas based on regression analysis developed by Fiorio and Jenkins (2007). The trend of the contribution of the spatial factors to the overall consumption inequality in Manipur is examined by using districts and sectors as the two different levels of aggregation for the individual level consumption data. We also analyze the consumption inequality in urban Manipur based on the regression-based inequality decomposition technique with the help of unit-level data on consumption expenditure collected from NSSO data sets.

The state of Manipur has recorded very slow growth in NSDP, and per-capita income, and always lags behind the all-India average. With the overall increase in the unemployment rate, there is also urbanization and feminization of unemployment in Manipur. During the period of study, inequality registers an increasing trend. However, in contrast to all India figures, the inequality level in urban Manipur has been declining and is lower than that of rural areas.

The household level disparity (within component) is found to be the significant contributor to the overall consumption inequality in Manipur. Also in urban Manipur, the within-district phenomenon accounts for almost 90 percent of the total inequality. The between-district accounts for 7 percent of the total consumption inequality in urban Manipur in 2011, which was 3 percent in 2004. This signifies that although much of the total inequality in urban Manipur can be attributed to within-district inequality, between-district inequality is also important. The decomposition-based regression analysis finds that most of the estimated regression coefficients are statistically significant. Variables like age, higher level of land possession, household with regular salary earner, and self-employed laborer are contributing towards higher level of total inequality of the average MPCE in urban Manipur. In contrast, household size, and higher educational level have contributed negatively to total urban inequality in both 2004–2005 and 2011–2012.

From the findings and analyses, the following policy recommendations emerge. First, steps may be taken for the redistribution of land favoring landless urban households. Secondly, higher level of education with skill formation through appropriate training programs would help individuals acquire high-quality employment. Thirdly, extension of regular-salary job at least for one of each family member is an urgent requirement. Finally, houses should be provided for urban dwellers and have timely check on implementation of the rental housing scheme.

In this analysis, the inequality measure is based on consumption expenditure rather than income. And it is obvious that consumption inequality tends to be lower than the income inequality because of the consumption smoothing by households and a major part of necessary consumption is indifferent to earning. Thus, we can conclude that Manipur may not have that low inequality in the economy as per the evidence from consumption data. In future, if appropriate data is available, income data can also be considered to examine and highlight the pattern of inter-household or regional variation in inequality.

Declarations

Conflict of interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. There is no potential conflict of interest.

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