

EDUCATIONAL INEQUALITY AMONG SOCIAL GROUPS IN A CHENNAI SLUM/ INFORMAL SETTLEMENT

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Abstract

Chennai in terms of average and inequality (as per squared coefficient of variation) in years of education completed is doing better than Tamil Nadu and India as per NFHS 4 (2015-16) data. As per the primary survey (2016-17) conducted, MBCs of locality in Kallukuttai - de-notified slum in Chennai - seems to be doing worse than other caste categories in terms of average and inequality in education. This results is little surprising as generally SCs in Tamil Nadu are socio-economically worse than BCs and MBCs. Further, Christians in Kallukuttai are doing better than Hindus in average and squared coefficient of variation in years of education.

Introduction

The formulation of capability approach by Martha Nussbaum and Amartya Sen (1993, 2004) and Human Development Report (1990) launched by Mahboob ul Haq and Amartya Sen have led to paradigmatic change in viewing development not only in terms of growth alone but direct indicators of development like education, health and standard of living. Overtime this also led to changing the focus away from income poverty and inequality to more direct measures of deprivation and inequality as stated above. It is in this context that we find in the literature a renewed interest in analyzing educational inequality. Not only have this has led to evolving of new dataset (Dorius, 2013; Barro, & Lee, 2013) but also utilizing the existing data source like NSS, Census etc. to study educational inequality in India (Asadullah and Yalonetzky, 2012; Agarwal 2014; Shukla and Mishra, 2019) and abroad (Rodriguez-Pose and Tselios, 2006; China (Yang, Huang and Li, 2009; Espinel, Arias & van Gameren, 2019). However, most of the studies have limited themselves to analyzing educational inequality using the existing secondary data source. This paper in contrast, while using the secondary data – NFHS 4 – to contextualize the study area, in terms of educational inequality, have tried to analyze the educational inequality prevalent in the study area, which in this case is a locality in a de-notified³ slum/ informal settlement in Chennai.

This paper is accordingly divided into following sections. Section1 is the introduction. Section 2 provides the background of the study. Section 3 lays down the objective and research gap along with research questions. Section 4 will present the methodology of the study mainly focusing on the choice of appropriate

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³ Tamil Nadu Slum Clearance Board (TNSCB) identifies and recognises slums so that those slums would be benefitted from its welfare measures. There are slums yet to be recognised - also called de-notified- and Kallukutai is one among them.

index of inequality. Section 5 will present the dataset and data source. Section 6 will give the results from the analysis of data. Section 7 will discuss the findings and possible interpretation of results obtained from analysis of data. Section 8 will draw the implications of these findings on education and conclude the study. This will be followed by reference.

Background of the Study

Education Inequality, internationally, has been studied from different vantage points – income, gender, space etc. - in the regions of European Union (Rodriguez-Pose and Tselios, 2006), China (Yang, Huang and Li, 2009), Colombia (Espinel, Arias & van Gameraen, 2019) and Others.

Thomas, Wang and Fan (2001) use Gini coefficients to measure education inequality overtime and across countries. From 1960 to 1990 they find there is rapid decline in education inequality as indicated by Gini Coefficient for countries like China, Korea and Tunisia and slow decline countries like in Pakistan, India and Mali. For instance, the mean year of schooling for Korea rose from 4.29 years in 1960 to 10.29 years in 1990 and for India increased from 1.02 years in 1960 to 2.95 in 1990. Moreover, the education gini coefficient for Korea declined from 0.55 in 1960 to 0.22 in 1990 and for India decreased from 0.79 to 0.69. Clearly, Korea was not doing better than India in 1960 but also seems to have made rapid progress in lessening educational inequality in their country compared to India.

The analysis of cross-country trends on inequality in education from 1870 to 2010 by Dorius (2013) shows that as far as primary education is concerned “primary school enrollments and in years of completed primary schooling” (Dorius, 2013; 170), we would soon see an end in inter-country inequality in education.

In exploring the relationship between educational expansion and schooling inequality, using Census 2011 data on States./ Union Territories of India, Shukla and Mishra (2019) find an inverted U shaped (Kuznets curve) relationship between average and standard deviation of schooling. In other words, as the average years of schooling increases, till 7 years the schooling inequality increases. After 7 years of schooling the inequality declines as the average year of schooling increases further. However, this does not hold if Gini coefficient is used as measure of schooling inequality instead of standard deviation.

Desai and Kulkarni (2008) use NSS data on education attainment of 6-29 year old for the year 1983, 1987-1988, 1993-1994, and 1999-2000 to analyze changes in education inequalities across social groups in terms of caste/ tribe and religion. They find that gap between Scheduled Castes, Scheduled Tribes, who are beneficiaries of affirmative action policies, and Others are declining. However, Muslims who remain outside the ambit of affirmative action policies are not showing great deal of improvement.

Using three inequality indices, Asadullah and Yalonetzky (2012) study changes in inequality of educational opportunity across states in India between 1983 and 2004. All the three indices show Kerala as least unequal as far as education opportunity is concerned. They find Gujarat, Uttar Pradesh, Rajasthan and Bihar to have not made any substantial progress compared to other States so much so that their ranking among states have dropped from 1983 to 2004. Surprisingly states like West Bengal and Orissa (now Odisha), which have quite high number of deprived people, seems to have done well in reducing educational inequality in this period. Agarwal (2014) analyzes the changes in educational inequality, using Gini index, among rural and urban sector in India from 1993 to 2009 finding that intra-sector inequality, rather than inter-sector inequality, contributes majorly to over all inequality, Even though inequality in education has declined between 1993 and 2009, it still remains quite high in 2009.

Objective, Significance of the study and Research Questions

As is evident from review of literature most of the studies on inequality in education is based on secondary level data. There has been very little effort to study education inequality at a local level with the help of primary study. Whereas it is important to have larger picture on educational inequality through secondary level data analysis, it is also important to supplement it with the micro-level local studies with the help of primary data. The aim of this paper is to contribute towards filling this research gap. We would be also using the secondary data to contextualize this study. Accordingly, the research questions are stated below.

1. What is the educational level and inequality in APN⁴, Kallukuttai slum/ informal settlement compared to Chennai, Tamil Nadu and India?
2. How have different social groups – in terms of caste and religion – fared in terms of average educational level and inequality in APN, Kallukuttai?

As already mentioned the inequality in education will be measured using variance and squared coefficient of variance. The methodology and choice of the measure is explained in section below.

Methodology: Choice of Index for Measuring Inequality in Education

Given our requirement of studying the education inequality - in terms of years of education – for different social groups in a slum/ informal settlement in Chennai, the Squared coefficient of variation (SCV) would be the most appropriate index of inequality. It is not only sub-groups decomposable, which Gini index is not, but also easier to interpret compared to Theil index (Chakravarty, 2001; Subramanian, 2007; Banerjee, 2015) SCV also satisfies all of the other desirable axioms of inequality, except transfer sensitivity axiom, the

⁴ Ambedkar Puratchi Nagar (APN), is one of the nine nagars of Kallukuttai Slum. APN is the largest of all the nine nagars.

details of which we are not going into here⁵.

So for our purpose, given years of education vector $e = (e_1, e_2, \dots, e_i, \dots, e_N)$ representing all N individuals with $e_i \leq e_{i+1}$ (for individual $i = 1, 2, 3, \dots, N$) and mean years of education as $m(e)$ and variance given by $v(e)$, inequality index squared coefficient of variation is defined as follows.

$$S(e) = 1/N(e) \sum_{i=1}^N [(e_i - m(e))/m(e)]^2 = V(e)/m^2(e) \quad [1]$$

Data: For the purpose of this study, we utilize two data sources. One is secondary data source – National Family and Health Survey (NFHS) 4, which was conducted in the year 2015-16 and another a primary survey in Slum/ Informal settlement in Chennai in the year 2016-17.

The NFHS 4 round of survey with focus on women and young children and information pertaining to population, health, and nutrition also contain information on the quality of health and family planning service, more precisely data on reproductive health, anemia and nutrition of women. It also has information on the Body Mass Index (BMI) and status of the mother of the children along with other information like on AADHAR⁶, NFHS 4 survey was done in 2015-16, which was released only in 2018. We used the single years of education completed for each individual given in NFHS 4 for calculating the education inequality.

In APN, Kallukuttai, a complete survey was done with 1981 households in which 250 samples was selected based on the caste representation. The respondents of the 250 sample⁷ were adult women of the household. The data showed that they were SC 18.90 %, BC 48.37%, MBC 24.75%, Caste not mentioned to be 7.78%. We found that Hindu 87.03 %, Christian 8.53 % and Muslims to be 1.21 % and who did not mention their religion was 2.38 % and other is 0.80%. The sex ratio within Kallukuttai is 950. The average family size was 3.81. Most of the reported work category was informal sector workers. Very few reported to work in government institutions like sanitation workers, helpers in contract basis. We have taken persons of all age belonging to sample household to calculate average and SCV of years of education completed.

Table 1, 2 and 3 below provide the mean years of education completed along with variance and squared coefficient of variation for years of education completed as culled out from secondary data and primary data⁸.

⁵ Using Subramanian's (2007).terminology: For details on descriptive (including desirable axioms that they should satisfy) and ethical measures of inequality please see Subramanian (2007).

⁶ Aadhaar number is a 12-digit random number issued by the UIDAI ("Authority") to the residents of India after satisfying the verification process laid down by the Authority. <https://uidai.gov.in/my-aadhaar/about-your-aadhaar.html>

⁷ Among the sample ST and OC with respect to caste category and Muslim and Other religion with respect to religious category did not appear in our sample as they were present in very small percentage in the population. The sample consists of 250 households with atleast one adult women. Please note that SC- Schedule Caste; ST- Schedule Tribe; OC- Other Caste; BC- Back ward Caste; MBC- Most Backward Caste

⁸ Since NFHS 4 survey methodology and primary survey methodology are different so the results of these survey may not be

Analysis of data

Table 1: Mean, Variance and SCV for years of education completed: India, Tamil Nadu, Chennai and APN, Kallukuttai

Category	India	Tamil Nadu	Chennai	APN, Kallukuttai
Mean	5.49	6.72	8.81	5.73
Variance	26.25	28.16	31.04	19.92
SCV	0.87	0.62	0.40	0.61

Source: Calculated using NFHS 4 (2015-16) survey and Primary Survey Data (2016-17)

Table 2: Mean, Variance and SCV for years of education completed: SC, MBC, BC, CM and Kallukuttai Slum/ Informal Settlement

Category	SC	MBC	BC	CM	APN, Kallukuttai
Mean	6.43	6.19	6.54	5.30	5.73
Variance	22.20	24.62	22.71	15.68	19.92
SCV	0.54	0.64	0.53	0.56	0.61

Source: Calculated using Primary Survey Data (2016-17)

Table 3: Mean, Variance and SCV for years of education completed: Hindu, Christian and Kallukuttai Slum/ Informal Settlement

Category	Hindu	Christian	APN, Kallukuttai
Mean	5.69	6.13	5.73
Variance	20.11	18.13	19.92
SCV	0.62	0.48	0.61

Source: Calculated using Primary Survey Data (2016-17)

Findings and Interpretations

The above tables show that APN, Kallukuttai is doing worse than Chennai in terms of both average and inequality in years of education completed but better than all India average years and inequality in years of education completed. However, in terms of average years of education APN, Kallukuttai is doing better than Tamil Nadu and marginally worse than Tamil Nadu in educational inequality.

The situation within APN, Kallukuttai as evident from Table 2 and 3, which does not seem to be varying much in terms of caste categories. The average years of education completed for SC, MBC, BC and CM are 6.43, 6.19, 6.54 and 5.70 respectively, while SCV for years of education completed are 0.54, 0.64, 0.53 and

strictly comparable. So the figures here are stated for contextualizing the study area rather than any strict comparative analysis. However, data for social groups with APN, Kallukuttai obtained from same survey are comparable and has been used accordingly

0.56 for SC, MBC, BC and CM respectively. The MBC seems to be doing the worst of all caste categories as far as average and inequality in years of education completed is concerned. This result is little surprising as generally SCs in Chennai, and even other urban areas of Tamil Nadu, seem to be doing worse than BC and MBC in most of the development indicators (Ravindran, Balasubramanian & Mini, 2014). In terms of religion, Christians are doing better than Hindus both the average and SCV in years of education completed. This result seems consistent with other findings in the literature which shows Christians in Tamil Nadu and Chennai doing better than Hindus in development indicators including education attainment (Ayres & Simon, 2003).

Educational Implications and Conclusion

The low average years of education completed in APN, Kallukuttai compared to Chennai calls for revival of aided and government schools in and around slum areas, especially de-notified slums. Apart from this, there should be special measures taken like scholarship to encourage the children from slum/ informal settlement areas to take up higher education. In addition, adult educational programmes should also be revived to boost the educational attainment of adults who may have missed out on education because of various reasons. The lack of good opportunities for mid-level (Secondary or higher secondary) education attainment could also be a major reason for lack of interest. Though our analysis here provides some crucial insights regarding educational inequality across caste and religious social groups, only an in-depth study can provide an answer to the reasons behind such varying performance.

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