

## Social Development in Punjab (Pakistan): A District Level Analysis

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### **Abstract**

*Social considerations are imperative for the pursuit of sustainable development of an economy. Inclusive or equitable growth requires achieving both economic and social progress. Based on basic human needs approach, a Social Development Index (SDI) for 36 districts of Punjab is been designed to assess the capacity of a society to meet the basic human needs of its citizens and to evaluate the state of social development in three broad Sectors (education, health, water, sanitation and hygiene). The Study comprises of 19 indicators, which are normalized and methodology of Principle Component Analysis (PCA) was applied to develop Health, Education and WASH Indices. The composite index of social development was derived from the integration of the sectors above. The data sets of Multiple Indicator Cluster Survey (MICS) for Punjab and Pakistan Social and Living Standards Measurement (PSLM) are mainly used in the study. The paper confirms that despite claims of economic growth in districts of Punjab, it continues to lag in terms of social development. There is substantial variation between the performance of the Northern and Southern Districts. The disparity reflected in social development in Southern Punjab demands discourse from the policymakers ensuring balanced resource allocation for the deprived districts if Punjab is to improve its socio-economic conditions.*

**Keywords:** Social Development, Social well-being, Principal Component Analysis

**JEL Classification:** B55, C38, C43

### **1. Introduction**

Economic growth has elevated nations out of poverty and has living standards of citizens in many countries. Despite this, it is evident that a model of development tied to economic growth alone is not sufficient. Several development studies have continuously evaluated and discussed avenues for development to alleviate inequality based on a country's resources. Inclusive or equitable growth requires achieving both economic and social development. It emphasizes the basic human needs and entails measuring the developmental indicators beyond the conventional economic outcomes. Thus, this study aims to develop a Social Dimension Index (SDI) across the 36 districts of Punjab. It will aid the province in assessing the social development of its districts and consequently will provide a more holistic approach for gauging the developmental dimension of the province. The estimation of Social Dimension Index (SDI) evaluates the state of social development, through three sub-dimension education, health and water, sanitation and hygiene (WASH), to provide policymakers a condensed understanding on the rate of development and assists them in assessing the need for future action in different domains of the region.

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Punjab, historically being a resourceful and economically thriving province, needs a social development paradigm, with inclusive growth and progress. Economic Growth is fundamental in the development of any country/region, but it is equally essential to comprehend the scale of social development. To augment the process of inclusive development, Punjab needs to invest in human capital and chalk out its trajectory for future growth. SDI alone may not necessarily indicate the critical obstacles to social development or progression, but it can be instrumental in understanding the level of investment needed to elevate the social infrastructure.

Social Dimension Index is measured on the indicators extracted from three principal dimensions. Namely, education, health and water, sanitation and hygiene (WASH). The paper is organized as follows: Section 2 describes the literature review followed by section 3 which comprised of details on three sub-indexes on education, health and WASH, while section 4 gives the main findings and resultant ranking of districts. Section 5 concludes this study and briefly describes the future implications of this study.

## 2. Literature Review

Philosophically, the concept of social development is traditional and has been recognized by theorists like Aristotle, nearly 2000 years ago; when he defines the ‘good society’ and deems it central to the process of human development (Salvaris, 2000). Historically, with the emergence of the industrial revolution, social development was solely being measured from an economic viewpoint. Hence, the measurement of social development can help develop sound economic policy. This claim can only be put forward because the quality of economic development is as significant as the quantity of economic activity; generally estimated by the GDP (Venetoulis & Cobb, 2004).

Significant transformations were made to include the ‘social indicators’ to enhance the understanding of the social system (Land, 1971). Land (1971) argues that the historical development of social indicators in the research is instrumental in understanding the overall social system, its development and its potential changes. Similarly, the work of many other theorists like Moore (1955), Rostow (1956) emphasizes on the cross-sectional problems of the social conditions. These changes in the definition of social development have taken into account cross-sectional (segmental) and time series (over-time) information on social conditions. The empirical evidence suggests that social development should consider indicators and variables, with a relative degree of ‘social importance’ based on the assessment of society undergoing the study (Ray, 1989). Over the period, different dimensions of ‘social conditions’ evident in different countries have gone through substantial changes; with variance in the relevant social indicators (Chakravarty, 1976). Despite this, however, there is a broad consensus in the earlier definitions that social indicators are statistics helping to measure social conditions over different periods and target audience in the population.

A perspective indicates that ‘social development’ is hard to achieve unless access to the right monetary resources like the well-paid job is disbursed to the segment of the population (Misiunas, 2009). Efforts were made by the UN Human Development Report to present a list of common indicators needed to holistically define this theory of welfare when the HDI index was developed in the 1990s. The Index encompasses three significant human opportunities; a) Access to long and healthy life, b) Access to education, and c) resources necessary to maintain a reasonable standard of living. There is a consensus that every citizen is entitled to participate in the primary social and occupational institutions; employment opportunity, housing, health care and education (European Commission, 2004).

It is also essential to analyze what fundamentals lead to social exclusion. Social exclusion becomes apparent and recognized when the citizens are unable to secure and practice these rights (Bhalla and Lapeyre, 1997). Social exclusion is expressed in patterns of social relationships denying the access of goods, services, activities, and resources for groups or

individuals; generally considered as the fundamental rights of citizenship (Gore and Figueiredo, 1997). The concept reflects that a consistent blend of multidimensional processes of deprivation, resulting in steady dissociation from the 'social milieu' eventually isolates individuals/groups from the necessary opportunities (Vleminckx and Berghman 2001, as cited in World Bank, 2013). It in-fact reflects that exclusion from social, political and economic spheres, prevents the individuals or groups from accessing the resources and practicing their legit rights (Stewart et al., 2006).

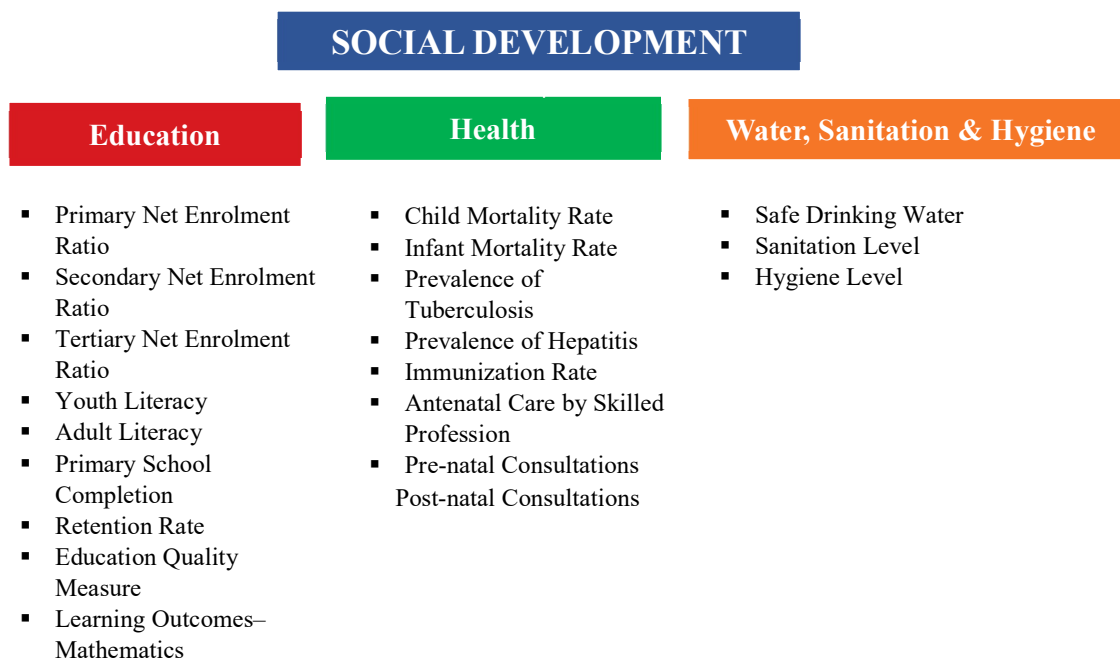
Given the facts, the investigation provides a baseline study analyzing the education, health and WASH dimensions to assess the extent of Social Development in the districts of Punjab. Different sets of indicators in these dimensions are used to estimate the district wise Social Development Index. The Study also provides a benchmark analysis against the provincial average scores for these dimensions for comparative assessment of the districts.

Social considerations are imperative for the pursuit of sustainable development of an economy. Inclusive or equitable growth requires achieving both economic and human capital progress. Based on basic human needs approach, a Social Development Index (SDI) has been designed to assess the capacity of society to meet the basic human needs of its citizens and to evaluate the state of development in three broad sectors (education, health, water, sanitation and hygiene). This study comparatively analyses all districts in Punjab and ranks them in terms of social development using the principal component analysis technique for assigning weights prior to the weighted aggregation

### **3 Data and Methodology**

#### **3.1 Data Sources and Variables**

This study is an exploratory analysis of the state of social development in districts of Punjab. For analysis in this research paper, quantitative evidence has been collected from secondary sources. In order to calculate the progress against social indicators for each district in 2014-15, 20 indicators have been included in the analysis. Data against these indicators have been retrieved from multiple secondary sources including; Multiple Indicators Cluster Survey (MICS) 2014 Punjab and Pakistan Social & Livings-Standards Measurement (PSLM) survey 2014-15. The complete list of the variables is given in Figure 1. The data source for each indicator is given in Appendix-A.



**Figure 1: List of Variables**

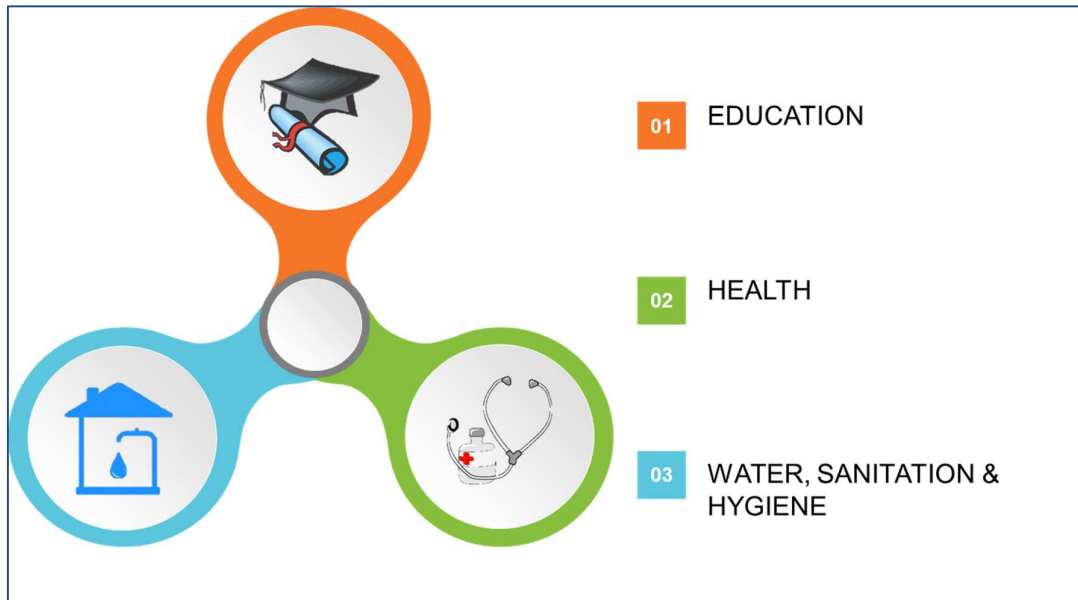
### 3.2 Conceptual Framework

The secondary research was principally carried out based on an extensive literature review. The work was inspired by the work undertaken by Social Progress Imperative<sup>1</sup>, which attempted to measure social progress beyond the definitions of economic development alone and basic human needs of society. Traditionally, as evident from literature, social progress has been equated with economic development. With the latter being measured by GDP (gross domestic product). The premise is that a higher GDP indicates higher social development/progress.

Many scholars have defined and purposed different frameworks for social development. Different studies measuring welfare and quality of life of individuals have incorporated different elements of the social well-being. Most authors, more or less, have worked broadly on these dimensions, education, health, hygiene, freedom, economic and security. Keeping into consideration the notion of sustainable development, many authors have reached a consensus that multidimensional characteristics of social development or progress are based on three broad dimensions, namely, economy, social and environment. Thus, keeping in consideration key concepts, ideas and theories, we defined a framework for measuring social development, which in turn helped us in choosing suitable indicators.

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<sup>1</sup> Porter, Stern & Green (2015).



**Figure 2: Conceptual Framework of Social Dimension Index**

Social Progress Development framework is based on three broad dimensions, namely, education dimension, health dimension and WASH (water, sanitation and hygiene). Together this framework summarizes a correlated set of factors that attempt to capture the dimensions upon which a society can achieve development. Every dimension within the composite index is designed to highlight a separate element of the overall set of outcomes which make up a dimension, building on both the academic and policy literature.

The objective of the Social Development Index framework is to capture and ascertain the level of social development within a given society. The index attempts to incorporate non-economic dimensions of a society's performance that indicate the inclusion of all citizens and society as a whole, being able to achieve social outcomes. The index is oriented towards outcome indicators, which have been selected based on extensive literature, data availability and incorporation of multiple aspects of social development. The index tries to synthesize these multiple outcomes measures in a conceptually consistent way.

Once the dimensions were determined, multiple indicators measuring outcomes related to each dimension were reviewed, and data against these were retrieved. Those indicators were selected, which were measured using a consistent methodology across all districts of Punjab if not Pakistan.

The choice of indicators for this paper is governed by several considerations. Indicators have been selected to highlight development both in terms of quality and quantity, thereby incorporating both stock and flow measures for the socio-economic sector. The rationale behind this is to incorporate the transition from the Millennium Development Goals (MDGs) to Sustainable Development Goals (SDGs).

### **3.3 Methodology: Principal Component Analysis**

Principal factor analysis can be defined as a statistical way to combine optimally weighed observed variables (Potter, Stern and Green, 2015). It uses shared covariance across all set of indicators within each component and dimension to calculate a set of weights to create a composite value out of the many indicators included in the analysis. Summary statistics for the data set are provided in appendix B. Moreover, two standard measures of validity for factor

analysis, that is Kaiser-Meyer-Olkin (KMO), and Barlett test were applied to validate the analysis for statistical accuracy, using equation 1 and 2, respectively. Kaiser-Meyer-Olkin (KMO) test is a measure of sampling adequacy for each variable included in the model. It is a statistic measure of the proportion of variance amongst variables having common variance. A threshold value of considering sample adequacy using KMO test is 0.5. Any value above this is considered desirable.

$$KMO = \frac{\sum_{i \neq j} r_{i,j}^2}{\sum_{i \neq j} r_{i,j}^2 + \sum_{i \neq j} u_{i,j}^2} \quad \dots \quad \dots \quad \dots \quad (1)$$

where  $r_{ij}$  is a simple correlation, and  $u_{ij}$  is a partial correlation

On the other hand, Barlett's test is a measure of sphericity which checks for redundancy between variables that can be summarized between factors. It is used to test that variances are equal for all samples. Equation 2 was used to calculate this test

$$Barlett \text{ test} = \frac{(N-k) \ln(S_p^2) - \sum_i^k (n_i - 1) \ln(S_i^2)}{1 + \frac{1}{3(k-1)} \left( \sum_{i=1}^k \frac{1}{(n_i - 1)} - \frac{1}{N-k} \right)} \quad \dots \quad \dots \quad \dots \quad (2)$$

where  $s$  is the variance,  $N$  is the total sample size,  $k$  is the number of groups,  $S_p$  is pooled variance.

The result of these tests was well within ranges considered acceptable within statistical literature. The results of these are provided in appendix B. To calculate a score for each dimension and component so that scores could be easily interpreted; standardization was required before data aggregation as the indicators in data set had different measurement units. For standardization of data, so that each dimension index is expressed as a value between 0 and 1 the following formula was applied:

$$Normalized \text{ Value of Indicators} = \frac{Actual \text{ value} - Minimum \text{ value}}{Maximum \text{ value} - Minimum \text{ Value}} \quad \dots \quad \dots \quad (3)$$

Indicators that were hypothesized to contribute positively to social progress were normalized using equation 3, whereas those indicators which were hypothesized to contribute negatively to social progress were normalized using equation 3.1.

$$Normalized \text{ Value Indicators} = \frac{Actual \text{ value} - Maximum \text{ value}}{Minimum \text{ value} - Maximum \text{ Val}} \quad \dots \quad \dots \quad \dots \quad (3.1)$$

Subsequently, weights were assigned to each indicator under each dimension by applying a simple linear transformation, where weights ( $w$ ) in the equation were determined through principal component factor analysis (PCA).

$$Dimension/Component \text{ Score} = \sum (w_i \times indicator_i) \quad \dots \quad \dots \quad \dots \quad (4)$$

Where  $w_i$  = weight of  $i$ th indicator,  $i = 1 \dots n$  &  $n$  = No. of Indicator in each ( $i$ <sup>th</sup>) dimension

$$Composite \text{ Score or SPI} = \sum (dw_j \times indicator_j) \quad \dots \quad \dots \quad \dots \quad (5)$$

where  $dw$  = dimension weight of  $j$ <sup>th</sup> dimension,  $j = 1 \dots n$  &  $n$  = no. of Indicator in each ( $i$ <sup>th</sup>) dimension

After calculating weighted scores for each component and dimension, equation 3 was applied to transform dimension/component scores into an index so that results could be easily interpreted. Under this transformation, no index will be less than zero or greater than one.

The composite 'social development index' was derived by using equation 5, where weights to each dimension were retrieved using PCA. After that, equation 3 was applied to transform the composite scores social progress into an index form so that the potential range of the index remained between 0 and 1. Thus ranking of districts was obtained based on the results achieved.

## 4 Results and Discussions

#### 4.1 Assigned Weights: Results of Principal Component Analysis

The results of KMO and Bartlett's Test are for the composite Social Progress Index (SPI) are represented in Table 1 as under:

**Table 1:** Results of KMO and Barlett's test

Test	Dimensional Sub-indices			Composite Index	
	Education sub-index	Health sub-index	WASH sub-index	Social Development	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.868	0.533	0.501	0.711	
Bartlett's Test of Sphericity	Approx. Chi-Square	541.141	109.412	30.133	85.566
	Sig.	0.000	0.000	0.000	0.000

*Source:* Authors' calculation using PCA

The above table shows that KMO measures a value higher is than 0.5, for composite index and all three sub-dimensions, which shows sampling adequacy for PCA. Similarly, Bartlett's Test of Sphericity is significant at 0.00 level of significance, showing that PCA can be applied to this dataset.

**Table 2:** Assigned weights dimensional and sub-dimensional indices,

Social Development Index – Dimensions		WEIGHTS
A1	Education Index	37%
A2	Health index	27%
A3	WASH Index	36%
<b>Total</b>		<b>100%</b>

*Source:* Authors' calculation using PCA

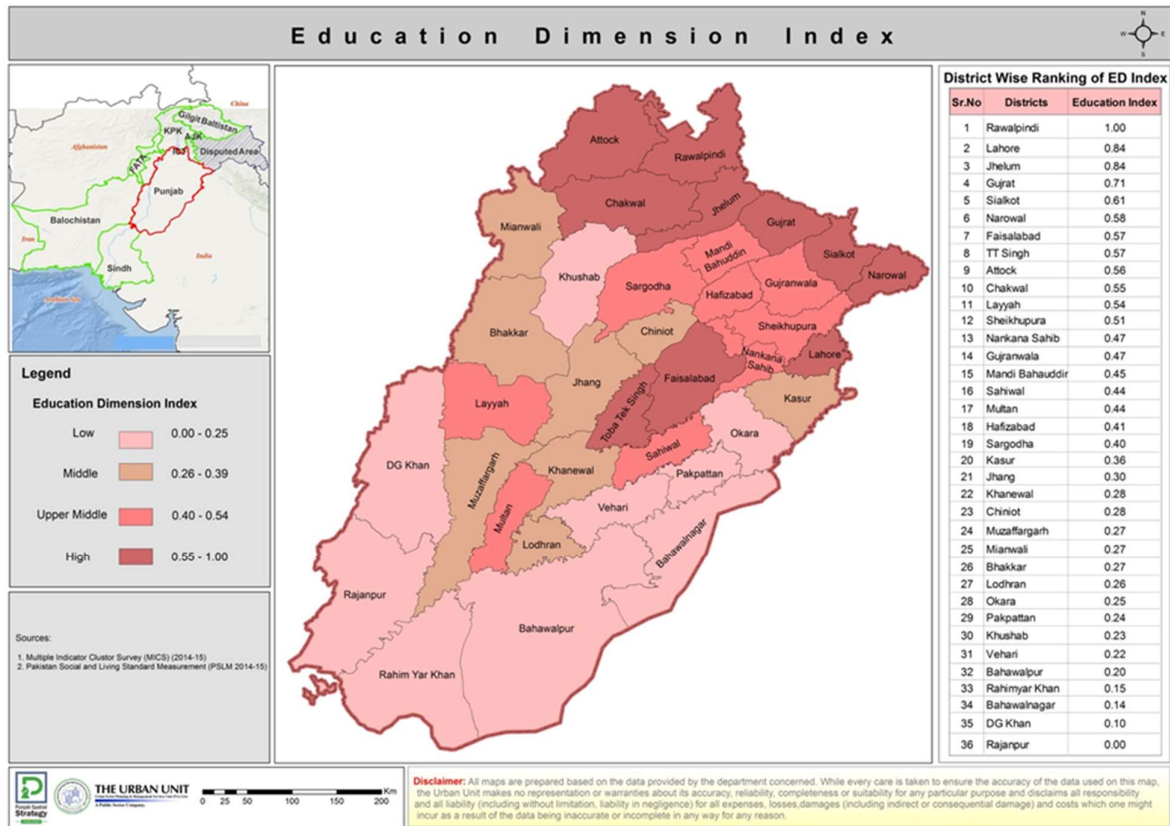
The assigned weights for dimensions of overall composite social progress index as well as the sub-dimensions of social well-being, calculated based on PCA are given in Table 2. The weights to individual indicator in each dimension and sub-dimension are given in Appendix-A.

#### 4.2 Main Findings and Discussion

The Social Progress Index is measured across 36 districts of Punjab with varying differences within each dimension of the composite Index indicating overall social progress at the district level. This section provides an overview of the key findings on different dimensions and components of social progress.

##### 4.2.1 Education Index (Sub-Dimension)

Development against education component was measured against 9 indicators (refer to Appendix A). Both qualitative and quantitative factors have been included in the analysis keeping the United Nations Sustainable Development Goals in view. Rawalpindi supersedes Lahore in the education dimension, with Jhelum district following closely behind. Other top performing districts include Gujrat, Sialkot, Narowal, Faisalabad, Attock, Chakwal and Toba Tek Singh. However, the map below highlights the magnitude of divergence between the northern and southern districts of the province, which is not only lagging in absolute terms but are also lagging in relative terms. The map below indicates that not only Bahawalpur, Rahim Yar Khan, Bahawalnagar, DG Khan, and Rajanpur districts are the bottom-ranked performing districts but are also lagging far behind other districts. However, on average most of the districts have a score higher than the average score of Punjab, indicating relatively better performance in terms of education. Except for a few districts, the spatial portrait of Punjab for education dimension depicts a satisfactory position.

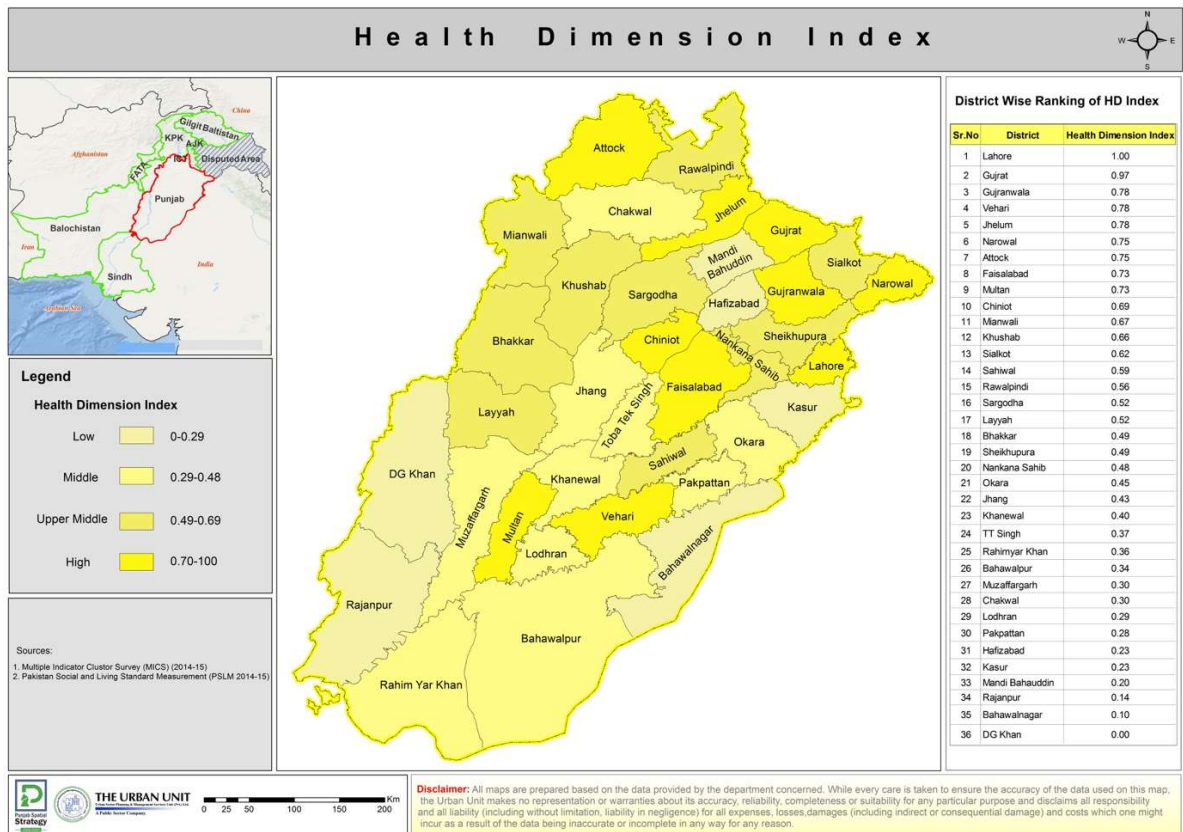


**Figure 3: Education Sub-Index**

#### 4.2.2 Health Index (Sub-Dimension)

Development against health component was measured against 8 indicators (refer to Appendix A). In order to capture the health status of the districts, all indicators explaining the state of health conditions have been included in the analysis. Like most other dimensions, district Lahore remains at the top according to the health dimension as well. Although Gujrat has performed well in most of the dimensions, however, it has superseded all other top performing districts such as Faisalabad and Rawalpindi in health dimension. Other top performing districts include Gujranwala, Vehari, Jhelum, Narowal, and Attock. It is interesting to see Vehari district emerging in the top ten performing districts in Punjab, attributable to a better immune system and significantly above the provincial average for infant mortality rate and child mortality rate. The map below indicates that the districts located in southern Punjab are performing poorly in terms of health indicators. It is important to note that Multan, which has remained mostly at an average in other dimensions, has performed relatively well in Southern Punjab.



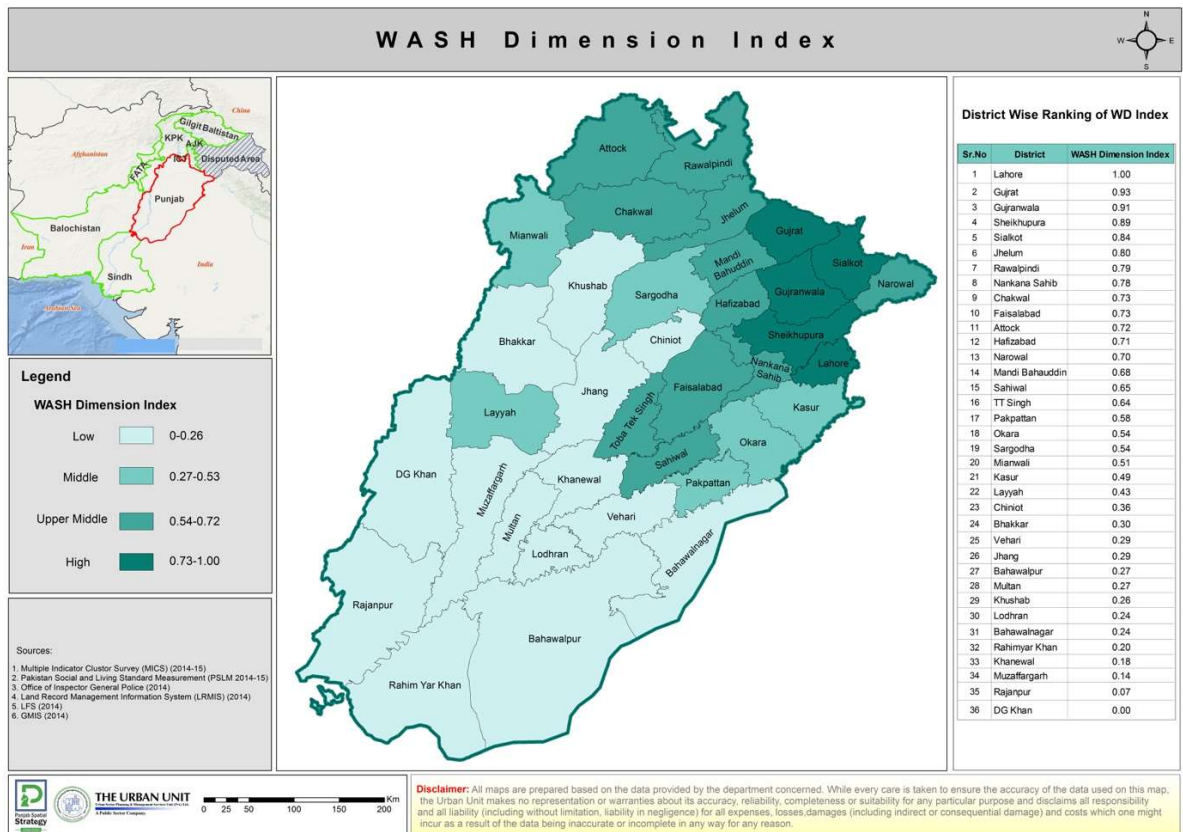


**Figure 4: Health Sub-Index**

Apart from 8 districts in the province, all other 28 districts are lagging behind the benchmark provincial average, as evident from the map. This not only indicates divergence but also highlights disparity at the provincial level. The map below indicates that DG Khan, Rajanpur, Mandi-Bahauddin, and Bahawalnagar are performing way below the average of the province. This underperformance has been observed in most of the districts of southern Punjab. The districts performing above average are mostly located in northern Punjab. Thus, the region needs special attention regarding the health dimension. With health being a foundation for the development of society, steps need to be taken to cater to basic human needs and to augment social development in Punjab.

#### 4.2.3 WASH Index (Sub-Dimension)

Water, Sanitation and Hygiene were also measured across all 36 districts of Punjab. Access to safe drinking water, facilities required for improved hygiene level and standard of sanitation facilities are essential measures of the socio-economic aspect of the society. The composite social dimension aims to capture the effect of all indicators, which are measuring the extent of availability of basic human needs. The indicators for WASH (see Appendix –A) include access to clean drinking water and safe sanitation facilities. Most of the Southern districts DG Khan, Rajanpur, Muzaffargarh, Khanewal, Rahim Yar Khan and Bahawalnagar fall significantly behind the northern and central districts. The Index concisely reflects upon the prevailing conditions Water and Sanitation in Punjab. The access to safe drinking water and safe sanitation is necessary for the progression of the human development front in Punjab.

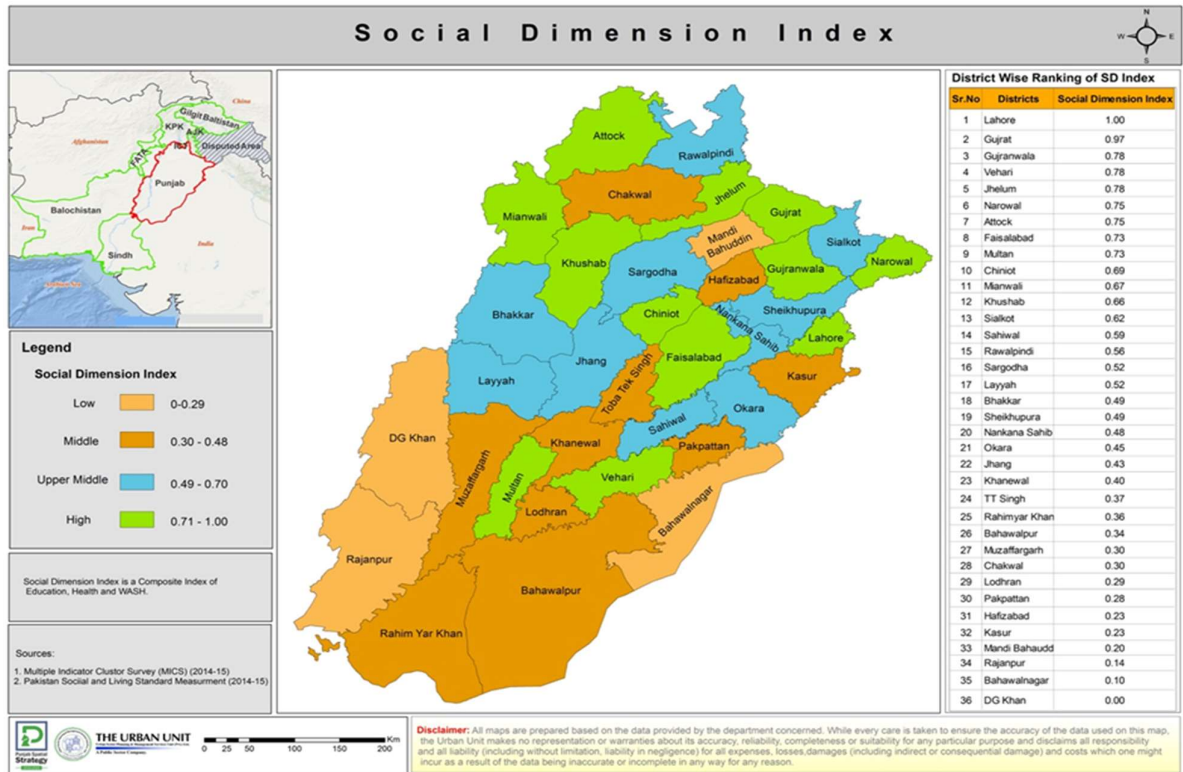


**Figure 5: WASH sub-index**

#### 4.2.4 Social Dimension Index (Composite Index)

The District score for this dimension indicates development in terms of the basic human needs of society. The better the score for this dimension, the more the citizens living in this district can fulfil their basic needs in terms of indicators on education, health and WASH.

Top five performing districts, as evident from the map above, are Lahore, Gujrat, Jhelum, Rawalpindi and Gujranwala. With closely following behind districts being Sialkot, Faisalabad, Attock and Narowal district. Geographical clustering of districts lies in the north-eastern part of Punjab. There is an enormous disparity between the top ten and bottom ten performing districts. The lowest-performing districts in terms of social dimension include Muzaffargarh, Rahimyar Khan, Bahawalnagar, Rajanpur, and Dera Ghazi (DG) Khan. The highest weight in this dimension has been given to education, that is 37%, followed by health 27% and WASH having 36% weight. Thus it can be said that for the district to development in terms of social indicators, attention needs to be devoted towards in improving education, health and WASH in the region. Although health is an essential aspect of the society, environmental sustainability can be achieved by improving water, sanitation and hygiene conditions which can simultaneously contribute towards improving health conditions. The average value of the social dimension in Punjab comes out to be 0.47. However, lagging behind districts are the ones performing worse than the average. As evident from the map below, the situation in Punjab in terms of social dimension performance is not idyllic; districts in the southern part of the province are not performing even close to the average of the overall provincial averages. Lahore, Rawalpindi, Jhelum, Gujranwala, Sialkot are amongst the outperforming districts in the province. The next section will explain the details of different components included in this dimension, which are augmenting social development in these districts.



**Figure 6: Social Development Composite Index**

## 5 Conclusion and Recommendations

The Social Development Index, based on social outcomes, reveals compelling spatial portrait across districts of Punjab. The analysis shows that the level of social development varies across the region, and there are considerable disparities in social development in different dimensions and components. The results of this paper can be used to assess patterns of development, and relevant corrective measures can be taken to set priorities for improvement of the province. This paper also highlights the relative and absolute weaknesses of districts under different dimensions and components. Thus, areas of prioritization and public investment can be identified. Accordingly, a social development agenda can be set, and future resources allocations for social capital up-gradation can positively impact the socio-economic condition of the region. This paper's results suggest important implications for policymakers. It highlights that development strategies planned based on economic parameters are insufficient for current developmental endeavors. An inclusive strategy must focus on social development as well as economic growth. Districts which are mostly lagging in all dimensions and majorly in social development include Bahawalpur, Rahimyar Khan, DG Khan, Rajanpur, Bhakkar, Bahawalnagar, Muzaffargarh, Lodhran, Khanewal. These districts need to be given priority in ADP (annual development plan) allocation for social sector development and the overall growth of the province. The spatial portrait of Punjab calls for a reassessment and revaluation of the social sector development. The pace at which the population of the province is changing and a youth bulge emerging, Punjab will not be able to sustain the level of development which it is currently at, which is already far behind its regional economic competitors.

Moreover, even keeping abreast with the notion that income shall augment social development in the country, this may not hold for Punjab and Pakistan at large. The former is far behind than its regional economic partners. Adopting the SDGs ushered an era of social development in the province, but there is still a need for a massive improvement in the social indicators. Despite

sectoral plans and an increase in budgets and development expenditure on the social sector, development in Punjab has remained low. A clear divide between the north and south of the province is evident, which indicates social inequality. Policy initiatives must be sensitive to the centrality of this issue because of the substantial linkages between social achievements and its multiple manifestations. These challenges of social development may intensify over time if not addressed timely. Challenges about poverty, migration, youth employment, regional inequalities can result in social discontent and unrest. The emergence of spatial inequality in Punjab has improved and strengthened the position of developed districts, but on the other hand, has restricted the adaptability of other districts to the requirements of economic and social transformation. In case these tendencies are allowed to continue, under current conditions of low competitiveness of districts, the effect on the economy of Punjab will be adverse. It calls for urgent social innovations and adequate policy measures for tackling the social developmental challenges.

## References

- Bhalla, A., & Lapeyre, F. (1997). Social exclusion: towards an analytical and operational framework. *Development and Change*, 28(3): 413-433.
- Central Department of Sociology/Anthropology (2014). *The Nepal multidimensional social inclusion index: Diversity and agenda for inclusive development*. Kathmandu: Tribhuvan University (TU).
- Chakravarty, S. (1976). Social and demographic statistics: framework for the integration of social and demographic statistics in developing countries. *United Nations Economic and Social Council, E/C N, 3*.
- Council of European Union (2004) *Joint report by the Commission and the Council on social inclusion*. Brussels, Belgium: European Council (EC)
- Government of Pakistan (2015) *Pakistan Social and Living Standards Measurement Survey (PSLM) 2014-15* [Microdata]. Islamabad: Pakistan Bureau of Statistics (PBS), Government of Pakistan.
- Government of Punjab. (2014). *Multiple Indicator Cluster Survey (MICS) 2014*. Lahore: Punjab Bureau of Statistics (PBS), Government of Pakistan.
- Misiūnas, A & Balsytė, I. (2009) The essence of sustainable social development. *American Economic Review* 45 (1): 156–65
- Osberg, L. (2001) Needs and Wants: What Is Social Development and how should it be measured? *The Review of Economic Performance and Social Progress*. 23-41
- Porter, M., Stern, S. & Green, M (2015). *Social Progress Index 2015*. The Social Progress Imperative.
- Ray, A. (1989) On the Measurement of Certain Aspects of Social Development. *Social Indicators Research* 21 (1): 35-92
- UNDP (2007) *Social Inclusion in Bosnia and Herzegovina 2014*. Sarajevo: National Human Development Report.
- United Nations Economic Commission for Africa (2013). *The African Social Development Index- Measuring Inclusive Development for Structural Transformation 2013*. Oakland, CA, UNECA
- Venetoulis, J. and C. Cobb (2004) The Genuine Development Indicator 1950-2002 and Possibilities for measuring it. *Intellectual Economics* 1(5): 61-71

## Appendix-A

DIMENSION	INDICATOR NAME	WEIGHTS	SOURCE
SOCIAL DIMENSION INDEX	<b>Education</b>		
	Net Enrolment Ratio, Primary (Primary School-age 5-9 Population)	15%	PSLM 2014-15
	Net Enrolment Ratio, Secondary (Secondary School-10-16 Age Population)	12%	PSLM 2014-15
	Net Enrolment Ratio, Tertiary (Tertiary School-age 17- 24 Population)	9%	PSLM 2014-15
	Literacy Rate Among Population Age 15-24 Years	12%	MICS 2014
	Adult Literacy Rate (% Ages 15 And Older)	10%	PSLM 2014-15
	Percent who reach grade 5 of those who enter grade 1	9%	MICS 2014
	The population that has completed primary level or higher	12%	PSLM 2014-15
	Can this person read & write in any language with understanding? (Age 5-16)	12%	PSLM 2014-15
	Can solve simple mathematics questions? (Age 5-16)	14%	PSLM 2014-15
	<b>Health</b>		
	Child Mortality Rate (Per 1000 Lives Birth)	23%	MICS 2014
	Infant Mortality Rate	24%	MICS 2014
	Percentage of population diagnosed with tuberculosis during last one year	2%	MICS 2014
	Percentage of population diagnosed with hepatitis during last one year	6%	MICS 2014
	Percentage of children age 12-23 months who received full immunization with vaccination card seen	12%	MICS 2014
	Percentage of Antenatal care provided by skilled professional	10%	MICS 2014
	Percentage of cases for pre-natal consultations	10%	PSLM 2014-15
	Percentage of cases for post-natal consultations	14%	PSLM 2014-15
	<b>WASH</b>		
	Percentage using improved sources of drinking water	14%	MICS 2014
	Percentage using improved sanitation facilities	46%	MICS 2014
	Percentage of households with A specific place for hand washing where water and soap or other cleansing agent are present	40%	MICS 2014