

## Spatial Disparities in Socioeconomic Development: The Case of Pakistan

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Rising spatial disparities in socioeconomic development is a major concern in developing economies. Regional inequality is a dimension of overall inequality, but it has added significance when spatial and regional divisions align with political and ethnic tensions to undermine social and political stability.

This paper is an attempt to document the extent and nature of regional inequality in the level of socioeconomic development. Seventeen indicators related to human resources and standards of living are developed from the district representative household data of Pakistan Social and Living-Standard Measurement (PSLM) survey for the year 2012-13. Development Indicators, for the first time in Pakistan are also aggregated at sub-district level to incorporate the intra-district inequalities in the analysis of spatial disparities.

The study provides provincial multidimensional Gini coefficients and district development ranking to evaluate inter and intra provincial disparities respectively in the selected dimensions of socioeconomic development with the help of Inequality-adjusted Socioeconomic Development Index (ISDI).

*JEL Classification:* D63, I31

*Keywords:* Multidimensional Inequality, Inequality Adjusted Socioeconomic Development Index, Development Ranking, Pakistan

### 1. INTRODUCTION

Earlier research on spatial disparities in the context of Pakistan demonstrated the existence of significant differences in the quality of life of people living in different regions and parts of the country. Pasha and Hasan (1982) analysed the data at the district level for the early 1970s. They concluded that not only do levels of development significantly vary among the four provinces of the country, but there are large regional disparities within the province as well. Attempts have also been made to observe inter-temporal changes of development levels. Pasha, *et al.* (1990) identified significant changes in the development rank ordering of districts of Pakistan from the early 1970s to the early 1980s, especially among districts at the intermediate level of development.<sup>1</sup> More recently, Jamal and Khan (2003) provided changing scenarios of multi-dimensional inter-temporal spatial inequality and regional levels of development in Pakistan during

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<sup>1</sup>Jamal and Malik (1988) also analysed the changing patterns of regional development in Sindh province of Pakistan during the period 1971-72 and 1980-81.

early 1980s and the late 1990s.<sup>2</sup> Their study indicated that over time inequality has increased in three provinces, namely, Sindh, the NWFP (now KPK) and the Balochistan. They also noted that “So far as the province of Balochistan is concerned, there is evidence that it has continued to fall behind the rest of the country during the last 20 years”. Regarding NWFP province it was concluded that “the situation in the NWFP is not so disturbing, and it seems that the province is acquiring the characteristics of an emerging economy”.<sup>3</sup>

The data used in all above studies were obtained from diverse sources of supply-side information. Moreover, various proxies are used to develop indicators due to unavailability of actual data. For instance, district's income is estimated with two components; agricultural and manufacturing value added instead of direct income or GDP data. Thus the income component was underestimated due to non-representation of service sector which is a major source of income in some parts of the country. Likewise, district wealth is represented with number of cars registered instead of car ownership in district and number of bank branches instead of bank deposits. Similar problems may be identified in the construction of social indicators. The supply-side data on school enrollments (numerator) are obtained from provincial statistics to estimate enrollment rates at various levels, while the data on the relevant age group (denominator) are obtained from another source (Population Census). More importantly, previous studies for Pakistan did not consider intra-district inequality in constructing development indicators due to the non-availability of relevant information at sub-district level.

Consequently, this study for the first time incorporates intra-district inequality for the analysis of spatial disparities and inequalities in the context of Pakistan. Further, the study develops socioeconomic indicators from the demand-side single source of information by using large household survey. Pakistan Social and Living-standard Measurement (PSLM) survey for the year 2012-13 is used in this study to develop multidimensional development indicators. PSLM is a district representative survey, covers more than 75,000 households across four provinces of Pakistan and is statistically comparable with the Census data, with some margin of sampling error.

The research is presented as follows. The next section discusses the dimensions and attributes of socioeconomic development included in the analysis of spatial disparities. Section 3 briefly describes the methodology of aggregating dimensions of socioeconomic development, while empirical findings related to multidimensional inequality and districts' development levels are furnished in the subsequent section. The last section is reserved for some concluding remarks.

## 2. DIMENSIONS OF SOCIOECONOMIC DEVELOPMENT

No single attribute can be expected to provide a complete representation of welfare. As Kolm (1977) suggests, the greater the number of attributes considered the

<sup>2</sup>Wasti and Siddiqui (2008) updated the rank orders of districts of Pakistan with the published information in the late 1990s. Surprisingly, they did not mention and compare results with the study of Jamal and Khan (2003) which also uses the data of late 1990s. Nonetheless, their findings are not different with that of Jamal and Khan (2003).

<sup>3</sup>This is not the exhausting list of articles which furnish the extent of spatial disparities in Pakistan. The research studies referred here are nationwide studies and provide development ranking of districts of Pakistan; which is also one of the main objectives of this study.

better is the assumption of ‘anonymity’ and ‘impartiality’ in welfare analysis. However, empirically the selection of indicators is based entirely on the availability of consistent data.

Development indicators that have been included in this research to analyse disparities and inequality relate to human resources and standards of living.<sup>4</sup> Seventeen indicators are developed from the district representative household data of Pakistan Social and Living-Standard Measurement (PSLM) Survey for the year 2012-13. A brief description of the selected welfare attributes is given below, while the national averages of and inequality in these indicators are furnished in Table 2.1.

Both stock and flow measures are included in the study to represent the educational status of population. The stock measure is the adult literacy rate, whereas enrolment rates with respect to population of age cohort 5-24 years represent a flow in the educational attainment. Both of these measures are developed separately for gender.

Table 2.1

*Development Indicators Selected for the Analysis of Disparities*

Development Indicators		National Average	Coefficient of Variation	Gini Coefficient
<b>Human Resources</b>				
Education	Adult Literacy Rate – Male	68.72	31.35	0.1758
	Adult Literacy Rate – Female	41.13	70.16	0.4031
	Enrollments in 5-24 Years Age Cohort—Boys	60.66	33.33	0.1861
	Enrollments in 5-24 Years Age Cohort—Girls	47.75	52.12	0.2982
Child Health	Immunisation – Polio	51.01	74.06	0.4221
	Child Delivery at Hospitals/Nursing Homes	51.13	68.48	0.4014
Maternal Health	Prenatal Care	68.64	50.60	0.2841
	Postnatal Care	30.62	110.66	0.6013
	Had Tetanus Injection	57.66	63.66	0.3694
<b>Living Standard</b>				
Income	Average Income Per Capita	36300	185.32	0.3726
Housing Quality	Adequate Roof Structure	27.11	130.96	0.6700
	Adequate Wall Structure	69.53	51.25	0.2728
Housing Services	Access to Safe Drinking Water	83.83	36.21	0.1540
	Flush Toilet Facility	67.93	55.01	0.2928
	Use of Adequate Fuel	40.69	108.51	0.5761
	Electricity Connection	91.90	23.12	0.0766
	Telephone Connection (Landline or Mobile)	82.24	27.13	0.1288

*Data Source:* PSLM, 2012-13.

*Note:* Development Indicators are aggregated at the level of Primary Sampling Unit (PSUs) and thus the magnitudes would be different with the district figures which are usually mentioned in the published PSLM reports.

<sup>4</sup>Supply-side input indicators; such as mechanisation of agriculture, roads and other infrastructure, number of medical personnel etc. have also been included in the earlier research on district ranking in terms of socioeconomic development. However, this research is purely based on demand-side household information and thus attention is restricted to output indicators in terms of quality of life.

Welfare and inequality, in the health sector, may best be evaluated with the help of ultimate output indicators such as life expectancy at birth, infant and maternal mortality rates etc. However, non-availability of data has restricted the choice and the dimension of health is represented by some proxies of health status of mother and children. Polio vaccination of children under the age of five according to vaccination card or through polio campaign and the child delivery at hospitals are used to represent child health status, while three indicators are developed to assess the maternal health status; prenatal and postnatal care and the proportion of mothers who had tetanus toxoid injections during the previous pregnancy.

Income or consumption is the appropriate indicator to evaluate the standard of living of person, family or region.<sup>5</sup> Due to the relatively high non-response rate for income based measures as well as under reporting typically found in standard of living household surveys in developing countries, income data is often not preferred as a proxy for living standard over consumption data. Nonetheless in the absence of district-wise consumption<sup>6</sup> data, household income is used in this study as a relative measure of economic status. Regional income at the level of PSU or district is computed from the PSLM employment module which reports monthly or annual income of each family member of household aged 10 years and above.<sup>7</sup>

Housing conditions and access to basic social services are one of the key determinants of the quality of life. It is often argued that publicly provided services must have more equal distribution. Therefore it is of interest to include inequality in means and standards of living directly provided by government and those that are acquired by the household. To observe the inequality in housing facilities, five indicators are used, viz., access to safe drinking water (piped, hand-pump, motorised pump or tube well and covered well), flush toilet facility, use of adequate fuel (cooking gas or kerosene oil), access to electricity and telephone (landline or mobile) facility. The quality of housing stock is represented by the proportion of houses with cemented outer walls (burned bricks) and reinforced cement concrete (RCC) or reinforced brick concrete (RBC) roofing.

### **3. METHODOLOGY FOR AGGREGATING DIMENSIONS OF DEVELOPMENT**

Inequality-adjusted Socioeconomic Development Indices (ISDIs) are developed to estimate the extent of disparities among provinces and districts of Pakistan in socioeconomic development. Multidimensional measures that capture the association

<sup>5</sup>One of the non-monetary indicators of household welfare is the asset-based index which has been introduced and developed as an alternative tool for classifying household socio-economic status. This method employs data of household's assets such as durable and semi-durable goods to describe household welfare instead of using household's income or expenditure data. However, this approach is not applicable for this research as welfare indicators are aggregated here at regional level instead of classifying household economic status. For detail methodology of developing asset-based index, see Filmer and Pritchett (2001).

<sup>6</sup>Household Integrated Economic Survey (HIES) which collects information on household consumption does not provide district representative information on household consumption.

<sup>7</sup>However, it is worth to mention that the reported income might be biased downward due to the fact that the majority of the economically active population is not in a salaried remuneration but is either self-employed or work in farms or other family business. In addition, about 16 percent sample households refused to give response regarding employment activities and household income.

between various attributes can generally be derived from a two-stage aggregation approach. The approach which originally proposed by Maasoumi (1986, 1989, 1999) uses a common utility-like function (measure of well-being) to aggregate the attributes for each individual in the first stage, and a uni-variate inequality measure to aggregate the utility-like values across individuals in the second stage. As an alternate to Maasoumi's method, individuals' achievements on each attribute are aggregated first and then the resulting attribute-specific indicators are summarised over the given dimensions. The later approach forms the basis of the Inequality-adjusted Human Development Index (IHDI) of United Nations Development Programme (UNDP).<sup>8</sup>

IHDI is based on a distribution-sensitive class of composite indices proposed by Foster, Lopez-Calva, and Szekely (2005), which draws on the Atkinson (1970) family of inequality measures. It is computed as a geometric mean of geometric means, calculated across the population for each dimension separately. The IHDI accounts for inequalities in HDI dimensions by "discounting" each dimension's average value according to its level of inequality. The IHDI equals the HDI (Human Developed Index) when there is no inequality across people or across regions but falls further below the HDI as inequality rises. In this sense, the IHDI is the actual level of human development (taking into account inequality), while the HDI can be viewed as an index of the "potential" human development that could be achieved if there was no inequality. The "loss" in potential human development due to inequality is the difference between the HDI and the IHDI (UNDP-HDR, Technical Notes).<sup>9</sup>

This study follows the IHDI methodology to develop the Inequality-adjusted Socioeconomic Development Index (ISDI) for districts of Pakistan. Specific steps to estimate the ISDI are narrated below.

At step one; indicators are developed by aggregating information at the sub-district level (Primary Sampling Unit (PSU)–Villages and Urban Circles). Except income, all chosen indicators are proportions or percentages and thus have natural goalposts (minimum and maximum) in order to transform the indicators expressed in different units into indices between 0 and 1. As described in the UNDP-HDR technical notes, these goalposts act as the 'natural zones' and 'aspirational goal' respectively. However, dimension of income is adjusted with the observed minimum and maximum values of per capita income across all PSUs.

Inequality in the underlying distribution for each indicator is estimated using the Atkinson (1970) inequality measure  $A$  with the aversion parameter equal to one. Accordingly,  $A = 1 - g/\mu$ , where  $g$  is the geometric mean,  $\mu$  is the arithmetic mean of the distribution in the variable of interest ( $X$ ). Symbolically,

$$A_x = 1 - \frac{\sqrt[n]{X_1 \dots X_n}}{\bar{X}} \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (1)$$

where  $\{X_1, \dots, X_n\}$  denotes the underlying distribution in the indicator  $X$  and  $n$  refers to the number of geographical units (here PSUs).  $A$  is computed for each development indicator ( $X$ ) aggregated at PSU (sub-district) level.

<sup>8</sup>For computational detail see Alkire and Foster (2010).

<sup>9</sup>The Technical Notes of UNDP may be downloaded using the URL [http://hdr.undp.org/sites/default/files/hdr14\\_technical\\_notes.pdf](http://hdr.undp.org/sites/default/files/hdr14_technical_notes.pdf)

At the second stage, indicators are first developed by aggregating information at district level and then are adjusted for inequality in the distribution across the intra-district population. Thus, district-wise inequality adjusted indicators ( $I_x^*$ ) are obtained by multiplying district development indicators ( $I_x$ ) with  $(1-A_x)$ , where  $A_x$  is estimated through Equation 1. Accordingly,  $I_x^*$  estimates the value of indicators after adjusting potential loss due to the underlying distribution and is defined as;

$$I_x^* = (1 - A_x) * I_x \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (2)$$

Besides income, other dimensions of socioeconomic development have more than one indicator. Therefore, dimensional composite indices for education, health and housing sectors are developed at the third stage by applying the following formula of geometric mean.<sup>10</sup> Here  $k$  denotes the dimension (sector) of development, while  $n$  refers to the number of indicators in each dimension.

$$\bar{I}_k = \sqrt[n]{\prod_{i=1}^n I_{xi}^*} \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (3)$$

Thus  $\bar{I}_k$  is the  $k^{\text{th}}$  dimension composite index which represents the geometric mean of the relevant inequality-adjusted development indicators ( $I_x^*$ ).

Finally, ISDI for each district is developed by taking the geometric mean of three composite dimension ( $\bar{I}_k$ ) indices and income ( $I_{income}^*$ ) component.

$$ISDI_{(district)} = \sqrt[4]{I_{income}^* + \bar{I}_{Education} + \bar{I}_{Health} + \bar{I}_{Housing}} \quad \dots \quad \dots \quad (4)$$

District-wise ISIDs are estimated using PSLM data for the year 2012-13 to rank districts according to the level of development. Development scores represented by districts' ISDI are also used to estimate the *Gini* index (Equation 5) which is the well-known inequality index.

$$Gini = 1 - \frac{1}{N} \sum_{i=1}^N (ISID_d - ISID_{d-1}) \quad \dots \quad \dots \quad \dots \quad \dots \quad (5)$$

The *Gini* is obtained from a rank-dependent social evaluation function which attaches welfare-weights to individuals that depends on their position in the total distribution.

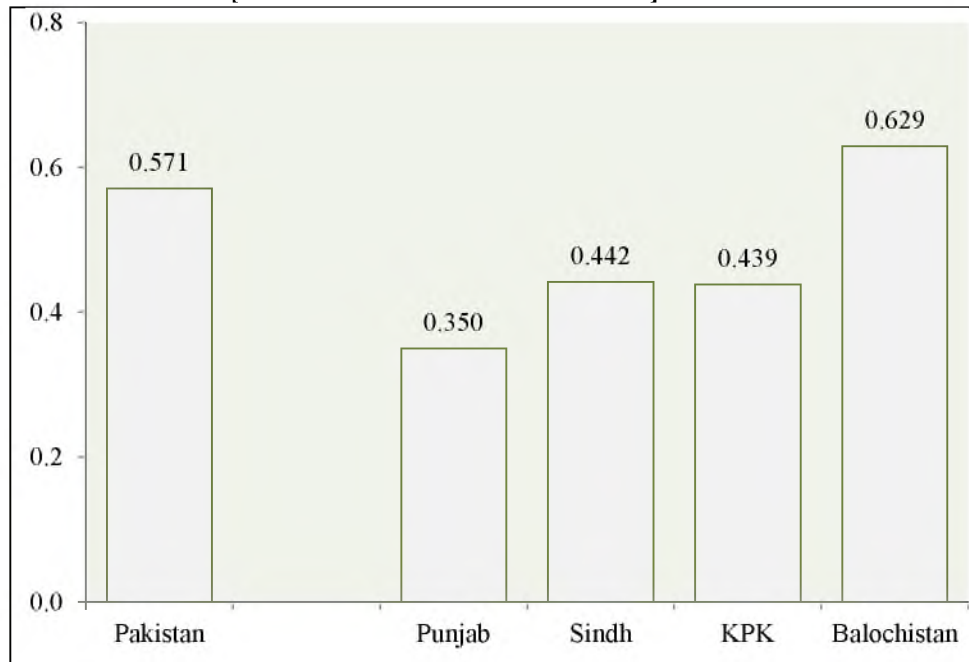
#### 4. ESTIMATES OF SPATIAL DISPARITIES IN SOCIOECONOMIC DEVELOPMENT

The estimated districts' ISIDs provide multi-dimensional development scores which represent the level of socioeconomic development in the district. These scores are used to develop rank orders and inequality levels to furnish intra and inter provincial disparities respectively in terms of development indicators considered for this analysis.

<sup>10</sup>One of the issues in the context of composite indexing is the substitutability among component indicators. However, the substitutability issue may be resolved by taking geometric mean instead of combining indicators using simple average. Although use of the geometric mean has been relatively rare in computing social statistics, starting from 2010 the UNDP Human Development Index did switch to this mode of calculation for combining component indicators of HDI and IHDI. It is argued that geometric mean better reflects the non-substitutable nature of the statistics being compiled and compared.

Figure 4.1 portrays the provincial *Gini* coefficients which reflect multidimensional provincial disparities in overall socioeconomic development. The magnitude of estimated *Gini* for overall level of development is 0.57 which is quite high and indicates severe disparities among districts of Pakistan. In terms of provinces, highest and lowest magnitudes of multidimensional *Gini* coefficients are estimated for Balochistan and Punjab provinces respectively. The estimated *Gini* for Balochistan is 0.63, while for Punjab it is 0.35, almost half of that of Balochistan. Interestingly, inequality levels in Sindh and KPK provinces as measured by *Gini* are almost equal. The high level of inequality in Sindh province indicates sharp urban-rural divide in the level of development.

**Fig. 4.1. Provincial Inequalities in Socioeconomic Development  
[Multi-Dimensional *Gini* Coefficients]**



Source: Estimated from PSLM, 2012-13 data.

The levels of provincial inequality in the dimensions of ISDI are furnished in Table 4.1. The table reveals that inequality magnitude with respect to districts' per capita income is 0.34 which is relatively low as compared with other components of ISDI. Highest income inequality is observed in KPK province, while Balochistan province has relatively more equal distribution in terms of district per capita income. The phenomenon of multi-dimensional inequality with respect to other sectors is however quite different. The table indicates that districts are significantly unequal in terms of health and housing indicators included in this analysis. The estimated *Gini* coefficients are 0.76 and 0.67 for housing and health dimensions respectively. Comparatively, level of inequality is low in the education sector, however the coefficient for Balochistan here also is quite high (0.66).

Table 4.1

*Inequalities in the Dimensions of Development*  
*[Multi-Dimensional Gini Coefficients]*

	Overall	Income	Education	Health	Housing
Pakistan	0.57	0.34	0.44	0.67	0.76
Punjab	0.35	0.28	0.17	0.48	0.63
Sindh	0.44	0.31	0.39	0.57	0.80
KPK	0.44	0.35	0.33	0.59	0.62
Balochistan	0.63	0.22	0.66	0.73	0.94

*Source:* Estimated from the data of PSLM, 2012-13.

Besides the level of provincial disparities which are depicted in the Table 4.1, the analysis of intra-provincial inequalities is also important for resource allocation and regional planning. To facilitate provincial planners and policy makers, this study provides rank order of districts according to the level of socioeconomic development as estimated by Inequality-Adjusted Socioeconomic Development Indices. The national and provincial rank orders of districts are furnished in the appendix (Tables A1 through Table A4 for districts of Punjab, Sindh, Khyber Pakhtunkhwa and Balochistan provinces respectively), while Table 4.2 is developed to show distribution of provincial population according to the level of development. For this exercise, quintiles are developed for each province after ranking of districts in terms of the magnitude of ISDI.

Table 4.2

*Population Distribution According to the Level of Development - Quintiles of ISDI*

	Provincial Population Residing in Development Quintiles				
	Lowest	—————→			Highest
	One	Two	Three	Four	Five
Punjab	0	2	15	33	50
Sindh	3	35	22	5	35
KPK	4	14	20	40	22
Balochistan	57	29	14	0	0

*Source:* Estimated from the data of PSLM, 2012-13.

As expected, about 57 percent of the population of Balochistan resides in districts which fall in the lowest development quintile. Incidentally, no district of the province including the capital city has succeeded to have a place in the upper two quintiles. In contrast, more than 80 percent of the population of Punjab resides in top two (fourth and fifth quintiles) and only 2 percent resided in the lowest two quintiles. The population of KPK is distributed in quintiles with 4, 14, 20, 40 and 22 percentages and thus the province reflects relatively less lopsided nature of socioeconomic development. Conversely, the Sindh province reflects the case of extreme division of population, where about 35 percent population resides in the second and fifth quintiles each.



As this study is the first attempt in the context of Pakistan which uses the parameters of intra-districts inequality to adjust the development indicators of districts, it would be interesting to investigate how this inequality adjustment affects the development rank order? Tables 4.3 and 4.4 are developed to show the changes in rank order due to intra-district inequality. These tables furnish adjusted and unadjusted ranking of top and bottom 25 districts of Pakistan respectively.

Due to the intra-district inequality, the significant decline in rank order among the top districts is observed in Karachi, Jehlum, Chakwal and Quetta districts, while improvement in ranks are evident for districts Hafizabad, Sheikupura, Malalkand and Okara. According to earlier research on development ranking, Karachi always dominated with the first or second position on the top. Table 4.3 also confirms its top position after Islamabad according to the unadjusted ranking. However after adjusting inequality in the district; its rank position deteriorated by pushing it 15 ranks behind. Similarly, inequality in Quetta district affected its rank order and pushed it 25 ranks behind. The position of Islamabad however remained the same in both scenarios mainly due to large difference in the magnitude of development score between Islamabad and succeeding districts (Table A1, Appendix).

Table 4.3

*Effect of Intra-District Inequality on Development Ranking*  
*[Top 25 Districts according to Unadjusted Development Ranking]*

Province	Districts	Development Rank Order		Change in Ranks
		Intra-District Inequality [Unadjusted]	Intra-District Inequality [Adjusted]	
Punjab	Hafizabad	90	105	15
Punjab	Chiniot	91	92	1
Punjab	T.T Singh	92	99	7
Balochistan	Quetta	93	68	-25
Punjab	Okara	94	102	8
KPK	Malakand	95	104	9
KPK	peshawar	96	96	0
Punjab	Nankana Sahib	97	100	3
Punjab	Sheikhupura	98	106	8
Punjab	Sahiwal	99	95	-4
KPK	Abbottabad	100	97	-3
KPK	Haripur	101	108	7
Sindh	Hyderabad	102	94	-8
Punjab	Sialkot	103	107	4
Punjab	Attock	104	103	-1
Punjab	Chakwal	105	83	-22
Punjab	Faisalabad	106	101	-5
Punjab	Mandi Bahauddin	107	109	2
Punjab	Gujranwala	108	112	4
Punjab	Jehlum	109	93	-16
Punjab	Gujrat	110	113	3
Punjab	Rawalpindi	111	110	-1
Punjab	Lahore	112	111	-1
Sindh	Karachi	113	98	-15
Punjab	Islamabad	114	114	0

Source: Estimated from the data of PSLM, 2012-13.

Table 4.4

*Effect of Intra-District Inequality on Development Ranking  
[Bottom 25 Districts according to Unadjusted Development Ranking]*

Province	Districts	Development Rank Order		Change in Ranks
		Intra-District Inequality [Unadjusted]	Intra-District Inequality [Adjusted]	
Balochistan	Musa Khel	1	1	0
Balochistan	Washuk	2	9	7
KPK	Torgarh	3	4	1
Balochistan	Awaran	4	15	11
Balochistan	Kohlu	5	2	-3
Balochistan	Dera Bugti	6	3	-3
KPK	Kohistan	7	5	-2
Balochistan	Sheani	8	12	4
KPK	Tank	9	26	17
Balochistan	Qilla Abdullah	10	21	11
KPK	D.I.Khan	11	34	23
KPK	Shangla	12	32	20
Sindh	Tharparkar	13	27	14
Balochistan	Loralai	14	19	5
Balochistan	Jhal Magsi	15	25	10
Balochistan	Chaghi	16	11	-5
Balochistan	Zhob	17	8	-9
Sindh	Kashmore	18	45	27
Sindh	Ümer Kot	19	31	12
Balochistan	Qilla Saifullah	20	7	-13
Balochistan	Bolan/Kachhi	21	6	-15
KPK	Upper Dir	22	28	6
Balochistan	Barkhan	23	14	-9
Balochistan	Harnai	24	13	-11
Balochistan	Jaffarabad	25	30	5

*Source:* Estimated from the data of PSLM, 2012-13.

## 5. CONCLUDING REMARKS

This research facilitates policy makers, regional planners and politicians by providing a single composite index from household survey data to evaluate relative position of districts of Pakistan in terms of socioeconomic development. Provincial multidimensional *Gini* coefficients and district development rank orders are presented to enlighten the nature and extent of inter and intra provincial disparities in Pakistan.

Besides income, various development indicators in the dimensions of education, health and housing are developed from the district representative household data of Pakistan Social and Living-Standard Measurement Survey for the year 2012-13. These indicators are used to develop Inequality-adjusted Socioeconomic Development Index (ISDI) for districts of Pakistan using the methodology of Inequality-adjusted Human Development Index of UNDP.

The study finds quite a high magnitude of estimated multidimensional *Gini* for overall level of development which reflects severe disparities among districts of Pakistan. In terms of provinces, highest and lowest magnitudes of *Gini* coefficients are estimated for Balochistan and Punjab provinces respectively. The high level of inequality in Sindh province indicates sharp urban-rural divide in the level of development.

Provincial population is distributed in development quintiles which are classified according to the level of development of districts. The exercise reveals that more than half of the population of Balochistan resides in districts which fall in the lowest development quintile. Incidentally, no district of the province including the capital city has succeeded to have a place in the upper two quintiles. In contrast, more than 80 percent of the population of Punjab resides in top two (fourth and fifth quintiles) and only 2 percent resided in the lowest two quintiles. The distribution of population of KPK reflects relatively less lopsided nature of socioeconomic development, while extreme division of population is found in case of Sindh province.

This study is the first attempt in the context of Pakistan which uses the parameters of intra-districts inequality to adjust the district development indicators. This adjustment significantly affects the development rank orders of districts. According to earlier research on development ranking in Pakistan, Karachi always dominated with the first or second position on the top. However after adjusting inequality in the district; its rank position deteriorated by pushing it 14 ranks behind. Similarly, inequality in Quetta district affected its rank order and pushed it 30 ranks behind.

The findings of this research would facilitate policy makers and development experts by identifying regions and areas which are lagging behind; making decisions on regional and sectoral priorities, facilitating targeted public interventions; and helping federal and provincial governments in determining financial awards.

## APPENDIX

Table A1

*Intra-Provincial Disparities in Socioeconomic Development – Punjab Province*  
*[Lowest to Highest Development Rank Order]*

Districts	Development Score [ISDI]	Development Index	Rank Order	
			Provincial [1-37]	National [1-114]
Rajapur	1.570	3.92	1	36
D.G Khan	2.811	7.03	2	48
Rahim Yar Khan	3.957	9.89	3	55
Muzaffar Garh	5.524	13.82	4	62
Bhakar	5.561	13.91	5	64
Lodhrean	6.050	15.13	6	66
Layyah	6.083	15.22	7	67
Jhang	6.622	16.57	8	69
Khushab	6.723	16.82	9	70
Bahawalpur	7.093	17.75	10	71
Bhawanagar	7.730	19.34	11	76
Narowal	8.259	20.66	12	78
Khanewal	8.361	20.92	13	80
Chakwal	9.270	23.19	14	83
Multan	9.781	24.47	15	84
Vehari	9.867	24.69	16	85
Mianwali	10.092	25.25	17	87
Kasur	11.039	27.62	18	88
Sargodha	11.166	27.94	19	89
Pakpattan	11.291	28.25	20	90
Chiniot	11.556	28.91	21	92
Jhelum	12.365	30.94	22	93
Sahiwal	13.096	32.77	23	95
T.T Singh	14.923	37.34	24	99
Nankana Sahib	15.168	37.95	25	100
Faisalabad	15.190	38.01	26	101
Okara	15.363	38.44	27	102
Attock	16.422	41.09	28	103
Hafizabad	18.046	45.16	29	105
Sheikhupura	19.475	48.73	30	106
Sialkot	20.722	51.85	31	107
Mandi Bahauddin	26.627	66.63	32	109
Rawalpindi	26.815	67.10	33	110
Lahore	30.258	75.72	34	111
Gujranwala	31.229	78.15	35	112
Gujrat	33.569	84.01	36	113
Islamabad	39.959	100.00	37	114

*Source:* Estimated from the data of PSLM, 2012-13.

**Table A2**  
*Intra-Provincial Disparities in Socioeconomic Development – Sindh Province*  
*[Lowest to Highest Development Rank Order]*

Districts	Development Score [ISDI]	Development Index	Rank Order	
			Provincial [1-37]	National [1-114]
Thatta	0.437	1.09	1	22
Tharparkar	0.661	1.65	2	27
Ümer Kot	1.061	2.65	3	31
Mir pur khas	1.511	3.77	4	35
Shahdadkot	1.645	4.11	5	37
Khairpur	1.859	4.64	6	39
Ghotki	1.975	4.94	7	40
Shiokarpur	2.044	5.11	8	41
Jaccobabad	2.102	5.25	9	42
Baddin	2.206	5.51	10	43
Kashmore	2.426	6.07	11	45
Nawabsha	2.463	6.16	12	46
Dadu	2.496	6.24	13	47
Nowshero Feroze	3.057	7.64	14	50
Sanghar	3.238	8.10	15	51
Jamshoro	3.822	9.56	16	53
Tando Mohd Khan	3.966	9.92	17	56
Tando Allah Yar	4.504	11.27	18	58
Sukkur	5.542	13.86	19	63
Larkana	7.605	19.03	20	75
Mitiari	8.462	21.17	21	81
Hyderabad	13.026	32.59	22	94
Karachi	14.783	36.99	23	98

Source: Estimated from the data of PSLM, 2012-13

**Table A3**  
*Intra-Provincial Disparities in Socioeconomic Development – Khyber Pakhtunkhwa Province*  
*[Lowest to Highest Development Rank Order]*

Districts	Development Score [ISDI]	Development Index	Rank Order	
			Provincial [1-37]	National [1-114]
Torgarh	0.036	0.08	1	4
Kohistan	0.039	0.09	2	5
Tank	0.621	1.55	3	26
Upper Dir	0.738	1.84	4	28
Shangla	1.305	3.26	5	32
D.I.Khan	1.322	3.30	6	34
Chitral	3.040	7.60	7	49
Lakki Marwat	3.908	9.77	8	54
bannu	4.452	11.14	9	57
Karak	4.592	11.49	10	59
Hangu	5.050	12.63	11	60
Swabi	5.375	13.45	12	61
Bonair	5.705	14.27	13	65
Mardan	7.226	18.08	14	72
Kohat	7.239	18.11	15	73
Lower Dir	7.518	18.81	16	74
Charsada	7.815	19.55	17	77
Manshera	8.338	20.86	18	79
Batagram	8.623	21.57	19	82
Swat	9.949	24.89	20	86
Nowsehra	11.384	28.48	21	91
Peshawar	13.462	33.69	22	96
Abbottabad	13.888	34.75	23	97
Malakand	17.472	43.72	24	104
Haripur	23.629	59.13	25	108

Source: Estimated from the data of PSLM, 2012-13.

Table A4

*Intra-Provincial Disparities in Socioeconomic Development – Balochistan Province  
[Lowest to Highest Development Rank Order]*

Districts	Development Score [ISDI]	Development Index	Rank Order	
			Provincial [1-37]	National [1-114]
Musa Khel	0.003	0.00	1	1
Kohlu	0.008	0.01	2	2
Dera Bugti	0.008	0.01	3	3
Bolan/Kachhi	0.078	0.19	4	6
Qilla Saifullah	0.155	0.38	5	7
Zhob	0.158	0.39	6	8
Washuk	0.198	0.49	7	9
Kharan	0.223	0.55	8	10
Chaghi	0.231	0.57	9	11
Sheani	0.239	0.59	10	12
Harnai	0.253	0.63	11	13
Barkhan	0.296	0.73	12	14
Awaran	0.298	0.74	13	15
Nasirabad	0.311	0.77	14	16
Keych/Turbat	0.331	0.82	15	17
Khuzdar	0.360	0.89	16	18
Loralai	0.371	0.92	17	19
Nauski	0.401	1.00	18	20
Qilla Abdullah	0.409	1.01	19	21
Lasbella	0.499	1.24	20	23
Ziarat	0.539	1.34	21	24
Jhal Magsi	0.614	1.53	22	25
Kalat	0.863	2.15	23	29
Jaffarabad	0.940	2.35	24	30
Pashin	1.308	3.27	25	33
Sibbi	1.673	4.18	26	38
Gawadar	2.363	5.91	27	44
Mastung	3.421	8.55	28	52
Quetta	6.127	15.33	29	68

Source: Estimated from the data of PSLM, 2012-13.

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