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Development Analysis of Pakistan Districts

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Abstract

Development ranking is used to measure the level of development of an area. This paper analyses the measured level of development at the district level of Pakistan to show which districts are comparatively more developed and which are lagging behind. The current study has ranked all the districts of Pakistan in terms of development on multidimensional indicators by using the Pakistan Social and Living-Standard Measurement (PSLM) survey for the year 2019-20. The study has produced nineteen indicators relating to human resources and living standards and then ranked the 126 districts of Pakistan's development. The study has also used the parameters of intra-district inequality to adjust the district development indicators in order to investigate whether progress on the development indicators is distributed equitably or not. Such adjustment with inequality has significantly changed the development rank orders of districts, and many districts lost their positions on the development raking, though some of them went up and down in the ranking. The paper highlights the bottlenecks to development at the district level and identifies areas that require further exploration for the welfare of the people. Further, the paper findings will help policymakers in targeting the resources towards the areas where they are highly needed.

Keywords: Inequality adjusted socioeconomic development index, development ranking, Pakistan.

Introduction

In reference to the paper's context, development is defined as raising people's living levels and improving a country's economic and social

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conditions.[1] Development is the process of improving the quality of all human lives, their incomes and consumption levels of food, medical services, education etc. Through inclusive and its relevant economic growth process, creating conditions conductive to the growth of people's self-esteem through the establishment of social, political, and economic systems and institutions that promote human dignity and respect. Increasing people's freedom by enlarging the range of their choice varieties of consumer goods and services.[2] More precisely, the development ranking refers to improvements in way of managing an area's natural and human resources for the people. In order to create income, wealth and improve people's lives, it is now recognized that development is a complex process, which involves basic social and political changes in a society as well as growth in per capita income. Economic development is the process by which emerging economies become advanced economies etc. Previous studies on spatial disparities in Pakistan have shown that there are notable variations in the standard of living among residents of various areas and regions of the country. The supply-side data used in the previous study came from a number of sources. Moreover, the study creates socioeconomic variables from a single demand-side data source by conducting a large household's survey. The 2019-20 Pakistan Social & Living Standard Measurement (PSLM) survey is used in this study to generate multivariate development variables. 176,790 households participated in the district representative survey, which is carried out in four provinces of Pakistan. The study has produced nineteen indicators relating to human resources and living standards and ranked the 126 districts of Pakistan.

The objective of the paper is to analyse development ranking of Pakistan districts. The technique used involves modifying the multidimensional inequalities in the indicators to rank the districts in Pakistan.

The paper hypothesis is to see the inequalities effect on the districts, ranking of Pakistan by using the popular methodology of United Nations Development Program.

Regarding findings, this research is the first in Pakistan to modify district development metrics based on intra-district disparity features. Estimates indicates the top and bottom 31 districts in Pakistan, ranked both unadjusted and adjusted. Islamabad and Rawalpindi were the most developed districts in Pakistan after adjusting inequality in the

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1 Michael P. Todaro & Stephen C. Smith, *Economic Development* (Patparganj: Pearson Education 2004)

2 *Ibid*., 20.

district; its rank position is same; Rawalpindi district is near to Federal capital and may be the spillover effect helps Rawalpindi in its ranking. According to previous research on development ranking, Karachi was considered as a single district. Unlike previous work this study made ranking for each district of Karachi. The delimitation process is carried out by the Election Commission of Pakistan (ECP) in accordance with the Election Act 2017. Karachi East, Karachi South, and Korangi districts show a notable fall in district rank order as a result of intra-district inequality. Subsequent to the adjustment of disparity among the districts of Karachi, Korangi's rank position declined, falling 48 ranks below Karachi East 31, Karachi South 21, and so on. After adjusted intra district inequality, there is improvement in the rank of the following districts of Punjab and KPK; Swabi, Charsada, Khushab, Pakpathan, Vehari, Mianwali, Lower Dir, Jhang, Kasur, Swat, Bahawalpur, Chiniot, Bhakhar,Bunair, Hangu, Bannu, and Nowshero Feroze. Majority of the Punjab and Khyber Pakhtunkhwa districts fall in second quartile. Punjab is Pakistan's most populous province, and its resources are not allocated equitably. As a result, some districts have better access to education, healthcare, and infrastructure than others. Majority of the districts of Balochistan and Khyber Pakhtunkhwa fall in fourth quartile. According to the exercise, almost 50% of the people living in Balochistan and Khyber Pakhtunkhwa are in districts that are in the lowest development quartile. Strangely, not a single district in the province of Balochistan—not even the capital city has managed to rank in the top quartile.

On the basis of finding and its conclusions, the paper suggests that to give government institutions with local governments more power and the ability to plan development projects, manage resources, and make choices based on local requirements. In order to enhance literacy, health outcomes, give priority to healthcare and education programs in districts that are falling behind. To create long-term jobs, promote local economic diversification, foster entrepreneurship, and make investments in agricultural and other profitable industries.

Literature review

Previous studies on Pakistan's development rankings indicated that people living in various regions and parts of the country experienced very diverse standards of living. Firstly, Helbock and Naqvi (1976) have attempted to establish a districts development ranking of Pakistan in 1960’s (unpublished paper). The first published study, attempted to quantify the volume of progress obtained by each district in Pakistan. In the paper, forty-six districts of Pakistan have been ranked based on their degree of development. The research found that the top 25% of the

population reside in six districts, which include all of the province capitals and the nation's federal capital, are deemed to be relatively developed, while 17 districts were discovered to be at an intermediate (semi) level of development. The bottom quartile is made up of 23 districts, indicate the profile of backwardness is primarily characterized by a poor housing stock, low access to municipal services like water and electricity, and relatively low standards of provision for health, education (particularly at the secondary and college levels), and transportation (especially metal roads), according to analysis of the magnitude of the development indicators in the relatively underdeveloped areas.[3] Another study's main goal was to identify some of the significant underlying phenomena and examine how regional development patterns are changing at the time. Ten districts from Sindh have been ranked based on their degree of development. The size of the Z-Sum and Taxonomic Distance for the 10 districts of Sindh included in the study for 1971–1972 and 1980–1981. The ranks of the most and least developed districts seem to be remarkably stable. The study's conclusion identifies priority areas, in the province's underdeveloped regions where future resource allocation may be necessary. It suggests that the nature, scope, and context of development policies need to be thoroughly reexamined.[4] To see the considerable changes in Pakistan districts development rank ordering, a study has used eleven indicators relating to the education, health, and water supply sectors to rank districts of Pakistan in terms of the level of social development. Additionally, it aims to clarify why social infrastructure development in different districts varies depending on the region. Furthermore, the rankings show a strong spatial association between Pakistan's levels of social and economic development. The degree of urbanization, the district's administrative development (the site of the provincial office), and the district's geographical and economic significance (shown by the existence of a sea port) are additional significant factors that influence regional differences in the degree of social development. In general, Punjab seems to have the better socioeconomic development, followed by Balochistan, Sindh, and NWFP (KPK). Nonetheless, the findings show that the degree of social development varies significantly throughout districts within a province. The province's least developed districts are designated as the focus of

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3 Hafiz Abdul Pasha & Tariq Hasan, 'Development Ranking of Districts of Paksitan', *Pakistan Journal of Applied Economics*, 1:2 (1982), 181-82.

4 Haroon Jamal & Salman Malik, 'Shifting Patterns in Developmental Rank Ordering: A Case Study of the Districts of Sind Province', *The Pakistan Development Review*, xxvii:2 (Summer 1988), 165-70.

special development allocations.[5] Regarding the displaying numerous deprivation indices based on information from the 1998 Population and Housing Census. Such exercise may be used to determine areas of need, decide on regional and sectorial priorities, facilitate targeted public interventions through unique programs for reducing poverty, comprehend the connection between poverty and its causes, and assist the federal and provincial governments in making financial decisions. Also, this study's primary goal was to convey the overall picture of multifaceted deprivation using a combination of sectoral indices for education, health, housing quality, housing services, and employment. Indicators chosen for this analysis can be used to compare populations that are deprived between districts, within provinces, and across provinces using the overall Index of Multiple Deprivation.[6] For human development concerning attention to changes in the human development status of Pakistan districts between 1998 and 2005. District HDIs, estimated for both eras, will show current trends in regional disparities in economic development as well as in the state of districts' education and health. The findings will help district governments plan and allocate resources in the future. This study utilized the HDI concept at the district level and estimated district HDIs for the years 1998 and 2005. The results can be used to benchmark and profile a district's growth in terms of economic development as well as in terms of education and health.[7] Moreover, a study based on the comparable set of variables and districts covered by Census 1998 and the Core Welfare Indicator Questionnaire (CWIQ) 2004–05, to provide an update on the social progress of districts. Data for the years 1998 and 2004-05 on an equal number of indicators with the same definitions allowed the study to determine which districts experienced the greatest growth or dynamic change, as well as those that fell behind or experienced a decline in standing. Five of the ten districts moving the fastest are part of the NWFP (KPK); three are in Sindh province, which includes Balochistan and the remaining districts. Out of the 10 districts whose WFS was lower in 2005 than it was in 1998, 5 are in Balochistan, 3 are in Punjab, and Mirpurkhas and

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5 Aisha Ghaus, et.al, 'Social Development Ranking of Districts of Pakistan', *The Pakistan Development Review*, 35:4 (Winter 1996), 608.

6 Haroon Jamal, Amir Jahan khan, Imran Ashrif Toor and Naveed Amir, 'Mapping the Spatial Deprivation of Pakistan', *The Pakistan Development Review*, 42:2 (2003), 92-100.

7 Haroon Jamal and Amir Jahan khan, 'Trends in Regional Human Development Indices', *Social Policy and Development (SPDC)*, Research Report 73 (2007), 9-10.

Jacobabad are in Sindh.[8] To discovers the level of development of Pakistan districts by using the most recent past data available about 33 indicators. This paper results show large disparities in the degree of development between districts and within provinces. The level of development varies greatly between districts in each of Pakistan's four provinces, according to the findings, each province has both developed and underdeveloped areas. In the lowest quartile of the national population, nearly 43 districts are regarded as being backward. Among them, fifteen are in the NWFP (now KPK), twelve are in Baluchistan, ten are in Sindh, and six are in the Punjab region.[9] In contrasts of objective indices of human welfare with subjective views of wellbeing. The PSLM for the years 2006–2007 provided the data for the analysis. Education, health, living conditions, and the economic situation are the four areas in which human welfare is considered. For indexing human welfare over 100 districts, five quintiles are constructed using principal component analysis. The findings show a significant difference in the objective state of wellbeing among Pakistani areas. It might be argued that disparities in subjective impressions and objective conditions accurately reflect inequalities in wellbeing. The investigation shows that around 68 percent of the variation in human wellbeing may be attributed to both objective and subjective markers of wellbeing.[10] To search the gaps and inequalities between Punjab's districts. A study compared all of Punjab's districts and ranked them according to the social development index using the Multiple Indicator Cluster Survey data set from 2007–2008.This study determined that the top five districts are Lahore, Sialkot, Gujranwala, Gujrat, and Narowal by using the factor analysis method. Rajanpur, in contrast, comes in last in terms of social development. R.Y. Khan and Bahawalnagar are the third and fourth most impoverished districts in Punjab, respectively, whereas D.G. Khan is the second-least fortunate district.[11] Ranking the human wellbeing in 100

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8 Sajjad Akhtar and M. Naeem Sarwar, 'Social Development and Quality of Living in Districts of Pakistan Comparative Ranking between 1998 and 2004-05', *Discussion paper series 16*, November (2007), 24-25.

9 Syed Ashraf Wasti and Minhaj Uddin Siddiqui, 'Development Rank Ordering of Districts of Pakistan: Revisited', *Pakistan Journal of Applied Economics*, 18:1&2 (2008), 20-22.

10 Rashida Haq, 'Measuring Human Wellbeing in Pakistan: Objective Versus Subjective Indicators', *European Journal of Social Sciences*, 9:3 (2009), 13-14. Retrieved from https://mpra.ub.uni-muenchen.de/38968.

11 Masood Sarwar Awan, Muhammad Amir Aslam and Muhammad Waqas, 'Social Development Disparities among Districts of Punjab', *International*

districts of Pakistan using both objective and subjective quality of life indicators. This study relies on household data from the 2006–2007 Pakistan Social and Living Standards Measurement Survey. It also highlighted the importance of education, health, and living conditions in assessing human wellbeing. Its finds that objective indicators like literacy rates and gender equality, along with economic status, significantly impact wellbeing. There is notable variation in wellbeing across districts in Pakistan. The study argues for combining objective and subjective measures to better understand and improve quality of life and inform policy decisions.[12] To assess poverty and its various aspects, the study looks into how socio-demographic factors affect the happiness index, with a focus on measuring subjective wellbeing. The data reveals details on general well-being in terms of how content a household is with its current socioeconomic situation. The principal inputs consist of: first, they make a connection between the newly growing discipline of the economics of happiness and development studies, specifically with regard to Pakistan's rural areas. Second, aim to refute the standard nominal (either absolute or relative) income metric's assumption that poverty is solely a macro-level problem. The paper shows that examining the problem at a smaller scale enables a richer analysis and more unique ideas.[13] More recently has an effort to describe the scope and characteristics of regional inequality in socioeconomic growth. The PSLM survey's district representative household data for the years 2012–13 was used to produce 17 indicators relating to human resources and living standards. The study discovered that the predicted multidimensional Gini coefficient for the overall level of development is fairly high, reflecting stark differences among Pakistan districts. This also creates socio economic indicators by utilizing a large home survey and a single demand-side source of data. The research used the PSLM survey (2012–2013) to create multidimensional development indicators. Note that with a small margin of sampling error, the PSLM, a district representative survey that includes more than Seventy five thousand households in 4 provinces of Pakistan, is statistically equivalent to

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Greener Journal, 2012, 9. Retrieved from https://mpra.ub.uni-muenchen.de/36846.

12 Rashida Haq and Uzma Zai, 'Multidimensional Wellbeing: An Index of Quality of Life in a Developing Economy', *Social Indicators Research*, Vol. 114 (2013), 18.

13 Khadija Shams, 'Determinants of Subjective Well-being and Poverty in Rural Pakistan: A Micro-level Study', *Social Indicators Research*, 119:3 (2014), 16.

Census data.[14] Another study has examined the evolution of social (health and education) inequality in Pakistan between 2005 and 2015 at the inter- and intra-regional levels. To assess the spatial dimensions of inequality at the provincial and rural-urban levels, the coefficient of variation and decomposition of the Theil inequality index are utilized. The overall results show significant regional and interprovincial disparities in the health and education sectors. The breakdown of educational inequality shows progress at the provincial level. Education disparities between rural and urban populations are greater. According to the Theil Index results, women's health inequality has decreased over the decentralization era. The magnitude of child health disparity demonstrates that there is discrepancy at the provincial and rural-urban levels. Even throughout the decentralization phase, this issue still exists. Even if the provincial situation regarding diarrhea treatment has improved, there are still significant gaps in the inequality levels of the rural and urban populations. The provincial and rural-urban levels of within- and between-group inequality show a consistent and declining degree of education and health inequality.[15] To examined the Quality of Life (QOL) and wellbeing in thirteen districts that comprise the bulk of the people in the Pakistan province of Khyber Pakhtunkhwa. The research used an integrative methodology to assess the quality of life. Multidimensionality was dealt with via principal component analysis, based on social variables selected in several life domains, weighted factor scores were used as an index for comparing QOL and wellbeing. The advantages of traditional social networks, reduced traffic, and cleaner environments are also present in these regions. At the peripheral level, there appears to be evidence of improved quality of life and wellbeing. These are locations where rural habitat expansion and urban sprawl coexist; they combine both rural and urban areas. Here, the economic, social, and environmental strains of direct urban living are lessened since it is easier to access the urban services that flow over from the city, such as communication and infrastructure networks. This might be an intriguing and novel approach to the problem of urbanization and rural-to-urban migration. The ‘best of both worlds’ phenomenon allows policymakers to concentrate on the peripheral existence that provides a

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14 Haroon Jamal, ‘Spatial Disparities in Socioeconomic Development: The Case of Pakistan’, *The Pakistan Development Review*, 2016, 421-22.

15 Summerina Wasim and Kashif Munir, ‘Regional Disparity and Decentralization in Pakistan: A Decomposition Analysis’, *Munich Personal RePEc Archive (MPRA)*, 2017, 47-48. Retrieved from https://mpra.ub.uni-muenchen.de/83444.

higher quality of life. With a few exceptions, the ranking of rural and urban areas also follows similar trends.[16] To assess the temporal dynamics of development disparity at various spatial scales within a city region. Utilizing Reilly's law of gravitational modelling to establish the case study, the Lahore City Region of Pakistan is investigated using the core-periphery model. To assess the level of growth in the city region, a comparison study has been done over three time periods (2002, 2007, and 2012). In order to create a composite index with fifteen variables covering the infrastructure and socioeconomic sectors, datasets from national databases were extracted. To comprehend the levels of disparity and their connections, panel data regression, t-tests, and the coefficient of variation were used. The findings indicate that Lahore has an impact on 70 sub-districts, of which 21 are urban, 19 are peri-urban, and 30 are rural. Statistics have shown that there have been considerable changes in development over time, particularly in the infrastructure sector. Results demonstrate that a city or region's infrastructure development affects its socioeconomic development. In order to assess and mitigate inequities for balanced regional development, this work as specifically focused on evaluating development disparities at different spatial scales.[17]

Methodology and Measurement

As concerned statistical techniques for composite indicators: Mostly in the case of development ranking of Pakistan, three statistical approaches are frequently used. The districts are ranked according to their level of development by using the estimated numerical values of these indices. For the estimation, first one is Taxonomic Distance, the concept of taxonomic distance is used for the purpose of ranking of countries, territorial units, provinces, and districts on the basis of selected indicators. Second is Z-SUM, which is based on the normalization of each indicator, and the third Weighted Factor Scores (WFS) is based on Principal Component Analysis (PCA) of the indicators, this last one is latest technique for the purpose.

For such an objective, the researchers have used the computation of inequality-Adjusted - Socioeconomic - Development - Indices (ISDI).

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16 Danish Wadud Alam and Amjad Amin, 'Quality of Life and Well-being Ranking of Selected Districts of Khyber Pakhtunkhwa, Pakistan', *Social Indicators Research*, 137 (2018).

17 Irfan Ahmed Rana, Jayant K. Routray and Zahid Irshad Youns, 'Spatiotemporal Dynamics of Development Inequalities in Lahore City Region', 11-12. Retrieved from https://doi.org/10.1016/j.cities.2019.102418.

This study creates the ISDI for Pakistan districts by using the Inequality-Adjusted Human Development Index (IHDI) approach. The method serves as the foundation for the United Nations Development Program's (UNDP) Inequality-adjusted Human Development Index (IHDI). The following defines particular stages to estimation of the ISDI.

In the first step, data is aggregated at the sub-districts level {Primary Sampling Unit (PSU)} to create indicators. Income and all of the selected variables are magnitudes or proportions, and as such, they naturally have minimum and maximum values. This allows for the conversion of the variables represented in various units into indices ranging from 0 to 1. According to the UNDP report about human development (HDR) 'technical notes', these benchmarks serve as the 'ordinary zones' and the 'motivated goal', in that order. The experiential lowest and highest per capita income for each PSU is used to adjust the income dimension.

With the aversion parameter set to one, Consequently, A is equal to one – geometric mean/arithmetic mean of the distribution in the variable of interest (X).[18] In a symbolic sense:

$$A_x = 1 - \frac{\sqrt[n]{X_1,\ldots,X_n}}{\bar{X}}$$

……(1)

Where n is the number of PSUs and {X1,..., Xn} indicates the primary dissemination in the indicator X. Every indicators (X) collected at the PSU level has an associated value, denoted A.

In the second stage, district-level information is initially aggregated to create indicators, which are subsequently modified to account for distribution imbalances within the district. District development indicators (I_x) are multiplied by ($1-A_x$), 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:

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

Other aspects of socioeconomic development, such as income, have multiple indicators. In this case, n stands for the numbers of indicators in each dimension, and k stands for the sectors of development:

[18] United Nation Development Report, 2021-22, 1-6. https://hdr.undp.org/sites/default/files/2021-22_HDR/hdr2021-22_technical_notes.pdf.

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

Hence, $\bar{I}_k$ is the composite index for the kth dimension, signifying the GM of the applicable inequality-adjusted development indicators (I_x^*).

In the final stage, the ISDI for every district is created by calculating the geometric mean of the income (I_{Income}^*) component and the three composite dimensions ($\bar{I}_k$) indices:

$$ISDI_{district} = \sqrt[4]{I_{Income}^* + \bar{I}_{Educations} + \bar{I}_{Health} + \bar{I}_{Housing}} \quad \ldots\ldots\ldots (4)$$

District-wise PSLM data for 2019–20 is used to estimate ISIDs, which rank districts based on their degree of development.[19]

Data and Data Source

The study employs a 2019–20 PSLM survey to create development indicators. PSLM is a districts representative survey, is conducted in four provinces of Pakistan and covers 176,790 households. Nineteen variables linked to humans and standards of living are ranked for each of Pakistan's 126 districts based on district representative household data from the 2019-20 PSLM survey. In more detail, development indicators that have been included in this research to analyze disparities and inequality relate to human resources and standards of living. Nineteen indicators are developed from the district representative household data of the PSLM Survey for the year 2019-20. A brief description of the selected welfare attributes is given in Table 1.

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19 Alijan Dilwash, 'Poverty in Pakistan', *Daily Parliament Times*, 21 October 2020. Retrieved from https://www.dailyparliamenttimes.com/2020/10/21/poverty-in-balochistan/#:~:text=A%20report%20of%20Development%20Policy,and%20illiteracy%20in%20the%20province.

Table No 1: Development Indicators

HUMAN RESOURCES		**LIVING STANDARD**	
Education		**Income**	
1	Adult literacy rate-male	1	Average income per capita
2	Adult literacy Rate-Female	2	Access to Bank Account
3	Enrollment in 5-24 year in cohort- boys	3	Access to Internet
4	Enrollment in 5-24 year in cohort-girls		
Child Health		**Housing Quality**	
1	Immunization of Polio	1	Adequate Roof Structure
2	Child Delivery at Hospital/Nursing Home	2	Adequate Wall Structure
Maternal Health		**Housing Services**	
1	Parental Care	1	Access to Save Drinking Water
2	Postnatal Care	2	Flush Toilet Facility
3	Had Tetanus Injection	3	Use of Adequate Fuel
		4	Electricity Connection
		5	Telephone Availability

Source: Pakistan Social and Living Measurement Survey, 2019-2020.

Table 1 has shown development indicators in which including two dimensions first is human resources and second is living standards. In human resources included indicators Education, Child health and Maternal Health. Whereas indicators exist in living standards included Income, Housing Quality and Housing Services. 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.

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. 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 data, household income, internet at home, bank facilities at home, is used in this study as a relative measure of economic status. Regional income at the level of PSU or district is computed form the PSLM employment module which reports monthly or annual income of each family member of household aged 10 years and above.

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.

Result and Discussion

In this section, the district development ranking 2020 has been presented. The estimated districts development values show the levels of social and economic development in the districts. These values are utilized to provide intra-district variations in terms of the development indicators taken into consideration for this analysis, as well as rank orders and inequality levels.

These tables show the top and bottom 31 districts in Pakistan, ranked both unadjusted and adjusted.

Table No 2: Top 31 Districts Development Ranking

District	Province	Development rank order		Change in Rank
		Intra-District Inequality [Unadjusted] RHDI	Intra-District Inequality [Adjusted] RIHDI	
Islamabad	Federal	1	1	0
Rawalpindi	Punjab	2	2	0
Haripur	KPK	3	9	6
Abbottabad	KPK	4	4	0
Chakwal	Punjab	5	7	2
Attock	Punjab	6	3	-3
Sialkot	Punjab	7	8	1
Jehlum	Punjab	8	5	-3
Lahore	Punjab	9	10	1
Gujrat	Punjab	10	13	3
Gujranwala	Punjab	11	6	-5
Karachi East	Sindh	12	43	31
Narowal	Punjab	13	11	-2
Karachi South	Sindh	14	35	21
Mandi Bahauddin	Punjab	15	18	3
Sheikhupura	Punjab	16	21	5
Peshawar	KPK	17	16	-1
Korangi	Sindh	18	66	48
Mardan	KPK	19	12	-7
Nowshera	KPK	20	17	-3
Sargodha	Punjab	21	19	-2
Okara	Punjab	22	28	6
Faisalabad	Punjab	23	27	4
Mansehra	KPK	24	26	2
Layyah	Punjab	25	14	-11
Sahiwal	Punjab	26	25	-1
Hafizabad	Punjab	27	23	-4
T.T. Singh	Punjab	28	20	-8
Malakand	KPK	29	15	-14
Hyderabad	Sindh	30	47	17
Multan	Punjab	31	40	9

Source: Estimated by author from the data of PSLM, 2019-20.

The table 2 shows that the Islamabad and Rawalpindi were the most developed districts in Pakistan after adjusting inequality in the district; its rank position is same, Rawalpindi district is near to Federal capital and may be the spillover effect help Rawalpindi in its ranking. People in these districts are well off because they have improved housing, water supply, sanitary facilities, and elementary and secondary schools. Haripur district is at third position in development. Haripur district is bounded by Mardan district on the northwest, Abbottabad district is in the northeast, Margalla Hills range is in the in the southeast, Swat valley is in the northwest, and Buniar and Swabi districts are in the west. Islamabad is in the south of district. The government has also made significant investments in education and healthcare in Haripur district which unadjusted rank was 6. Even the literacy rate in the district has increased from 60% in 2010 to 75% in 2020. The number of children enrolled in schools has also increased significantly. The government has also constructed a number of new schools and hospitals in the district. The government has invested heavily in the development of infrastructure in Haripur district. This includes the construction of new roads, bridges, schools, and hospitals. For example, the government has recently completed the construction of a new 400-bed hospital in Haripur city.[20] After adjusting inequality in the districts, it is ranked at 9.

The significantly declining rank position of top districts is observed in Karachi East, Karachi South, Korangi, Hyderabad, and Multan districts, while improvement in ranks is evident for districts Abbottabad, Attock, Jehlum, Gujranwala, Narowal, Peshawar, Mardan, Nowshera, Sargodha, Layyah, Hafizabad, Toba Tek Singh, and Malakand districts.

According to previous research on development ranking, as in those studies, Karachi was considered as one district. Unlike previous work, this study made ranking for each district of Karachi. This pushed some districts below ten top districts: Karachi East 12, Karachi South 14, and Karangi 31. The delimitation process is carried out by the Election Commission of Pakistan (ECP) in accordance with the Election Act 2017. The significant decline in rank order among the districts is observed in Karachi East, Karachi South, Korangi districts. On the other hand, after adjusting the districts of Karachi; its rank position declined by pushing it Karachi East 31, Karachi South 21, Korangi has very huge difference 48 ranks behind. Korangi lacks basic infrastructure such as roads, water supply, and drainage, poor health facilities and standard of

[20] Provincial Disaster Management Authority (PDMA). https://www.pdma.gob.pk/about-us/balochistan-profile

both public and private schools is also low. This has hampered the development of the area. Hyderabad district was at 30th position and moved to 47th after intra-district inequality adjustment. The reason is that a large proportion of the population in Hyderabad is uneducated and unskilled (PSLM 2019-20).[21] In Hyderabad due to skewed income distribution and widespread poverty, the inclusive development plan looks a far cry. The government of Sindh should pay attention to above-mentioned issues and take concrete actions.

[21] Pakistan Social and Living Standard Measurement, report 2019-20.

Table No 3: Upper-middle Districts Development Ranking

Districts	Province	Development rank order		Change in Rank
		Intra-District Inequality	Intra-District Inequality	
		[Unadjusted]	[Adjusted]	
		RHDI	RIHDI	
Swabi	KPK	32	22	-10
Karachi Central	Sindh	33	49	16
Charsada	KPK	34	24	-10
Khushab	Punjab	35	29	-6
Nankana Sahib	Punjab	36	36	0
Karachi West	Sindh	37	59	22
Pakpattan	Punjab	38	32	-6
Vehari	Punjab	39	30	-9
Mianwali	Punjab	40	33	-7
Lower Dir	KPK	41	34	-7
Jhang	Punjab	42	31	-11
Kasur	Punjab	43	38	-5
Swat	KPK	44	39	-5
Bahawalnagar	Punjab	45	44	-1
Khanewal	Punjab	46	45	-1
Sukkur	Sindh	47	65	18
Bahawalpur	Punjab	48	41	-7
Karachi Malir	Sindh	49	94	45
Lodhran	Punjab	50	42	-8
Chiniot	Punjab	51	37	-14
Nushki	Balochistan	52	53	1
Rahim Yar Khan	Punjab	53	51	-2
Karak	KPK	54	80	26
Bhakhar	Punjab	55	46	-9
Quetta	Balochistan	56	61	5
Dadu	Sindh	57	71	14
Kohlu	Balochistan	58	57	-1
Kohat	KPK	59	56	-3
Bunair	KPK	60	48	-12
Hangu	KPK	61	52	-9
Bannu	KPK	62	50	-12
Nowshero Feroze	Sindh	63	54	-9

Source: Estimated by author from the data of PSLM, 2019-20.

Swabi district, which is on the west of Haripur falls in second quartile and ranks 32, moved 10 points up in IHDI ranking. The districts of Karachi Central, Karachi West, Sukkur, Karachi Malir, Karak, and Dadu stand at 33, 37, 47, 49, 54, and 57, respectively, on the HDI ranking. These districts have moved further down in IHDI, with Karachi Central 16, Karachi West 22, Sukkur 18, Karachi Malir 45, Karak 26, and Dadu 14 rank points. After adjusted intra-district inequality, there is improvement in the rank of the following districts of Punjab and KPK: Swabi, Charsada, Khushab, Pakpathan, Vehari, Mianwali, Lower Dir, Jhang, Kasur, Swat, Bahawalpur, Chiniot, Bhakhar, Bunair, Hangu, Bannu, and Nowshero Feroze. The majority of the Punjab and Khyber Pakhtunkhwa districts fall in the second quartile.

Punjab is Pakistan's most populous province. Within the province resources are not planned equitably. As a result, some districts have better access to education, healthcare, and infrastructure than others. Many districts in Punjab remain highly reliant on agriculture, which is vulnerable to shocks like drought and flooding. Because of this lack of industrialization, employment creation and economic growth in these areas have been limited. Poor governance has plagued some districts in Punjab, creating a climate that is not conducive to development.

KPK has difficult terrain in terms of access as it is mostly mountainous. This makes infrastructure construction and maintenance challenging, which may hinder progress. Terrorism and insurgency have plagued KPK for many years. This has created an unstable climate, discouraged investment and made public service delivery difficult. KPK's economy activity is relatively small, with limited output, opportunities of work and employment etc. This has resulted in migration from the province, further depleting its resources.

Table No 4: Lower-middle Districts Development Ranking

Districts	Province	Development rank order		Change in Rank
		Intra-District Inequality [Unadjusted] RHDI	Intra-District Inequality [Adjusted] RIHDI	
Batagram	KPK	64	60	-4
Larkana	Sindh	65	81	16
Pishin	Balochistan	66	76	10
Muzaffar Garh	Punjab	67	69	2
Upper Dir	KPK	68	62	-6
Lakki Marwat	KPK	69	55	-14
Shaheed Banazir Abad	Sindh	70	67	-3
Sanghar	Sindh	71	68	-3
D. G. Khan	Punjab	72	73	1
Matiari	Sindh	73	72	-1
Khairpur	Sindh	74	74	0
Chitral	KPK	75	58	-17
Jamshoro	Sindh	76	88	12
Loralai	Balochistan	77	84	7
Khyber	KPK	78	64	-14
Ghotki	Sindh	79	89	10
Tank	KPK	80	86	6
Jacobabad	Sindh	81	77	-4
Shangla	KPK	82	63	-19
D. I. Khan	KPK	83	99	16
Orakzai	KPK	84	70	-14
Kurram	KPK	85	87	2
Rajanpur	Punjab	86	82	-4
Gwadar	Balochistan	87	79	-8
Lasbela	Balochistan	88	96	8
Sohbatpur	Balochistan	89	75	-14
Kashmore	Sindh	90	85	-5
Shahdadkot	Sindh	91	102	11
Sibbi	Balochistan	92	95	3
Tando Allah Yar	Sindh	93	90	-3
Shikarpur	Sindh	94	92	-2
Kharan	Balochistan	95	78	-17

Source: Estimated by author from the data of PSLM, 2019-20.

Table 4 shows that there is variation in development rank order between the unadjusted and adjusted RHDI. When intra-district inequality is considered, the Batagram district in Khyber Pakhtunkhwa improves from 64 to 60. On the other hand, the Sindh district of Larkana falls from 65 to 81 because of the insufficient allocation, improper district planning, and

district-level local government not equally distributing the opportunities and available funds, etc.

The table further shows that there is significant variation in development rank order among districts within the same provinces. In Punjab, for example, Muzaffar Garh district ranks 67, and after adjusted inequality its rank was 69, and Sheikhapura district was 16, and after adjusted inequality its rank was 21. Similarly, Multan's rank was 31 and after adjusted inequality rank was 40, D G Khan district ranked 72 and after adjusted inequality ranked was 73, Faisalabad district rank was 23 and after adjusted inequality rank was 27 and Lahore district's rank was 9 and after adjusting inequality, it ranked was 10. Policymakers and development practitioners will find the table useful. It can be used to identify districts in need of targeted human development initiatives.

Table No 5: Bottom 31 Districts Development Ranking

Districts	Province	Development rank order		Change in Rank
		Intra-District Inequality	Intra-District Inequality	
		[Unadjusted]	[Adjusted]	
		RHDI	RIHDI	
Kech/Turbat	Balochistan	96	93	-3
Mir Pur Khas	Sindh	97	101	4
Jaffarabad	Balochistan	98	100	2
North Waziristan	KPK	99	83	-16
Nasirabad/ Tamboo	Balochistan	100	103	3
Duki	Balochistan	101	91	-10
Umer Kot	Sindh	102	98	-4
South Waziristan	KPK	103	108	5
Bajur	KPK	104	97	-7
Mastung	Balochistan	105	115	10
Thatta	Sindh	106	114	8
Washuk	Balochistan	107	118	11
Tor Garh	KPK	108	104	-4
Qilla Saifullah	Balochistan	109	105	-4
Mohmand	KPK	110	106	-4
Tando Muhammad Khan	Sindh	111	112	1
Barkhan	Balochistan	112	107	-5
Sujawal	Sindh	113	116	3
Kachhi/ Bolan	Balochistan	114	109	-5
Badin	Sindh	115	117	2
Harnai	Balochistan	116	110	-6
Ziarat	Balochistan	117	111	-6
Kalat	Balochistan	118	122	4
Qilla Abdullah	Balochistan	119	120	1
Sherani	Balochistan	120	113	-7
Awaran	Balochistan	121	119	-2
Tharparkar	Sindh	122	121	-1
Dera Bugti	Balochistan	123	123	0
Kohistan	KPK	124	124	0
Khuzdar	Balochistan	125	126	1
Shaheed Sikandar Abad	Balochistan	126	125	-1

Source: Estimated by author from the data of PSLM, 2019-20.

Majority of the districts of Balochistan and Khyber Pakhtunkhwa fall in fourth quartile. Ironically no district of the province Balochistan including the capital city in the top quartile.

According to the Asian Development Bank's report 2022, Baluchistan has the lowest rates of access to fundamental services in Pakistan, including food, shelter, education, healthcare, clean water, gas,

and sanitation. Baluchistan's poverty rate is believed to be around 50%, substantially higher than the national average of 25%. Baluchistan's unemployment rate is likewise high, with an estimated 15% of the labour force unemployed. Area-wise Baluchistan is the largest province. The economy of Baluchistan is heavily dependent on agriculture and cattle, both of which are sensitive to climate change and other shocks. In addition, the province has a small industrial sector, which limits job options. Baluchistan suffers from a substantial infrastructure deficit, with inadequate roads, bridges, and power supplies. This makes it difficult for businesses to operate and for people to obtain necessary services for better wellbeing.[22]

Kohistan is a rural area in the Hindu Kush mountains range. Because of the challenging terrain, infrastructure such as roads and bridges are difficult and expensive to construct and maintain. This makes it difficult for people in Kohistan to gain access to key services and markets. Kohistan is one of KPK's poorest districts. According to an Asian Development Bank report for 2022, the poverty rate in Kohistan is predicted to be approximately 70%. This is far more than the national average of 25%. Kohistan has a history of ineffective governance. Corruption, mismanagement, and a lack of transparency in the development process have resulted in this misery. This has made it difficult to properly implement development programs.[20'22] Conflict and instability have previously afflicted Kohistan. This has resulted in infrastructure destruction and population displacement. As a result, the government has found it difficult to provide critical services and engage in development initiatives. Shaheed Sikandrabad and Khuzdar are in the rural southern part of Balochistan. In Khuzdar and Shaheed Sikandrabad, only 30% of families have access to electricity, and only 20% have access to clean water, according to an Asian Development Bank report, 2022. Shaheed Sikandrabad has a 35% literacy rate, while Khuzdar has a 45% rate. Compared to the 62% national average literacy rate, this is much lower.[23]

These districts also have a limited number of hospitals and schools, which makes it challenging for residents to get access to high-quality healthcare and education. Shaheed Sikandrabad and Khuzdar are two of Pakistan's poorest districts. The Pakistan Bureau of Statistics reports that as of 2021, Khuzdar has a 70% poverty rate and Shaheed Sikandrabad has a 65% poverty rate. Compared to the 43% national

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22 Asian Development Bank report for 2022: http://www.adb.org

23 *Ibid*.

average poverty rate, this is far higher.[24] The literacy and education levels in Pakistan's underdeveloped areas are often low, as seen by low school enrolment rates and lower female literacy rates than male literacy rates.

The findings support the theory that there is an inverse relationship between poverty and well-being, with urban places having lower levels of deprivation overall and in particular in the areas of health, education, and food security, making them locations with higher relative well-being.

Conclusion and Recommendations

The paper concludes by highlighting the bottlenecks to development at district level and identifying areas that need further exploration for the welfare of the people. Further, the paper findings will help policymakers target the resources towards the areas where they are highly needed.

In this paper, the development levels of different districts of Pakistan have been measured by applying the methodology of the United Nations Development Program (UNDP) to select socio-economic development indicators. Besides income, a number of development indicators related to housing, health, and education are derived using district-representative household data from the Pakistan 'PSLM' Survey for the year 2019-20 applied. Using the UNDP's inequality-adjusted human development index methodology, these indicators have been used to create the Inequality-adjusted Socioeconomic Development Index (ISDI) for Pakistan districts.

The PSLM survey for the year 2019-20 is used in this study to develop multidimensional development indicators. PSLM is a district representative survey that covers 176,790 households across four provinces of Pakistan. The PSLM survey's district representative households' data for the years 2019–20 was used to produce nineteen indicators relating to human resources and living standards and rank the 126 districts of Pakistan.

The findings demonstrate that there are significant differences in economic development between and within districts of Pakistan, as well as across different areas. The district ranking reveals that the majority of Punjab districts have a top quartile, which includes some districts of Sindh and Khyber Pakhtunkhwa districts, while the intermediate level of development has a has a second and third quartile, in which fall most of Sindh and KPK districts. The majority of urban and his neighbourhood areas of Punjab, Sindh, and KPK districts are located on these quartiles.

[24] Pakistan Bureau of Statistics reports, 2021.

Most of the districts of Balochistan and KPK fall in the fourth quartile. Ironically, no district of the province of Balochistan, including the capital city, has succeeded in having a place in the top quartile.

Policy recommendation

The paper recommends following:

- The government must create initiatives that especially address the problems that affect districts that are behind schedule. These initiatives should concentrate on areas like at the first level quality of life measures, welfare standards, and provision of basic needs, while at the second level education, vocation, skill, health and health care, water management, infrastructure provision, and social service accessibility, etc.
- In order to enhance literacy, health outcomes, and job-based skill development, give priority to healthcare and education programs in districts that are falling behind.
- To create long-term jobs, promote local economic diversification, foster entrepreneurship, and make investments in agricultural and other profitable industries.
- To improve accessibility and promote economic activity, connect rural communities to communication networks, energy infrastructure, and transportation networks. Enforce strong anti-corruption policies, encourage public involvement, and guarantee openness in the distribution of resources and project execution.
- Make use of data and information to pinpoint particular issues and monitor development in areas that are falling behind, enabling focused interventions and modifications to policy strategies.
- Encourage collaborations between local communities, businesses, civil society organizations, and government agencies to pool resources and skills for successful development projects.