Inequality in the Literacy Levels in Pakistan: Existence and Changes Overtime

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This paper attempts to identify the areas that are still lagging behind other parts of the country in terms of literacy levels and are unable to play their role in the development of human capital of the country. The analyses indicate that more than 75 per cent of the districts in the country are under-represented in terms of literacy levels. This includes a large portion of Balochistan province. A large proportion of the literate population is concentrated in the national and provincial capitals. In general, Sindh lags behind in case of rural areas and NWFP in case of females. The analyses also indicate that the areas that are backward in terms of economic development are also those with low levels of literacy. Balochistan is the province that needs the greatest attention. An encouraging sign is the general decline in disparities in literacy levels over time. Moreover, the least literate areas have shown a significant improvement over time. However, a lot of work needs to be put into these areas for them to come at par with other parts of the country.

(JEL Classification: J 24) **Keywords:** Pakistan, Literacy Levels, Inequality, Representation, Growth, Ranking, Census.

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1. Introduction

In recent years, there has been an increasing awareness in the developing countries about the importance of human resource policy in economic development efforts. However, in many developing countries, there are few actual policies aimed at developing these resources. A major reason for this neglect is the long-term nature of investments in human resources. As a result, such issues have been set aside in favour of attending to more pressing day-to-day problems. However, it is precisely for their positive impact in the longer run that human resources issues need to be addressed.

Perhaps the most important indicators of human development are the literacy rate and general education level of the population. Education not only increases awareness and understanding of the need for hygiene, proper nutrition and health care, it also raises productivity or the capacity to earn as it also helps in the optimal utilization of the technological advances which are highly sophisticated in nature. Thus, developing human capabilities by imparting knowledge and training is important not only in its own right but also for the overall economic growth.

Literacy rates and educational attainments in Pakistan are one of the lowest even among the developing economies. The figures in Table 1 clearly show Pakistan's falling behind its South Asian neighbours in terms of literacy levels. Partly due to rapid population growth and partly because of the low priority accorded to the education sector, Pakistan's performance in building its human capital is far from satisfactory. Moreover, there are vast disparities across the regions. Areas like Islamabad, Lahore and Karachi are quite well off, whereas Rajanpur, Tharparkar, Thatta, Kohistan, Kohlu, etc., are among the deprived regions. Such disparities cause problems in the social and economic development of the country.

TABLE 1
Literacy Rates in South Asian Countries (2001)

Countries	*Literacy Rates (%)*
Bangladesh	40.6
Bhutan	47.0
India	58.0
Maldives	97.0
Nepal	42.9
Pakistan	44.0
Sri Lanka	91.9
South Asia	56.3
Developing Countries	74.5

Source: Human Development Report 2003.

The purpose of this study is to document the disparities with respect to an important indicator of human capital, the literacy levels, across the regions of the country. In particular, the objectives are to highlight these inequalities as also to trace the trends of these inequalities over time. This will enable us to know whether there has been an increase or decrease in disparities across regions over the years.

Study of disparities is important because of many reasons: (*a*) it helps in designing policies to reduced inequalities/disparities so as to enhance the development of human capital and ultimately the economic growth of the country: (*b*) to identify the potential of important groups/subgroups of the population, which are under-utilized. This paper attempts to identify the areas that are backward in terms of literacy levels, and are thus unable to play a role in the development of human capital of the country.

The remainder of the paper is organized as follows. The next section discusses the data sources and explains the methodology used to measure disparities. Section 3 reports the results regarding inequalities across regions as well as in terms of gender and urban–rural areas. Section 4 provides the evidence regarding the improvements in literacy levels over time. The final section contains the conclusions.

2. Data Sources and Methodology

The analysis is conducted using the district level information for Census years of 1981 and 1998. The primary data source is the Census Reports published by the Population Census Organization, Statistics Division. The disparities are examined, following Heyneman (1979), with the help of the Representation Indices and Gini coefficients.

2.1 Representation Index

The Representation Index (RI) shows the degree of representation of a particular group or area with respect to some standardized level. For example, in terms of the literacy level, a district can be under- or over-represented relative to the national level. Specifically, for any district,

$$RI_i = \frac{(L_i/L)}{(P_i/P)}$$

Where

L = total literates,
P = total population,
L_i = literates in district i,
P_i = population in district i.

$$\text{In other words, } RI = \frac{\text{Per cent of literates in district i}}{\text{Per cent of population in district i}}$$

2.2 Gini Coefficients

The Gini coefficient is a single statistic that summarizes relative inequality across all groups or areas. Based on Lorenz curves, the coefficient is calculated as:

$$G = 1 - \sum_{i=1}^{n} P_i(L_i + L_{i+1})$$

where P_i is the population share of the ith group and L_i is the cumulated share of literates of the same group. The possible range of Gini coefficient is from 0 to 1, representing absolute equality to complete inequality.[1]

3. Literacy Levels in Pakistan

The current literacy rates (10 years and above), based on the 1998 census reports, by gender, urban–rural and provinces are given in Table 2.

TABLE 2
Literacy Levels in Pakistan (1998) (%)

	Total	*Male*	*Female*	*Urban*	*Rural*
Pakistan	43.9	54.8	32.0	63.1	33.6
Punjab	46.6	57.2	35.1	64.5	38.0
Sindh	45.3	54.5	34.8	63.7	25.7
NWFP	35.4	51.4	18.8	54.3	31.3
Balochistan	24.8	34.0	14.1	46.9	17.5

Source: National and Provincial Census Reports (1998).

Table 2 shows that in Pakistan 44 per cent of those in the age group 10 and above are literates. Further, 55 per cent of male and 32 per cent of female population is literates. The urban–rural distribution is 63 per cent and 34 per cent literates respectively. The provincial literacy rates indicate that there is no significant difference between Punjab and Sindh on account of gender or urban basis. The rural Sindh, however, lags behind even rural NWFP. In fact, Sindh shows the highest urban–rural differential. Similarly, the males in NWFP are at par with Punjab and Sindh but females lag behind indicating the highest gender differentials in NWFP. Balochistan occupies the last position among the four provinces on both the gender and urban–rural scales.

The disparities in literacy levels are more evident in Table 3, which shows the literacy levels by districts. The table also shows the RI indicating the relative position of a district as well as the Gini coefficient measuring inequality. It can

[1] See Heyneman (1979) for details.

TABLE 3
Literacy Rates and Representation Indexes by Districts (%)

Districts	*Population*	*Literates*	*Rates*	*RI*	*Districts*	*Population*	*Literates*	*Rates*	*RI*
Musakhel	85,092	8,827	10.37	0.236	Larkana	1,252,652	437,763	34.95	0.796
Kohistan	309,161	34,242	11.08	0.252	Bahawal Nagar	1,442,734	505,915	35.07	0.798
Dera Bugti	115,461	13,542	11.73	0.267	Bahawalpur	1,669,900	586,013	35.09	0.799
Kohlu	69,274	8,416	12.15	0.277	Khairpur	1,013,970	359,995	35.50	0.808
Jhal Magsi	72,453	8,897	12.28	0.280	Dadu	1,147,858	408,191	35.56	0.810
Nasirabad	162,036	20,567	12.69	0.289	Mirpurkhas	614,648	221,113	35.97	0.819
Shangla	283,462	41,761	14.73	0.335	Swabi	691,387	249,119	36.03	0.820
Awaran	77,628	11,480	14.79	0.337	Kasur	1,636,911	592,718	36.21	0.824
Kharan	135,204	20,349	15.05	0.343	Mansehra	795,795	289,019	36.32	0.827
Barkhan	69,118	10,828	15.67	0.357	Mardan	978,436	356,667	36.45	0.830
Bolan	194,143	30,556	15.74	0.358	Vehari	1,459,846	537,075	36.79	0.838
K. Abdullah	236,841	38,133	16.10	0.367	Jhang	2,005,431	744,360	37.12	0.845
Zhob	172,061	28,854	16.77	0.382	Okara	1,567,723	592,414	37.79	0.860
Khuzdar	274,781	47,964	17.46	0.397	Layyah	758,745	293,448	38.68	0.881
K. Saifullah	121,329	21,297	17.55	0.400	Naushero Feroze	723,023	282,978	39.14	0.891
Batgram	203,455	37,252	18.31	0.417	Malakand	294,322	116,259	39.50	0.899
Tharparkar	581,435	106,527	18.32	0.417	Khanewal	1,446,249	577,677	39.94	0.909
Jaffarabad	285,454	52,828	18.51	0.421	Chitral	206,077	83,046	40.30	0.918
Kalat	153,657	30,512	19.86	0.452	Khushab	649,889	263,174	40.50	0.922
Loralai	203,843	41,729	20.47	0.466	Hafizabad	593,650	241,851	40.74	0.928
Ranjanpur	705,856	146,346	20.73	0.472	Peshawar	1,371,539	573,167	41.79	0.951
Upper Dir	361,912	76,761	21.21	0.483	Karak	275,183	115,352	41.92	0.954
Thatta	753,262	166,738	22.14	0.504	Nowshera	603,518	256,475	42.50	0.968
Lasbela	215,914	48,139	22.30	0.508	Mianwali	736,114	314,785	42.76	0.974
Buner	326,348	73,814	22.62	0.515	Multan	2,171,293	941,901	43.38	0.988
Jacobabad	923,696	218,584	23.66	0.539	Sheikhupura	2,328,710	1,019,497	43.78	0.997
Badin	759,932	187,190	24.63	0.561	Sahiwal	1,320,152	579,511	43.90	0.999

Table 3 continued

Table 3 continued

Districts	*Population*	*Literates*	*Rates*	*RI*	*Districts*	*Population*	*Literates*	*Rates*	*RI*
Umerkot	437,684	108,672	24.83	0.565	Kohat	383,008	168,750	44.06	1.003
Gwadar	124,543	31,715	25.47	0.580	Hyderabad	2,034,609	900,242	44.25	1.007
Sibi	125,911	32,073	25.47	0.580	Sargodha	1,905,976	882,488	46.30	1.054
Tank	153,841	40,382	26.25	0.598	Sukkur	619,342	288,749	46.62	1.062
Chaghi	132,279	35,704	26.99	0.615	Mandi Bahauddin	834,187	395,726	47.44	1.080
Kecchi	268,196	73,768	27.51	0.626	Attock	935,858	461,079	49.27	1.122
Mastung	110,240	30,400	27.58	0.628	Toba Tek Singh	1,163,197	587,430	50.50	1.150
Muzaffergarh	1,714,036	487,710	28.45	0.648	Faisalabad	3,912,969	2,032,227	51.94	1.182
Swat	825,686	237,382	28.75	0.655	Narowal	879,853	463,211	52.65	1.199
Ghotki	634,003	183,922	29.01	0.661	Malir	700,813	375,381	53.56	1.220
Laki Marwat	309,289	91,891	29.71	0.676	Haripur	498,533	267,796	53.72	1.223
Lodhran	788,357	235,713	29.90	0.681	Karachi West	1,520,232	851,880	56.04	1.276
Lower Dir	447,248	133,733	29.90	0.681	Gujranwala	2,415,264	1,365,754	56.55	1.287
Hangu	203,546	62,084	30.50	0.694	Abbottabad	630,494	356,924	56.61	1.289
D.G. Khan	1,057,694	323,781	30.61	0.697	Chakwal	800,162	453,886	56.72	1.292
Sanghar	976,778	301,552	30.87	0.703	Quetta	538,354	307,238	57.07	1.299
Charsadda	681,602	212,016	31.11	0.708	Sialkot	1,946,396	1,146,766	58.92	1.341
Pishin	228,341	71,110	31.14	0.709	Gujrat	1,487,214	924,764	62.18	1.416
D.I. Khan	566,123	177,056	31.28	0.712	Jhelum	686,955	439,075	63.92	1.455
Panjgur	138,589	43,449	31.35	0.714	Lahore	4,671,687	3,020,834	64.66	1.472
Shikarpur	577,920	184,566	31.94	0.727	Karachi South	1,341,151	906,508	67.59	1.539
Bannu	433,783	139,297	32.11	0.731	Rawalpindi	2,506,079	1,765,454	70.45	1.604
R.Y. Khan	2,089,979	691,563	33.09	0.753	Islamabad	603,613	436,905	72.38	1.648
Nawabshah	719,715	245,627	34.13	0.777	Karachi East	2,080,800	1,521,206	73.11	1.665
Bhakkar	724,629	247,618	34.17	0.778	Karachi Central	1,741,160	1,323,266	76.00	1.730
Ziarat	21,768	7,475	34.34	0.782					
Pakpattan	900,891	312,582	34.70	0.790		Gini (Inequality)			0.191

Source: District Census Reports, 1998.

be seen that the literacy rates vary from as low as 10.4 per cent in Musakhel, Balochistan to a high of 76 per cent in Karachi Central, Sindh. The RIs indicate that 81 of 106 districts or 76.4 per cent are underrepresented areas in terms of the literacy level as compared to the national norm. About one-fourth of the districts can be regarded as above average; Rawalpindi, Islamabad, and the east and central parts of Karachi are among the most literate areas with the literacy rates exceeding 70 per cent in these areas.

The underrepresented areas in terms of literate population are further classified into three categories. The areas representing less than 50 per cent of the national norm, between 50 and 70 per cent, and between 70 and 100 per cent can be classified as the highly, the moderate, and the underdeveloped areas in terms of literacy rates. Table 4 shows this classification.

TABLE 4
Underrepresented Areas by Classification

	Underrepresentation			*Overrepresentation*	
	< 50	*50–70*	*70–100*	*> 100*	
Pakistan	22 (100)	20 (100)	39 (100)	25 (100)	
Punjab	1 (4.5)	3 (15.0)	17 (43.6)	14 (56.0)	
Sindh	1 (4.5)	5 (25.0)	8 (20.5)	7 (28.0)	
NWFP	4 (18.2)	6 (30.0)	11 (28.2)	3 (12.0)	
Balochistan	16 (72.7)	6 (30.0)	3 (7.7)	1 (0.04)	
	Percentage Distribution				
Punjab	1 (2.9)	3 (8.6)	17 (48.6)	14 (40.0)	35 (100)
Sindh	1 (4.8)	5 (23.8)	8 (38.1)	7 (33.3)	21 (100)
NWFP	4 (16.6)	6 (25.0)	11 (45.8)	3 (12.5)	24 (100)
Balochistan	16 (61.5)	6 (23.1)	3 (11.5)	1 (3.8)	26 (100)

Note: Figures in parentheses show percentages.

Table 4 shows that 22 of 81 underrepresented districts, or 21 per cent, are highly underdeveloped areas of which 16 (about 73 per cent of the highly underdeveloped areas) belong to the Balochistan province. On the contrary, of the 25 overrepresented districts, 14, or 56 per cent, belong to the Punjab whereas only one district, Quetta, belongs to Balochistan. Similarly, the table shows that of the 26 districts in Balochistan, 16 districts, or 61.5 per cent are highly underdeveloped whereas 2.9 per cent of 35 districts in the Punjab come under this category. On the other hand, 40 per cent of the districts in the Punjab are overrepresented whereas 3.8 per cent of Balochistan belongs to this category.

The representation indices and Gini coefficients at provincial levels as well as at gender and urban–rural levels are summarized in Table 5. The table indicates that the proportion of underrepresented districts is thus, Punjab, 62.9 per cent, in Sindh, 71.4 per cent, in NWFP, 54.2 per cent, and in Balochistan 65.4 per cent. Moreover, one district (Rajanpur) in the Punjab, two districts (Tharparkar and Thatta) in Sindh, two districts (Kohistan and Shangla) in NWFP, and four

districts (Musakhel, Dera Bugti, Kohlu, and Jhal Magsi) in Balochistan, are highly underdeveloped areas relative to others in the respected provinces.

TABLE 5
Representation Indexes and Ginis (1998)

	Underrepresentation			*Overrepresentation*	
	< 50	*50–70*	*70–100*	*>100*	*Ginis*
Overall					
Pakistan	22 (20.8)	20 (18.9)	39 (36.8)	25 (23.6)	0.191
Punjab	1 (2.9)	3 (8.6)	18 (51.4)	13 (37.1)	0.151
Sindh	2 (9.5)	5 (23.8)	8 (38.1)	6 (28.6)	0.223
NWFP	2 (8.3)	3 (12.5)	8 (33.3)	11 (45.8)	0.154
Balochistan	4 (15.4)	7 (26.9)	6 (23.1)	9 (34.6)	0.266
Male					
Pakistan	15 (14.2)	18 (17.0)	42 (39.6)	31 (29.2)	0.139
Punjab	0 (0.00)	1 (2.9)	18 (51.4)	16 (45.7)	0.111
Sindh	0 (0.00)	5 (23.8)	10 (47.6)	6 (28.6)	0.152
NWFP	2 (8.3)	1 (4.2)	10 (41.7)	11 (45.8)	0.126
Balochistan	1 (3.8)	9 (4.6)	7 (26.9)	9 (34.6)	0.225
Female					
Pakistan	43 (40.6)	21 (19.8)	17 (16.0)	25 (23.6)	0.301
Punjab	4 (11.4)	11 (31.4)	8 (22.9)	12 (34.3)	0.229
Sindh	6 (28.6)	7 (33.3)	2 (9.5)	6 (28.6)	0.348
NWFP	6 (25.0)	4 (16.7)	6 (25.0)	8 (33.3)	0.263
Balochistan	11 (42.3)	5 (19.2)	5 (19.2)	5 (19.2)	0.391
Urban					
Pakistan	7 (6.9)	16 (15.8)	54 (53.5)	24 (23.8)	0.082
Punjab	0 (0.0)	0 (0.0)	24 (68.6)	11 (31.4)	0.061
Sindh	0 (0.0)	1 (4.8)	17 (81.0)	3 (14.3)	0.083
NWFP	0 (0.0)	0 (0.0)	12 (60.0)	8 (40.0)	0.094
Balochistan	2 (8.0)	6 (24.0)	11 (44.0)	6 (24.0)	0.177
Rural					
Pakistan	22 (21.4)	12 (11.7)	34 (33.0)	35 (34.0)	0.192
Punjab	1 (2.9)	3 (8.6)	14 (40.0)	17 (48.6)	0.159
Sindh	0 (0.0)	2 (11.1)	8 (44.4)	8 (44.4)	0.139
NWFP	2 (8.3)	2 (8.3)	10 (41.7)	10 (41.7)	0.163
Balochistan	0 (0.0)	6 (23.1)	12 (46.2)	8 (30.8)	0.214

Source: Census Reports, 1998.

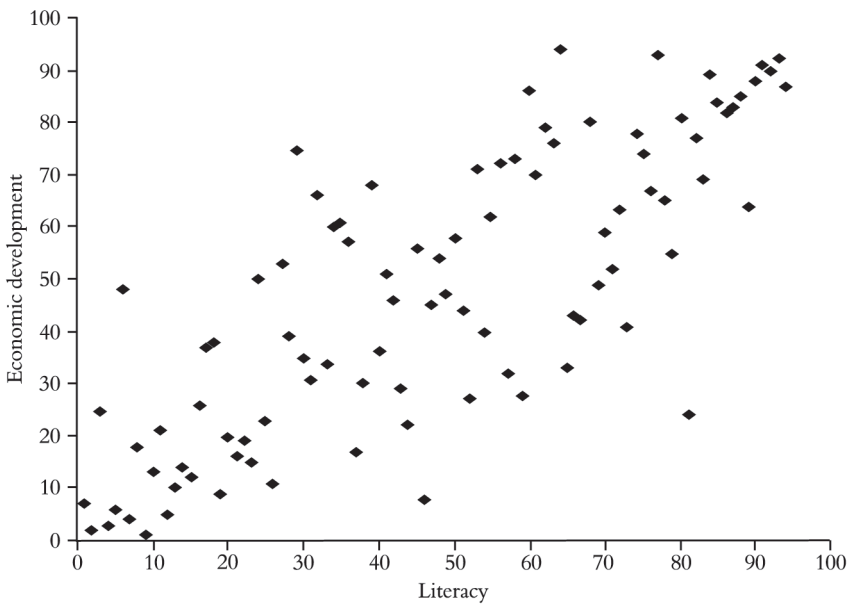
The Gini coefficients show highest inequalities in literacy levels in Balochistan followed by Sindh. The coefficients also indicate that the inequalities are more pronounced, as expected, in the case of females and in the case of rural areas. The highest coefficients are observed in the case of females. Similarly, Balochistan has the highest coefficients in every case.

3.1 Literacy and Economic Development

After studying the regional disparities in literacy levels in Pakistan, we now attempt to relate this situation to the general economic development of these areas. For this purpose we use the ranking of districts in terms of economic development. These rankings, based on various economic indicators, are provided in Pasha et al. (1998).[2]

A comparison of the two rankings (literacy levels with economic development) indicates that in general districts with higher literacy levels are also among the economically developed areas. Hence, districts like Rawalpindi, Karachi, Lahore, Sialkot, and Quetta are in the top group both in terms of literacy levels and economic development. On the other hand, districts like Kharan, Dera Bugti, Jhal Magsi, Kohlu, and Bolan are in the bottom group in terms of both rankings. There are also few mis-matches, for example, Peshawar and Ziarat, which are among the top group in terms of economic development rank average on the literacy scale. Conversely, Chakwal is among the top ten literate districts but lies in the middle in terms of economic development. This is more evident in the scatter plots of the two rankings shown in Figure 1.

FIGURE 1
Scatter Plot of Literacy and Economic Development



[2] See Pasha et al. (1998) for details.

In addition to the scatter plot, we also calculate the rank correlation that comes out to be 0.788. This is high and significant, thus verifying that there is a close association between literacy levels and economic development and that areas with low levels of literacy lag behind in terms of economic development. This implies that in addition to the measures taken to develop the economically underdeveloped areas, serious efforts should be made to improve the literacy levels in these areas.

4. Changes in Literacy Levels Over Time

We now look at the changes in literacy levels over time. For this purpose, the 1981 census year is used. Moreover, for purposes of comparison the districts in 1998 are adjusted according to their positions in 1981. Hence, there are 62 districts to show the changes in literacy levels over time.

Table 6 presents literacy levels for both census years 1981 and 1998, as well as the compound growth rates between the two census years.

TABLE 6
Percentage Change in Literacy Levels from 1981 to 1998

	Total	*Male*	*Female*	*Rural*	*Urban*
			1998		
Pakistan	43.90	54.80	32.00	33.60	63.10
Punjab	46.60	57.20	35.10	38.00	64.50
Sindh	45.30	54.50	34.80	25.70	63.70
NWFP	35.40	51.40	18.80	31.30	54.30
Balochistan	24.80	34.00	14.10	17.50	46.90
			1981		
Pakistan	26.2	35.1	16.0	17.3	47.1
Punjab	27.4	36.8	16.3	20.0	46.7
Sindh	31.5	39.7	21.6	15.5	50.7
NWFP	16.7	25.8	6.5	13.1	35.7
Balochistan	10.3	15.2	4.3	6.1	32.1
			Percentage change		
Pakistan	2.91	2.51	3.93	1.64	3.76
Punjab	2.99	2.48	4.35	1.81	3.63
Sindh	2.04	1.78	2.68	1.28	2.85
NWFP	4.26	3.90	6.08	2.36	4.96
Balochistan	5.00	4.57	6.82	2.13	6.03

Source: Census Reports, 1981 and 1998.

The national literacy rate increased at an annual compound rate of growth of 2.9 per cent. The corresponding rates for males and females are 2.5 per cent and 3.9 per cent respectively. It can be seen that the growth rates are higher in cases

where literacy rates are lower. Hence, the growth rates are higher in cases of females and rural areas. Similarly, Balochistan achieved the highest annual compound growth rates in all cases except in urban areas.

The representation indices and Gini coefficients for the two census years are reported in Table 7.

TABLE 7
Representation Indexes and Gini Coefficients

	1981			*1998 (Adjusted for 1981)*		
	Under	*Over*	*Ginis*	*Under*	*Over*	*Ginis*
Overall						
Pakistan	49 (79.0)	13 (21.0)	0.253	48 (77.4)	14 (22.6)	0.184
Punjab	14 (63.6)	8 (36.4)	0.179	13 (59.1)	9 (40.9)	0.145
Sindh	12 (92.3)	1 (7.7)	0.270	12 (92.3)	1 (7.7)	0.206
NWFP	8 (66.7)	4 (33.3)	0.204	6 (50.0)	6 (50.0)	0.136
Balochistan	11 (73.3)	4 (26.7)	0.375	10 (66.7)	5 (33.3)	0.237
Male						
Pakistan	46 (74.2)	16 (25.8)	0.202	45 (72.6)	17 (27.4)	0.133
Punjab	13 (59.1)	9 (40.9)	0.145	12 (54.5)	10 (45.5)	0.107
Sindh	12 (92.3)	1 (7.7)	0.198	12 (92.3)	1 (7.7)	0.139
NWFP	5 (41.7)	7 (58.3)	0.190	6 (50.0)	6 (50.0)	0.114
Balochistan	11 (73.3)	4 (26.7)	0.326	9 (60.0)	6 (40.0)	0.193
Female						
Pakistan	51 (82.3)	11 (17.7)	0.393	49 (79.0)	13 (21.0)	0.289
Punjab	14 (63.6)	8 (36.4)	0.278	14 (63.6)	8 (36.4)	0.219
Sindh	12 (92.3)	1 (7.7)	0.424	11 (84.6)	2 (15.4)	0.318
NWFP	8 (66.7)	4 (33.3)	0.302	7 (58.3)	5 (41.7)	0.224
Balochistan	13 (86.7)	2 (13.3)	0.622	12 (80.0)	3 (20.0)	0.361
Urban						
Pakistan	48 (84.2)	9 (15.8)	0.103	49 (80.3)	12 (19.7)	0.071
Punjab	15 (68.2)	7 (31.8)	0.081	15 (68.2)	7 (31.8)	0.058
Sindh	12 (92.3)	1 (7.7)	0.079	12 (92.3)	1 (7.7)	0.053
NWFP	3 (37.5)	5 (62.5)	0.082	5 (45.5)	6 (54.5)	0.074
Balochistan	12 (85.7)	2 (14.3)	0.243	13 (86.7)	2 (13.3)	0.169
Rural						
Pakistan	42 (67.7)	20 (32.3)	0.206	42 (67.7)	20 (32.3)	0.183
Punjab	13 (59.1)	9 (40.9)	0.156	11 (50.0)	11 (50.0)	0.151
Sindh	4 (30.8)	9 (69.2)	0.115	7 (53.8)	6 (46.2)	0.130
NWFP	5 (41.7)	7 (58.3)	0.186	6 (50.0)	6 (50.0)	0.144
Balochistan	11 (73.3)	4 (26.7)	0.276	8 (53.3)	7 (46.7)	0.170

Source: Census Reports, 1981 and 1998.

The RIs indicate a slight improvement over time in almost all cases where the number of overrepresented districts increased by one or two districts between the two census years. On the other hand, the Gini coefficients also decreased in

all cases implying a general decline in inequalities in literacy levels over time. The highest decline is observed in females of Balochistan.

The relative positions of districts in two census years are shown in Table 8. The table shows the ten best and the ten worst districts in terms of literacy levels.

TABLE 8
Relative Positions of Districts in Two Census Years

1981			*1998 (Adjusted)*		
		Top Ten Districts			
1	Karachi	55.00	1	Islamabad	72.40
2	Lahore	48.40	2	Rawalpindi	70.40
3	Islamabad	47.80	3	Karachi	67.40
4	Rawalpindi	46.60	4	Lahore	64.70
5	Jhelum	38.90	5	Jhelum	60.00
6	Quetta	36.70	6	Quetta	57.10
7	Faisalabad	31.80	7	Sialkot	57.00
8	Gujrat	31.30	8	Gujrat	56.90
9	Sialkot	30.80	9	Abbottabad	55.30
10	Gujranwala	29.90	10	Gujranwala	53.40
		Bottom Ten Districts			
53	Kalat	6.20	53	Lasbela	22.30
54	Gwadar	6.20	54	Thatta	22.10
55	Zhob	5.90	55	Kechi	21.20
56	Loralai	5.66	56	Loralai	17.10
57	Kechi	5.40	57	Zhob	17.10
58	Nasirabad	4.70	58	Khuzdar	16.90
59	Kharan	4.50	59	Nasirabad	16.40
60	Khuzdar	4.20	60	Kharan	15.10
61	Kohlu	3.50	61	Kohlu	11.90
62	Kohistan	1.40	62	Kohistan	11.10

Source: Census Reports, 1981 and 1998.

It can be seen that Karachi occupied the highest position in 1981 in literacy levels with a rate of 55 per cent followed by Lahore with 48.4 per cent rate. However, in 1998 these are replaced by Islamabad and Rawalpindi with rates of 72.4 per cent and 70.4 per cent respectively. Interestingly, of the six districts which retained their positions, one is the national capital (Lahore) while three are the provincial capitals of Sindh, Punjab, and Balochistan, respectively. Of the top ten districts in 1981, nine districts retained their positions whereas Faisalabad moved out and Abbottabad moved into the top ten in 1998.

On the other hand, Kohistan and Kohlu remained the least literate areas in both the census years. Moreover, of the ten least literate areas in 1981, eight retained their positions. Hence, these eight districts (of which seven belong to Balochistan) require greater attention if the human capital there is to be made at par with others.

Finally, Table 9 shows the annual compound growth rates in literacy rates.

TABLE 9
Improvements in Literacy Levels by Districts

	1981	*1998 (adj)*	*% Change*	*Growth (%)*
		Top Ten Districts		
Kohistan	1.4	11.1	690.25	12.17
Panjgoor	7.0	31.4	345.02	8.65
Gwadar	6.2	25.5	311.24	8.17
Khuzdar	4.2	16.9	300.75	8.02
Kechhi	5.4	21.2	293.37	7.91
Kalat	6.2	23.1	270.27	7.54
Lasbela	6.4	22.3	247.72	7.17
Nasirabad	4.7	16.4	247.40	7.16
Kohlu	3.5	11.9	237.79	7.00
Kharan	4.5	15.1	235.09	6.95
		Bottom Ten Districts		
Quetta	36.7	57.1	55.47	2.48
Hyderabad	28.7	44.2	54.34	2.44
Jhelum	38.9	60.0	54.31	2.44
Islamabad	47.8	72.4	51.36	2.33
Rawalpindi	46.6	70.4	51.07	2.32
Sukkur	26.3	37.7	43.17	2.01
Shikarpur	22.4	31.9	42.7	2.00
Lahore	48.4	64.7	33.68	1.63
Thatta	17.8	22.1	24.44	1.22
Karachi	55.0	67.4	22.48	1.13

The table shows the best and the worst ten districts in terms of growth over time. It is encouraging to note that the least literate areas experienced higher growth over time. Thus, Kohistan, being the least literate district, experienced the highest growth. In this regard Balochistan—that otherwise lags behind—performs the best and nine of the top ten districts, in terms of growth in literacy rates, belong to its territory. However, the high growth rates are partly due to low bases in these areas. On the other hand, Thatta, being among the least literate areas, also experienced lowest growth and hence probably requires the greatest attention.

5. Conclusions

Human capital is an important asset and its development is vital for sustained economic progress. Literacy level is an important indicator of human development. Pakistan's case in this regard is far from satisfactory. It lags behind even among the developing countries. In addition, there exist large disparities in literacy

rates across various regions of the country. This paper attempts to identify the areas which are still lagging behind other parts of the country in terms of literacy levels and are unable to play their role in the development of human capital of the country.

The analyses indicate that more than three-fourth districts of the country are under represented in terms of literacy levels. This includes a large portion of Balochistan, Southern part of Punjab, the rural Sindh, and upper NWFP. A large proportion of literate population is concentrated in the national and provincial capitals. In general, Sindh lags behind in case of rural areas whereas NWFP in case of females. Balochistan is the province that needs the greatest attention. The analyses also indicate a close association between literacy levels and general economic development. Areas with low literacy levels are, in general, also among the less economically underdeveloped areas. An encouraging sign is the general decline in disparities in literacy levels over time. Moreover, the least literate areas have shown a significant improvement over time. However, these areas still require a great deal of effort to be come at par with other parts of the country.

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