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Status of primary education in public schools of Balochistan: a district wise analysis.

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STATUS OF PRIMARY EDUCATION IN PUBLIC SCHOOLS OF BALUCHISTAN - A DISTRICT-WISE ANALYSIS

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Executive Summary

The Constitution of the Islamic Republic of Pakistan grants all children the right to education, which is a key factor in the development of any nation. This study seeks to assess district-specific challenges and problems related to primary education in public schools of Balochistan using secondary data from the Balochistan Education Statistics (2019). An educational index is created to rank each district based on infrastructure, outcome, and teaching quality. This ranking will enable policymakers to identify which districts need improvement in what areas so that corrective actions can be taken. The results of this study will provide recommendations for the government, educational institutions, and local communities on how to improve the quality of public education in Balochistan.

Keywords: Primary education, public schools, education in Baluchistan

Introduction

Background of the study

Education is a crucial aspect of societal development and is widely regarded as one of the primary foundations of any community (Adams, 1998). It serves as the underpinning for all forms of progress in the global arena. It is an established fact that only those nations that possess a robust education system have managed to thrive and advance (Ball, 1990). Unfortunately, Pakistan has had faced setbacks in terms of national development and progress since its independence, largely attributed to the inadequacies in its education system. One of the major issues confronting the newborn country was political instability and unrest in a few areas, one of which was Baluchistan. Since then, the province's social and economic development has lagged than that of other provinces (Zafar, 2003). Unlike any other, education remains one of the most neglected sectors in the province, where 60 to 70 percent children are out of school- which in total constitutes 78 percent of the girls and 67 percent of the boys (PSDP, 2019)

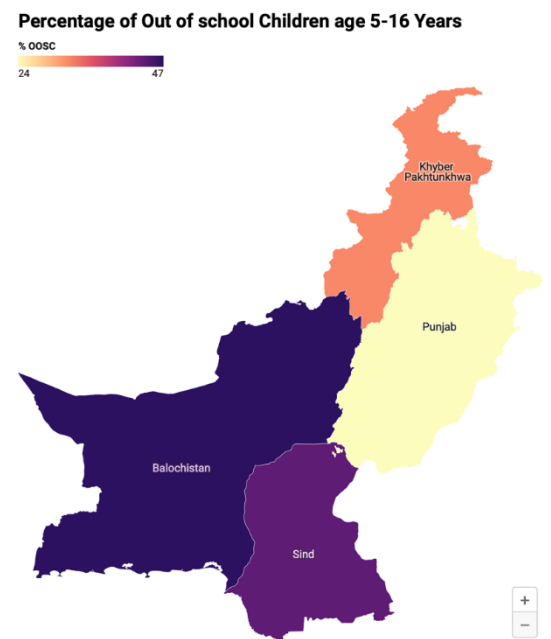Percentage of Out of school Children age 5-16 Years

% OOSC
24   47

Figure 1
Source: PBS, 2019

An alarming aspect of the situation is that even today, the government of Baluchistan has prioritized higher education while neglecting primary education (Mustufa et al., 2017). Primary education is the cornerstone of any education system worldwide, as it plays a vital role in the early physical, cognitive, and socio-economic development of children aged 5 to 11 (Ahmad et al., 2013). The neglect of primary education has resulted in significant disparities among educational institutions at different

levels. This disparity becomes apparent in the contrasting performance of students from private schools and traditional government schools (EMIS, 2015), causing considerable challenges for parents, teachers, and students associated with government-run primary schools in Baluchistan.

Moreover, research has indicated that the primary education system in Baluchistan is beset by serious management and infrastructure challenges. The condition of primary schools differs per district and most of the primary schools are more deplorable than those in the capital, Quetta (Mustufa et al, 2017). Many of these primary schools lack proper infrastructure, a qualified teaching staff, and experience a low-class enrolment. Eventually, such issues have resulted in educational disparities between various districts.

Objective of the study

The issues pertaining to primary education in public schools of Pakistan can be attributed to the initial stages of the country's independence, during which it inherited an established education system that was inherently weak, and inadequately managed (Sheikh and Rasool, 1998). Today, even though efforts have been made to uplift the status of primary education in other provinces of Pakistan, Baluchistan remains at the bottom of the list. The overall literacy rate of Baluchistan is 43 percent which is the lowest in the country (PSLM, 2021)

Prior studies have worked out ways of promoting female education or the higher education system of Baluchistan, but hardly any research has investigated the primary education sector of the province on the grass-root, district level. Therefore, this study aims to examine the underlying causes of the different problems that have persistently affected the primary education system. Baluchistan. It provides an in-depth analysis of different problems in primary education, such as infrastructure, teaching quality, and causes of poor student outcomes with respect to different districts of the province as we assume that different districts may or may not have the same problems.

Methodology:

This study aims to assess the state of primary education in public schools across all districts of Baluchistan so that policymakers can identify the districts with inadequate educational standards and take prompt actions to uplift the educational standards in those districts. For this purpose, with the help of existing literature, three key variables that significantly impact educational standards have been identified: infrastructure, teachers, and outcome. These factors are further divided into subgroups as shown below:

   1. Infrastructure Index
1. Electricity (+)
2. Drinking water (+)
3. Boundary walls (+)
4. Toilets (+)
5. Student-to-classroom ratio (-)
6. Percentage of functional schools (+)

   2. Outcome Index:
1. In-service training (+)
2. Girls to boys enrolment ratio (+)
3. Total Survival rate till grade 5 (+)

   3. Teacher Index
1. Student-to-teacher ratio (-)
2. Percentage of female teachers (+)
3. Total number of single teachers (-)

   (+): positive indicator
   (-): negative indicator

The sign after each subgroup indicates the relationship between that subgroup and the index. For instance, electricity is a positive indicator, suggesting that the electricity facility in a school positively impacts the infrastructure index. Due to this, the data was normalized for uniformity before any statistical methods were used.

Normalization of the data

The following formula has been used for the normalization of data:

$$Norm_{ij} = 1 - \left[\frac{\{Best\ X_{ij} - Observed\ X_{ij}\}}{\{Best\ X_i - Worst_{ij}\}}\right]$$

In the case of a positive indicator, the highest value was considered the best, and the lowest value was considered the worst. In contrast, the opposite was true for the negative indicator.

To illustrate the formula above, student to teacher ratio (a negative indicator), the total number of single teachers (a negative indicator), and the percentage of female teachers (a positive indicator) have been normalized using the method shown in Table 1.

Tables 3 and 4 in the Annexure represent the values of all the indicators that were normalized using Excel.

Principal Component Analysis

After data normalization, principal component analysis was used to reduce the dimensionality of the data without harming its variability. Through principal component analysis, the weights and factor loading were computed for each indicator using SPSS.
From the SPSS outcome, eigenvalues along with component values from the rotational component matrix were extracted. Note that the number of eigenvalues extracted and the number of components from the rotational component matrix had to be the same.

Table 2 displays the weights that were determined for the teacher dataset based on the SPSS results, which included the following variables: the student-to-teacher ratio, the percentage of female teachers, and the overall number of single instructors for each district.

Table 2: Weights for Teachers

Rotated Component Matrix			Eigen values		Weights
	Component		1	2	
	1	2	1.243	1.155	
Student to teacher ratio	0.662397	-0.57712	0.82336	0.666572	1.489932
Percentage of female teachers	0.148886	0.892152	0.185065	1.030436	1.215501
Total number of single teacher	0.866349	0.239057	1.076872	0.276111	1.352982
				Total	4.058415

After extracting both eigenvalues and rotational components, the first eigenvalue was multiplied with each value in the first rotational component column, the second eigenvalue with each value in the second rotational component column, and so on. The negative values obtained after multiplication were transformed into positive ones by taking absolutes.

Next, the values were added for each variable to find the weight. For instance, for the student-to-teacher ratio, the values after the multiplication of the 1st eigenvalue and the 1st rotational component

column (0.82336) and the multiplication of the 2nd eigenvalue and the 2nd rotational component column (0.666572) were added, giving us the weight for the student-to-teacher ratio as 1.489932 (0.82336+0.666572). The process was repeated for each variable. After extracting the weights, each weight was multiplied by the normalized value of each variable for each district and then divided by the total weight to get the index for that district. Lastly, each district was ranked in terms of its index value. The highest index value denoted that the district performed the best (thus ranked first in that index).

As an illustration, for Awaran, weights for each variable were multiplied by the normalized values for each variable, respectively. They were then added together and divided by the total weight to get the teacher index for Awaran, as shown in Table 3.

Table 3: Teachers' Index and Ranking

Weights	1.489931903	1.215500557	1.35298227	4.05841473	
District	Normalized Student to teacher ratio	Normalized Percentage of female teachers	Normalized Total number of single teacher	Teacher Index	Ranking
AWARAN	0.11969112	0.594470046	0.724358974	=((B3*B$1)+(C3*C$1)+(D3*D$1))/E$1	27
BARKHAN	0.930501931	0.520737327	0.10042735	0.53104909	24
CHAGHI	0.455598456	0.67281106	0.705128205	0.603841405	18
DERA BUGTI	0.787644788	0.046082949	0.944444444	0.617819445	16
DUKI	0.961389961	0.433179724	0.521367521	0.656496923	12
GWADAR	0.212355212	0.656682028	0.764957265	0.529656513	25
HARNAI	0.818532819	0.557603687	0.905982906	0.769538051	4
JAFER ABAD	0	0.555299539	0.361111111	0.286699095	32
JHAL MAGSI	0.590733591	0.559907834	0.792735043	0.648843881	13
KACHHI	0.71042471	0.214285714	0.713675214	0.562914071	20
KALAT	0.517374517	0.698156682	0.626068376	0.60775505	17
KECH	0.471042471	0.668202765	0.636752137	0.585336036	19
KHARAN	0.544401544	0.693548387	0.876068376	0.699641325	8
KHUZDAR	0.374517375	0.622119816	0.252136752	0.407875743	30
KILLA ABDULLAH	0.594594595	0	0.668803419	0.441252248	28
KILLA SAIFULLAH	0.749034749	0.387096774	0.474358974	0.549063253	21
KOHLU	0.849420849	0.304147465	0.418803419	0.54255279	23
LASBELA	0.55984556	0.504608295	0.55982906	0.543296426	22
LORALAI	0.961389961	0.564516129	0.583333333	0.716490328	6
MASTUNG	0.606177606	0.652073733	0.767094017	0.673569393	10
MUSAKHEL	0.934362934	0.460829493	0.64957265	0.697596504	9
NASEER ABAD	0.038610039	0.460829493	0.271367521	0.242661321	33
NOSHKI	0.702702703	0.82718894	0.916666667	0.811317167	3
PANJGUR	0.884169884	1	0.952991453	0.941804687	1
PISHIN	0.513513514	0.417050691	0	0.313429159	31
QUETTA	0.683397683	0.407834101	1	0.706413969	7
SHERANI	0.826254826	0.30875576	0.788461538	0.65866376	11
SIBI	1	0.559907834	0.925213675	0.843259773	2
SOHBAT PUR	0.131274131	0.612903226	0.585470085	0.42694118	29
SURAB	0.274131274	0.859447005	0.820512821	0.631585166	14
WASHUK	0.555984556	0.447004608	0.878205128	0.630765857	15
ZHOB	0.501930502	0.476958525	0.60042735	0.527287949	26
ZIARAT	0.787644788	0.534562212	0.814102564	0.720666638	5

The whole process described above was repeated to get the infrastructure index, the outcome index, and, in turn, the education index.

Results:

The ranking provided in Table 10 presents the district-wise status of public primary schools in Balochistan for the years 2019-2020. Among the best performing districts are Noshki, Panjgur, Sibi, and the provincial capital, Quetta. On the other hand, the worst performing districts include Bharkan, Awaran, Killa Abdullah, Sherani, and Naseer Abad, respectively. While the top three performing districts outperform the others in Balochistan, they still lag behind the worst performing districts in Punjab (PSLM, 2019-2020). Therefore, these districts, along with others, still require significant government and non-governmental support through proper policy planning.
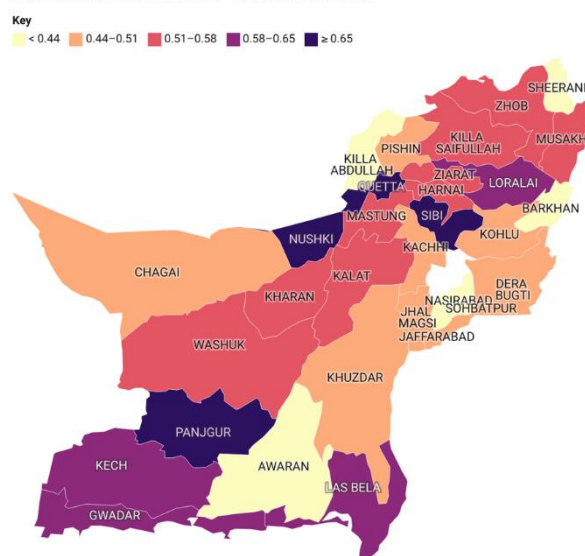

DISTRICT WISE EDI OF BALOCHISTAN

Figure 1

Source: Education Statistics of Baluchistan (2019-2020)

The tables below show the issues in some of the best and worst performing districts, as well as the policy measures required to improve the condition of primary education in that district of Balochistan.

Best Performing Districts

Districts	Teacher Index	Outcome Index	Infrastructure Index	Policy Intervention
NOSHKI	0.8113	0.6495	0.6840	Since only 55.6% of primary school teachers in Noshki received in-service training in 2019, this significantly impacted students' overall performance and outcomes. Therefore, policymakers should ensure that schools provide in-service training to teachers. Only, about 23.8% of public primary schools have electricity, and just 26.5% have access to water. Therefore, the government should ensure that the necessary infrastructure is put in place so that Noshki's educational standards can be further improved.
PANJGUR	0.9418	0.6215	0.5086	In Panjgur, only 47.8% of instructors have received in-service training, and only 16.9% of primary schools have electricity. Therefore, immediate government intervention is required in these areas to raise the overall standard of primary education in Panjgur.
SIBI	0.8433	0.6215	0.5479	Sibi has poor infrastructure, with just 29.1% of schools having access to potable water and only 22.3% having power. Therefore, it is crucial that governments and policymakers develop policies that emphasize strengthening the general infrastructure of primary schools, particularly the provision of clean water and electricity.

Worst Performing Districts

Districts	Teacher Index	Outcome Index	Infrastructure Index	Policy Intervention
BHARKAN	0.5310	0.3835	0.3493	The outcome and infrastructure indexes have a particularly detrimental effect on primary school enrollment. Therefore, the government should implement a robust system to monitor and regulate the number of functional schools in the district. Additionally, ensuring the availability of clean drinking water and electricity in these schools is crucial. By improving the overall facilities and infrastructure of schools, the government can attract a larger number of children and subsequently increase the enrollment and outcome indexes.
AWARAN	0.4634	0.6305	0.17390	The government should prioritize the infrastructure of schools in Awaran. They should invest in solar-powered systems. This will ensure a reliable source of electricity for schools. Additionally, promoting tree plantation can contribute to a sustainable environment and help address water scarcity concerns. Temporary arrangements for water supply should also be made to meet the immediate needs of the schools through tube-wells or nearby sources of water. Furthermore, it is crucial to establish a strict monitoring system to ensure the functionality of schools and address any teacher absences promptly.
KILLA ABDULLAH	0.44125	0.1860	0.5972	The key challenges in Killa Abdullah are a very low girls to boy's enrollment ratio, lack of in-service training for instructors, and the survival of students until grade 5. This suggests that the majority population of Killa Abdullah does not priorities education, or if they do, it is usually for boys. To solve this issue, the government should conduct public awareness campaigns emphasizing the importance of girls' education. This can be accomplished by engaging with key leaders in Killa Abdullah and other non-governmental organizations striving to promote female education. Finally, the government should provide quality training to teachers so that they can persuade parents to educate their children, so raising the survival rate until grade 5.

Conclusion:

Primary education is the foundation for development (UNICEF, n.d.). Developing basic skills allows young people to easily learn new, complicated concepts, improving their health and income, and breaking the poverty cycle (GPE Secretariat, 2016). In Balochistan, however, 60-70% of primary and secondary school-age children are not enrolled (UNICEF, n.d.). Previous endeavors by local NGOs, foreign NGOs, and UN organisations have failed to successfully address the issue of primary education in Balochistan. This study provides a detailed analysis of primary education in each district of Balochistan and develops district-specific approaches to solve those problems. It acts as a guide for policymakers, giving them an insight into each district through three sub-indexes: Infrastructure, outcome and teaching and an overall educational index which ranks all districts with respect to each other. Currently, Balochistan has the lowest literacy rate among all provinces (Balochistan Voices, 2017) and correcting the concerns raised by this study will undoubtedly enhance the status of basic education in Balochistan and contribute to the country's overall literacy rate.

Annexure

Table 1: Teachers' indicators and their normalized values

District	Original Values			Normalized Values		
	Student to teacher ratio	Percentage of female teachers	Total number of single teacher	Student to teacher ratio $=1-(15.1-\text{Observed Value})/(15.1-41)$	Percentage of female teachers $=1-((0.566-\text{Observed Value})/(0.566-0.132))$	Total number of single teacher $=1-((37-\text{Observed Value})/(37-505))$
AWARAN	37.9	0.39	166	0.11969112	0.594470046	0.724358974
BARKHAN	16.9	0.358	458	0.930501931	0.520737327	0.10042735
CHAGHI	29.2	0.424	175	0.455598456	0.67281106	0.705128205
DERA BUGTI	20.6	0.152	63	0.787644788	0.046082949	0.944444444
DUKI	16.1	0.32	261	0.961389961	0.433179724	0.521367521
GWADAR	35.5	0.417	147	0.212355212	0.656682028	0.764957265
HARNAI	19.8	0.374	81	0.818532819	0.557603687	0.905982906
JAFER ABAD	MAX 41	0.373	336	0	0.555299539	0.361111111
JHAL MAGSI	25.7	0.375	134	0.590733591	0.559907834	0.792735043
KACHHI	22.6	0.225	171	0.71042471	0.214285714	0.713675214
KALAT	27.6	0.435	212	0.517374517	0.698156682	0.626068376
KECH	28.8	0.422	207	0.471042471	0.668202765	0.636752137
KHARAN	26.9	0.433	95	0.544401544	0.693548387	0.876068376
KHUZDAR	31.3	0.402	387	0.374517375	0.622119816	0.252136752
KILLA ABDULLAH	25.6	MIN 0.132	192	0.594594595	0	0.668803419
KILLA SAIFULLAH	21.6	0.3	283	0.749034749	0.387096774	0.474358974
KOHLU	19	0.264	309	0.849420849	0.304147465	0.418803419
LASBELA	26.5	0.351	243	0.55984556	0.504608295	0.55982906
LORALAI	16.1	0.377	232	0.961389961	0.564516129	0.583333333
MASTUNG	25.3	0.415	146	0.606177606	0.652073733	0.767094017
MUSAKHEL	16.8	0.332	201	0.934362934	0.460829493	0.64957265
NASEER ABAD	40	0.332	378	0.038610039	0.460829493	0.271367521
NOSHKI	22.8	0.491	76	0.702702703	0.82718894	0.916666667
PANJGUR	18.1	MAX 0.566	59	0.884169884	1	0.952991453
PISHIN	27.7	0.313	MAX 505	0.513513514	0.417050691	0
QUETTA	23.3	0.309	MIN 37	0.683397683	0.407834101	1
SHERANI	19.6	0.266	136	0.826254826	0.30875576	0.788461538
SIBI	MIN 15.1	0.375	72	1	0.559907834	0.925213675
SOHBAT PUR	37.6	0.398	231	0.131274131	0.612903226	0.585470085
SURAB	33.9	0.505	121	0.274131274	0.859447005	0.820512821
WASHUK	26.6	0.326	94	0.555984556	0.447004608	0.878205128
ZHOB	28	0.339	224	0.501930502	0.476958525	0.60042735
ZIARAT	20.6	0.364	124	0.787644788	0.534562212	0.814102564

Table 3: Outcome indicators and their normalized values

District	Original Values			Normalized Values		
	In-service training	Girls to boys enrollment Ratio	Total Survival rate til grade 5	In-service training	Girls to boys enrollment Ratio	Total Survival rate til grade 5
AWARAN	0.482	0.77	0.926	0.286082474	0.488372093	1
BARKHAN	0.51	0.63	0.497	0.358247423	0.325581395	0.454891995
CHAGHI	0.641	0.71	0.592	0.695876289	0.418604651	0.575603558
DERA BUGTI	0.6	0.38	0.564	0.590206186	0.034883721	0.540025413
DUKI	0.495	0.76	0.139	0.319587629	0.476744186	0
GWADAR	0.718	1.05	0.868	0.894329897	0.813953488	0.926302414
HARNAI	0.54	0.85	0.401	0.43556701	0.581395349	0.332909784
JAFER ABAD	0.675	0.66	0.697	0.783505155	0.360465116	0.709021601
JHAL MAGSI	0.371	0.63	0.582	0	0.325581395	0.562897078
KACHHI	0.497	0.6	0.646	0.324742268	0.290697674	0.644218551
KALAT	0.719	0.82	0.596	0.896907216	0.546511628	0.58068615
KECH	0.671	0.96	0.882	0.773195876	0.709302326	0.944091487
KHARAN	0.576	0.81	0.599	0.528350515	0.534883721	0.584498094
KHUZDAR	0.615	0.78	0.451	0.628865979	0.5	0.396442186
KILLA ABDULLAH	0.469	0.41	0.335	0.25257732	0.069767442	0.249047014
KILLA SAIFULLAH	0.641	0.66	0.469	0.695876289	0.360465116	0.41931385
KOHLU	0.5	0.87	0.759	0.332474227	0.604651163	0.787801779
LASBELA	0.759	0.77	0.672	1	0.488372093	0.6772554
LORALAI	0.606	0.83	0.386	0.605670103	0.558139535	0.313850064
MASTUNG	0.543	0.74	0.419	0.443298969	0.453488372	0.355781449
MUSAKHEL	0.546	0.65	0.705	0.451030928	0.348837209	0.719186785
NASEER ABAD	0.587	0.56	0.539	0.556701031	0.244186047	0.508259212
NOSHKI	0.556	1.02	0.648	0.476804124	0.779069767	0.646759848
PANJGUR	0.478	1	0.716	0.275773196	0.755813953	0.733163914
PISHIN	0.693	0.62	0.476	0.829896907	0.313953488	0.428208386
QUETTA	0.605	1.21	0.631	0.603092784	1	0.625158831
SHERANI	0.595	0.35	0.18	0.577319588	0	0.052096569
SIBI	0.594	0.88	0.76	0.574742268	0.61627907	0.789072427
SOHBAT PUR	0.711	0.55	0.836	0.87628866	0.23255814	0.885641677
SURAB	0.639	0.99	0.588	0.690721649	0.744186047	0.570520966
WASHUK	0.635	0.8	0.551	0.680412371	0.523255814	0.523506989
ZHOB	0.541	0.67	0.505	0.43814433	0.372093023	0.465057179
ZIARAT	0.572	0.9	0.475	0.518041237	0.639534884	0.426937738

Table 4: Infrastructure indicators and their normalized values

District	Original Values						Normalized Values					
	Electricity	Drinking water	Boundary walls	Toilets	SCR	Functional schools	Electricity	Drinking water	Boundary walls	Toilets	SCR	Functional schools
	% available	% available	% Available	% Available	Total	%	% available	% available	% Available	% Available	Total	%
AWARAN	0.007	0.01	0.161	0.155	22.6	86.5	0	0	0	0.138650307	0.451361868	0.605263158
BARKHAN	0.129	0.118	0.208	0.058	13.5	81.9	0.36858006	0.248275862	0.111111111	0.019631902	0.805447471	0.470760234
CHAGHI	0.056	0.108	0.352	0.256	18.1	74.3	0.148036254	0.225287356	0.451536643	0.262576687	0.626459144	0.248538012
DERA BUGTI	0.143	0.445	0.274	0.199	25.7	91.5	0.410876133	1	0.26713948	0.192638037	0.3307393	0.751461988
DUKI	0.188	0.156	0.27	0.042	8.5	77.8	0.546827795	0.335632184	0.257683215	0	1	0.350877193
GWADAR	0.165	0.264	0.446	0.446	22.2	84.1	0.47734139	0.583908046	0.673758865	0.495705521	0.46692607	0.535087719
HARNAI	0.154	0.241	0.494	0.302	15.9	67.9	0.444108761	0.531034483	0.787234043	0.319018405	0.712062257	0.061403509
JAFER ABAD	0.338	0.412	0.336	0.309	32.1	75.9	1	0.924137931	0.413711584	0.327607362	0.081712062	0.295321637
JHAL MAGSI	0.184	0.202	0.296	0.232	24.1	81.5	0.534743202	0.44137931	0.319148936	0.233128834	0.392996109	0.459064327
KACHHI	0.198	0.263	0.36	0.171	18.5	83.3	0.577039275	0.581609195	0.470449173	0.158282209	0.610894942	0.511695906
KALAT	0.062	0.128	0.433	0.233	16.7	75.9	0.166163142	0.271264368	0.643026005	0.234355828	0.680933852	0.295321637
KECH	0.169	0.193	0.416	0.392	24.1	83.3	0.489425982	0.420689655	0.602836879	0.429447853	0.392996109	0.511695906
KHARAN	0.093	0.206	0.373	0.319	16.7	79.3	0.259818731	0.450574713	0.501182033	0.339877301	0.680933852	0.394736842
KHUZDAR	0.112	0.328	0.481	0.305	20.7	88.4	0.317220544	0.731034483	0.756501182	0.322699387	0.525291829	0.660818713
KILLA ABDULLAH	0.161	0.151	0.456	0.648	11.6	84.9	0.465256798	0.324137931	0.697399527	0.743558282	0.879377432	0.558479532
KILLA SAIFULLAH	0.205	0.332	0.47	0.255	15.1	85.2	0.598187311	0.740229885	0.730496454	0.261349693	0.743190661	0.567251462
KOHLU	0.11	0.181	0.181	0.052	14.8	79.6	0.311178248	0.393103448	0.047281324	0.012269939	0.754863813	0.403508772
LASBELA	0.168	0.415	0.372	0.508	20.4	89	0.486404834	0.931034483	0.498817967	0.571779141	0.536964981	0.678362573
LORALAI	0.324	0.367	0.454	0.118	11	83.3	0.957703927	0.820689655	0.692671395	0.093251534	0.902723735	0.511695906
MASTUNG	0.072	0.128	0.584	0.472	16.7	85.4	0.196374622	0.271264368	1	0.527607362	0.680933852	0.573099415
MUSAKHEL	0.072	0.137	0.515	0.296	14.6	77	0.196374622	0.291954023	0.836879433	0.311656442	0.762645914	0.32748538
NASEER ABAD	0.228	0.23	0.278	0.211	23	82.9	0.667673716	0.505747126	0.276595745	0.207361963	0.435797665	0.5
NOSHKI	0.238	0.265	0.455	0.857	17.1	80.9	0.697885196	0.586206897	0.695035461	1	0.66536965	0.441520468
PANJGUR	0.169	0.291	0.398	0.228	19.1	82.3	0.489425982	0.645977011	0.560283688	0.228220859	0.587548638	0.48245614
PISHIN	0.121	0.379	0.446	0.265	17.7	76.8	0.344410876	0.848275862	0.673758865	0.273619632	0.642023346	0.321637427
QUETTA	0.195	0.241	0.569	0.354	23.2	84	0.567975831	0.531034483	0.964539007	0.382822086	0.428015564	0.532163743
SHERANI	0.031	0.073	0.368	0.14	16	82.3	0.072507553	0.144827586	0.489361702	0.120245399	0.708171206	0.48245614
SIBI	0.291	0.223	0.391	0.445	17.7	65.8	0.858006042	0.489655172	0.543735225	0.494478528	0.642023346	0
SOHBAT PUR	0.227	0.394	0.303	0.265	34.2	79.7	0.664652568	0.882758621	0.3356974	0.273619632	0	0.406432749
SURAB	0.066	0.227	0.465	0.253	20.3	85.6	0.178247734	0.498850575	0.718676123	0.258895706	0.540856031	0.578947368
WASHUK	0.011	0.135	0.27	0.152	14.4	86.6	0.012084592	0.287356322	0.257683215	0.134969325	0.770428016	0.608187135
ZHOB	0.25	0.268	0.37	0.316	13.4	84.9	0.734138973	0.593103448	0.494089835	0.336196319	0.809338521	0.558479532
ZIARAT	0.042	0.176	0.402	0.297	15.1	100	0.105740181	0.381609195	0.569739953	0.312883436	0.743190661	1

Table 5: Weights for infrastructure

Rotated Component Matrix				Eigenvalue			Weights
	Component			1	2	3	
	1	2	3	2.042	1.435	1.124	
Electricity	0.706833478	0.170512371	-0.507341948	1.443353962	0.244685252	0.57025235	2.258291564
Drinking water	0.874173879	0.182409373	-0.004996227	1.785063061	0.26175745	0.005615759	2.052436269
Boundary walls	-0.057672232	0.89058782	-0.045744746	0.117766697	1.277993521	0.051417095	1.447177313
Toilets	0.147545587	0.844407118	0.021397074	0.301288088	1.211724215	0.024050311	1.537062614
SCR	-0.7388678	0.142498291	-0.165758896	1.508768048	0.204485048	0.186312999	1.899566094
% of functional schools	0.066350779	0.022575517	0.940774764	0.13548829	0.032395868	1.057430834	1.225314992
						Total	10.41984885

Table 6: Weights for outcome

Rotated Component Matrix		Eigen values	Weights
	Component	1	
	1	1.513	
In-service training	0.55138628	0.834247442	0.834247442
Girls to boys enrollment Ratio	0.751127544	1.136455974	1.136455974
Total Survival rate til grade 5	0.802976002	1.214902691	1.214902691
		Total	3.185606107

Table 7: Weights for education

Rotated Component Matrix		Eigen values	Weights
	Component	1	
	1	1.513	
Infrastructure	0.613166674	0.721697175	0.721697175
Outcome	0.607650926	0.71520514	0.71520514
Teachers	0.656876572	0.773143725	0.773143725
		Total	2.21004604

Table 8: Ranking based on infrastructure index

Weights	2.258291564	2.052436269	1.447177313	1.537062614	1.899566094	1.225314992	10.41984885	
District	Electricity	Drinking water	Boundary walls	Toilets	SCR	% of functional schools	Infrastructure Index	Ranking
AWARAN	0	0	0	0.138650307	0.451361868	0.605263158	0.173912688	33
BARKHAN	0.36858006	0.248275862	0.111111111	0.019631902	0.805447471	0.470760234	0.349307835	28
CHAGHI	0.148036254	0.225287356	0.451536643	0.262576687	0.626459144	0.248538012	0.32133722	31
DERA BUGTI	0.410876133	1	0.26713948	0.192638037	0.3307393	0.751461988	0.50020381	15
DUKI	0.546827795	0.335632184	0.257683215	0	1	0.350877193	0.443977145	22
GWADAR	0.47734139	0.583908046	0.673758865	0.495705521	0.46692607	0.535087719	0.53321282	11
HARNAI	0.444108761	0.531034483	0.787234043	0.319018405	0.712062257	0.061403509	0.494278568	17
JAFER ABAD	1	0.924137931	0.413711584	0.327607362	0.081712062	0.295321637	0.554170449	8
JHAL MAGSI	0.534743202	0.44137931	0.319148936	0.233128834	0.392996109	0.459064327	0.407177516	26
KACHHI	0.577039275	0.581609195	0.470449173	0.158282209	0.610894942	0.511695906	0.499851373	16
KALAT	0.166163142	0.271264368	0.643026005	0.234355828	0.680933852	0.295321637	0.372186854	27
KECH	0.489425982	0.420689655	0.602836879	0.429447853	0.392996109	0.511695906	0.46782983	19
KHARAN	0.259818731	0.450574713	0.501182033	0.339877301	0.680933852	0.394736842	0.435360454	25
KHUZDAR	0.317220544	0.731034483	0.756501182	0.322699387	0.525291829	0.660818713	0.538886541	10
KILLA ABDULLAH	0.465256798	0.324137931	0.697399527	0.743558282	0.879377432	0.558479532	0.59721243	6
KILLA SAIFULLAH	0.598187311	0.740229885	0.730496454	0.261349693	0.743190661	0.567251462	0.617650636	4
KOHLU	0.311178248	0.393103448	0.047281324	0.012269939	0.754863813	0.403508772	0.338313369	29
LASBELA	0.486404834	0.931034483	0.498817967	0.571779141	0.536964981	0.678362573	0.620093406	3
LORALAI	0.957703927	0.820689655	0.692671395	0.093251534	0.902723735	0.511695906	0.703917289	1
MASTUNG	0.196374622	0.271264368	1	0.527607362	0.680933852	0.573099415	0.50423697	14
MUSAKHEL	0.196374622	0.291954023	0.836879433	0.311656442	0.762645914	0.32748538	0.439814983	24
NASEER ABAD	0.667673716	0.505747126	0.276595745	0.207361963	0.435797665	0.5	0.451571909	21
NOSHKI	0.697885196	0.586206897	0.695035461	1	0.66536965	0.441520468	0.683982857	2
PANJGUR	0.489425982	0.645977011	0.560283688	0.228220859	0.587548638	0.48245614	0.508640874	13
PISHIN	0.344410876	0.848275862	0.673758865	0.273619632	0.642023346	0.321637427	0.530535941	12
QUETTA	0.567975831	0.531034483	0.964539007	0.382822086	0.428015564	0.532163743	0.558737665	7
SHERANI	0.072507553	0.144827586	0.489361702	0.120245399	0.708171206	0.48245614	0.315780896	32
SIBI	0.858006042	0.489655172	0.543735225	0.494478528	0.642023346	0	0.547906735	9
SOHBAT PUR	0.664652568	0.882758621	0.3356974	0.273619632	0	0.406432749	0.452710733	20
SURAB	0.178247734	0.498850575	0.718676123	0.258895706	0.540856031	0.578947368	0.441577397	23
WASHUK	0.012084592	0.287356322	0.257683215	0.134969325	0.770428016	0.608187135	0.32688962	30
ZHOB	0.734138973	0.593103448	0.494089835	0.336196319	0.809338521	0.558479532	0.607369907	5
ZIARAT	0.105740181	0.381609195	0.569739953	0.312883436	0.743190661	1	0.476447569	18

Table 9: Ranking based on outcome index

Weights	0.834247442	1.136455974	1.214902691	3.185606107	
District	In-service training	Girls to boys enrollment Ratio	Total Survival rate til grade 5	Outcome index	Ranking
AWARAN	0.286082474	0.488372093	1	0.630517264	10
BARKHAN	0.358247423	0.325581395	0.454891995	0.383451496	28
CHAGHI	0.695876289	0.418604651	0.575603558	0.551091699	16
DERA BUGTI	0.590206186	0.034883721	0.540025413	0.372958897	29
DUKI	0.319587629	0.476744186	0	0.253770841	31
GWADAR	0.894329897	0.813953488	0.926302414	0.87784928	1
HARNAI	0.43556701	0.581395349	0.332909784	0.448440211	23
JAFER ABAD	0.783505155	0.360465116	0.709021601	0.604180835	12
JHAL MAGSI	0	0.325581395	0.562897078	0.33082373	30
KACHHI	0.324742268	0.290697674	0.644218551	0.434436437	24
KALAT	0.896907216	0.546511628	0.58068615	0.65130655	7
KECH	0.773195876	0.709302326	0.944091487	0.815576926	2
KHARAN	0.528350515	0.534883721	0.584498094	0.552094363	15
KHUZDAR	0.628865979	0.5	0.396442186	0.494253353	19
KILLA ABDULLAH	0.25257732	0.069767442	0.249047014	0.186014051	32
KILLA SAIFULLAH	0.695876289	0.360465116	0.41931385	0.470745981	22
KOHLU	0.332474227	0.604651163	0.787801779	0.603222004	13
LASBELA	1	0.488372093	0.6772554	0.694392263	4
LORALAI	0.605670103	0.558139535	0.313850064	0.477421558	21
MASTUNG	0.443298969	0.453488372	0.355781449	0.413557231	27
MUSAKHEL	0.451030928	0.348837209	0.719186785	0.516840888	18
NASEER ABAD	0.556701031	0.244186047	0.508259212	0.426737814	25
NOSHKI	0.476804124	0.779069767	0.646759848	0.649452984	9
PANJGUR	0.275773196	0.755813953	0.733163914	0.621462639	11
PISHIN	0.829896907	0.313953488	0.428208386	0.49264258	20
QUETTA	0.603092784	1	0.625158831	0.753103696	3
SHERANI	0.577319588	0	0.052096569	0.17105682	33
SIBI	0.574742268	0.61627907	0.789072427	0.671300042	5
SOHBAT PUR	0.87628866	0.23255814	0.885641677	0.6502066	8
SURAB	0.690721649	0.744186047	0.570520966	0.663953682	6
WASHUK	0.680412371	0.523255814	0.523506989	0.564507809	14
ZHOB	0.43814433	0.372093023	0.465057179	0.424844535	26
ZIARAT	0.518041237	0.639534884	0.426937738	0.526639379	17

Table 10: EDI

Weights	0.721697175	0.71520514	0.773143725	2.210046	
District	Infrastructure Index	outcome index	Teacher Index	EDI	Ranking
NOSHKI	0.683982857	0.649452984	0.811317167	0.717354	1
PANJGUR	0.508640874	0.621462639	0.941804687	0.696686	2
SIBI	0.547906735	0.671300042	0.843259773	0.691163	3
QUETTA	0.558737665	0.753103696	0.706413969	0.673299	4
GWADAR	0.53321282	0.87784928	0.529656513	0.643498	5
LORALAI	0.703917289	0.477421558	0.716490328	0.635018	6
KECH	0.46782983	0.815576926	0.585336036	0.621474	7
LASBELA	0.620093406	0.694392263	0.543296426	0.617272	8
SURAB	0.441577397	0.663953682	0.631585166	0.580013	9
ZIARAT	0.476447569	0.526639379	0.720666638	0.578126	10
HARNAI	0.494278568	0.448440211	0.769538051	0.575739	11
KHARAN	0.435360454	0.552094363	0.699641325	0.565591	12
MUSAKHEL	0.439814983	0.516840888	0.697596504	0.554922	13
KILLA SAIFULLAH	0.617650636	0.470745981	0.549063253	0.546116	14
KALAT	0.372186854	0.65130655	0.60775505	0.544923	15
MASTUNG	0.50423697	0.413557231	0.673569393	0.534129	16
ZHOB	0.607369907	0.424844535	0.527287949	0.520287	17
WASHUK	0.32688962	0.564507809	0.630765857	0.510092	18
SOHBAT PUR	0.452710733	0.6502066	0.42694118	0.507608	19
KACHHI	0.499851373	0.434436437	0.562914071	0.500743	20
DERA BUGTI	0.50020381	0.372958897	0.617819445	0.500171	21
KOHLU	0.338313369	0.603222004	0.54255279	0.495491	22
CHAGHI	0.32133722	0.551091699	0.603841405	0.494518	23
KHUZDAR	0.538886541	0.494253353	0.407875743	0.478611	24
JAFER ABAD	0.554170449	0.604180835	0.286699095	0.476785	25
JHAL MAGSI	0.407177516	0.33082373	0.648843881	0.467011	26
DUKI	0.443977145	0.253770841	0.656496923	0.45677	27
PISHIN	0.530535941	0.49264258	0.313429159	0.442322	28
BARKHAN	0.349307835	0.383451496	0.53104909	0.423936	29
AWARAN	0.173912688	0.630517264	0.46347041	0.422973	30
KILLA ABDULLAH	0.59721243	0.186014051	0.441252248	0.409582	31
SHERANI	0.315780896	0.17105682	0.65866376	0.388897	32
NASEER ABAD	0.451571909	0.426737814	0.242661321	0.370452	33

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