

**Variation in Quality of Life within Punjab: Evidence from MICS, 2007-08**

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### Abstract

The aim of the paper is to explore variation in quality of life by using thirty five indicators relating to quality of persons and quality of conditions to rank districts and *Tehsils* (sub districts) of Punjab. The study demonstrates the importance of access to middle and secondary education, access to health facilities and household utilities, etc. The quality of life ranking indicates that districts which have big cities are categorized as ‘good’ quality of life regions. It is important to note that majority of the districts and *Tehsils* from north and center Punjab are doing better in terms of quality of life. However, regions with poor quality of life like west and south Punjab are identified as target for special resource allocations.

**Keywords:** quality of life, ranking, Punjab

### 1. Introduction

Since quality of life research is essentially concerned with measuring and monitoring welfare. In order to measure quality of life, one must have a theory of what makes up a good life (Cobb, 2000). There is a variety of such theories and notions of what constitutes a ‘good life’ and correspondingly different concepts of welfare and quality of life have been developed. Various approaches and operationalizations are to be distinguished, each of which reveals a different concept of welfare (Noll, 2000). Among the various efforts to operationalize welfare in general and the quality of life concept in particular, two contrary approaches are to be distinguished, which define the two extreme positions on a broad continuum of concepts currently available: the Scandinavian level of living approach (Erickson, 1993) and the American quality of life approach (Campbell, 1976). The Scandinavian approach focuses almost exclusively on resources and objective living conditions, whereas the American approach emphasizes the subjective wellbeing of individuals as a final outcome of conditions and processes.

A more recent and to some respect similar concept of welfare and quality of life is that of ‘capabilities’, which has been developed by Amartya Sen. This approach is “based on a view of living as a combination of various ‘doings and

beings', with quality of life to be assessed in terms of the capability to achieve valuable functioning" (Sen, 1993). This notion of welfare and quality of life has also been elaborated within the 'Human Development Approach'. The World Health Organization defines as the individual's perception of their position in life with the context of culture and value systems in which they live and in relation to their goals. The Organization of Economic Cooperation and Development prefers to define as the 'aggregate wellbeing of a group of individuals', and 'societal wellbeing' to describe the evaluation of institutional structure of society (Schuessle,1985).

The assessment and monitoring of wellbeing is also the major focus of the broader field of quality of life research. Lane (1994) focuses on the relation between the subject elements and object circumstances when defining quality of life. The subject elements consist of a sense of personal development, learning, and growth, known as "quality of persons". The objective circumstances consist of opportunities for exploitation by the person living a life taken as quality of conditions. So quality of life can be taken as a function of quality of persons and quality of conditions. These two concepts are assessed separately because the capacity to enjoy life is clearly different from achieving such capacity.

Regional disparity in quality of life is a common phenomenon in both developed and developing economies. It is more acute and glaring in the case of the latter in its manifestations because of differences in levels of development and incomes. It is particularly cause of concern in Pakistan due to its size, diversity and wide range of resource endowment. Lower quality of life may affect population redistribution and in turn influence resource allocation among areas. The performance of government in improving quality of life has remained poor and growth in per capita GDP does not necessarily affect the improvement in quality of life. Pasha and Naeem (1999) concluded that Pakistan is a case of country which not only started with low level of human endowment but the situation has been exacerbated by the low level of improvement in it over time. Social development ranking of districts are analyzed in Pakistan by focusing on education, health, housing and other social services. Siddiqui (2008) views, that

government provision of social services affects human capabilities significantly. The variations in social indicators across the districts within a province and across the provinces are an indicative of regional disparities in terms of health, education and the quality of life (UNDP,2003). Wellbeing by objective and subjective indicators are also analyzed indicating that all the provincial capitals are ranked in high wellbeing category (Haq,2009). It may be noted that most of the top ranked districts are located in the province of Punjab in terms of objective wellbeing. Pasha and Naeem (1999), Cheema *et al* (2008), Amjad *et al* (2008) and Haq and Uzma (2008) etc, also confirmed that province of Punjab is ahead of other provinces in term of social development. Estimating the variation in the sub district level is also important because a district may differ in the degree of urbanization and industrialization thus reflecting different socio-economic structures.

This study attempts to analyze empirically intra-district variations in Punjab at *tehsil*-level in quality of life measured by quality of persons and quality of conditions. The analysis will also provide distribution of districts and *tehsils* in four quartiles categories as good, fair, medium and poor quality of life. The paper will provide empirically based knowledge on living conditions and wellbeing of the whole province specific sub groups within a society.

The paper is organized as follows. After the introduction, data and methodology is presented in section 2. A discussion on quality of life research is presented in section 3. Concluding remarks are given in the final section.

## **2. Data and Methodology**

### **Data**

The study is based on “Multiple Indicator Cluster Survey” (MICS) Punjab 2007-08, which is a provincially representative households survey. The survey provide estimates on more than 70 indicators for the province, area of residence, 9 divisions, 35 districts and 143 *Tehsils* or towns with sample size of 91,280 households. The sample was selected in two stages. Within each of the 273 sampling domains, enumeration areas were selected with probability proportional to sample sizes. A systematic sample of 12 households in urban areas and 16 households in rural areas was randomly drawn.

The Punjab MICS 2007-08 fulfils an important role in monitoring progress towards attaining goals and targets of the Millennium Development Goals for which Pakistan is a signatory. It also allows the provincial government and districts to gauge and monitor their respective status of human and social development with precise data on a variety of key indicators. It will assist the decision-makers to move towards new avenues of human and social development.

### **Quality of Life based on Quality of Persons and Quality of Conditions.**

In this study quality of life is analyzed in terms of two major dimensions: quality of persons and quality of conditions. To measure quality of life four domains are taken, i.e, education, health and housings which are also taken by Siddiqui, (2008); Jamal and Amir, (2007); Akhtar and Sarwer, (2007) for districts rankings of Pakistan. This analysis has also focused on those variables which have important role in monitoring progress towards attaining goals and targets of the Millennium Development Goals. The variation in these indicators and statistics are given in Table 1.

**Table. 1 Variations in Quality of Life Indicators in 2007-08. (%)**

Quality of persons	Mean	Minimum	Maximum	Co-efficient of variation
Underweight children < 5 years	33.68	16.10	63.0	24.14
Stunting	42.42	21.80	71.90	22.94
Wasting	13.40	6.0	42.2	40.67
Child labour	4.48	0.20	20.20	84.38
Child labour with school	3.27	0	19.0	95.41
Antenatal care	53.38	12.5	89.30	30.29
Skilled personnel	43.17	5.2	92.90	40.24
Delivery facility	38.62	4.0	88.0	42.18
Postnatal care	41.50	5.20	92.90	40.58
Contraceptive use	31.3	1.9	59.0	35.81
Unwanted pregnancy	25.9	7.1	55.1	33.40
Chronic cough during last 3 week	2.09	0.1	10.70	87.08
Tuberculosis	0.33	0	1.70	57.58
Hepatitis	0.69	0	3.10	56.52
Adult literacy male 15-24 years	79.59	32.1	97.3	13.15
Adult literacy female 15-24 years	67.0	12.60	97.10	27.76
Gender parity at primary	0.96	0.52	1.26	11.46
Gender parity at secondary	.89	0.38	1.55	21.35
Unemployed seeking job	6.8	2.3	18.9	42.94
<b>Quality of conditions</b>				
Access to health facility	72.93	21.80	99.60	23.98
Access to primary school male	93.50	56.60	100.0	6.95
Access to primary school female	91.4	49.9	100.0	9.34
Access to middle school male	64.32	16.1	98.5	25.48
Access to middle school female	64.94	13.4	99.4	27.61
Access to secondary school male	50.60	7.80	97.6	32.57
Access to secondary school female	46.90	6.5	96.4	38.32
Gas usage as fuel	74.35	0.30	99.7	34.03
Electricity	91.89	32.0	100	10.51
Drinking water	96.31	68.50	100	5.50
Sanitation facility	69.2	15.60	98.7	25.87
Waste water	51.83	0	99.8	54.35
Solid waste	14.1	0	98.0	120.57
Birth registration	78.88	8.2	100.0	26.23
Crowding	3.71	2.40	4.7	10.78
Ownership of durable goods index	41.13	15.71	75.31	26.19

Source: Computations are based "Multiple Indicator Cluster Survey" (MICS) Punjab 2007-08.

Following are the domains applied in principal component analysis.

### Health:

1. Adult health: It is measured by three indicators i.e., percentage of population reported a diagnosis of chronic cough, tuberculosis or hepatitis.
2. Child Health: It is measured by malnourishment based on anthropometric measurement. Prevalence of underweight (weight for age), stunting (height for age) and wasting (weight for height) among children under 5 years of age.

3. Maternal health: Percentage of married women aged 15-49 having antenatal care, delivery at health facility, health personnel, postnatal care, current use of contraception and unwanted pregnancy.

4. Access to health facility private or public.

**Education:**

1. Adult literacy male and female 15-24 years.

2. Gender parity at primary, gender parity at middle and secondary.

3. Access to primary, middle and secondary school for male and female.

**Child protection:**

1. Child labour: Child age 4 to 15 involved at least 1 hour of economic work. The percentage of child labourers and those who are also attending school.

2. The percentage of children under 5 years of age whose birth is registered.

**Environment:**

1. Safe drinking water: Improved source of drinking water include piped water, public tap, hand pump, motorized pump, tubewell, protected well.

2. Proper disposal of waste water and solid waste.

3. Crowding: Number of persons per room.

**Socio economic development:**

1. Unemployed and seeking jobs.

2. Electricity and gas usage.

3. Ownership of durable goods index: Composite index of TV, telephone, mobile phone, computer, fridge, air conditioner/cooler, cooking range, stitching machine, iron, water pump, scooter and vehicle.

## **Methodology**

### **Principal component analysis**

The most commonly used techniques for aggregating social indicators are, indexing, principal component analysis and composite development indicators. This study adopts a strategy for analyzing the question: a multivariate analysis on the form of Principal Component Analysis (PCA) (Murtag and Heck,1987). The procedure in which a set of correlated variables is transformed into a set of uncorrelated variables (called Principal Components) that are ordered by reducing variability. The uncorrelated

variables are a linear combination of the original variables. The main use of the PCA is to reduce the dimensionality of the data set while retaining as much information as possible. It does not establish weights a priori. It computes a compact and optimal description of the data set.

Principal Components Analysis (PCA) generates components in descending order of importance, that is, the first component explains the maximum amount of variation in the data, and the last component the minimum.

To compute weighted factor score (WFS), the individual factor scores are derived from the following equation:

$$(WFS)_k = \sum_j k e_j (FS)_{kj} \dots \dots \dots (1)$$

Where

$FS_{kj}$  represents factor score of the  $k$ th region and  $j$ th factor.  $e_j$  is the Eigen value of the  $j$ th factor which depicts the proportion of variation in the data set. The  $WFS$  is used as an index for ranking quality of life on the basis of social indicators.

### **Equalization method**

Before running principal component analysis all indicators are standardized. The indicators are standardized by using equalization method so that the indicators always lie between 0 and 1. This is done with a view to remove any scale bias and to avoid the negative sign of the indicators, if standardized following the standard rule. Following Raychoudhuri and Haldar (2008), first the Best and the Worst values of an indicators in a particular dimension are identified. In case of a positive indicator, the highest value will be treated as the best value and the lowest, will be considered as the worst value. Similarly, if the indicator is negative in nature, then the lowest value will be considered as the best value, and the highest, considered the worst value. Once the best and the worst values are identified, the following formula is used to obtain normalized values:

$$X_i = 1 - [BestX_i - ObservedX_i] / [BestX_i - WorstX_i] \quad (2)$$



### 3. Empirical Results

Intra-district disparity is particularly relevant in terms of quality of life. The disparity can be articulated in terms of indicators of health, education, child protection, environment, and socio economic development. In this section the results are based on the Principal Component Analysis. The objective of its use in this instance is to ‘explain’ most of the variation between the regions of Punjab for its 35 welfare indicators of quality of life in terms of far fewer ‘Factors’. These 35 indicators are classified into a small number of clusters each of which is associated with just one of the factors, and in this case the variables within any one cluster are likely to be quite strongly correlated with each other, but not, on the whole, so strongly correlated with variables outside that cluster.

#### **An Initial Solution Using the Principal Components Method**

##### **KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.906
Bartlett's Test of Sphericity	8480.631
Df	595
Sig	.0009

First, the study employs KMO and Bartlett's test to see the strength of the relationship among variables. Large values for the KMO measure indicate that a factor analysis is a good idea. The measure of sampling adequacy is greater than 0.906, indicating the degree of common variance among the thirty five variables is ‘Meritorious’ which characterized by Kaiser, Meyer, and Olkin. The value is large enough to precede a factor analysis for the data.

Bartlett's test of Sphericity is another indicator of the strength of the relationship among the variables that the population correlation matrix is uncorrelated. The observed significance level is .0009. In this study, each variable is standardized to have a mean of 0.0 and a standard deviation of  $\pm 1.0$ . Thus the variance of each variable is equal to 1.0, and the total variance to be explained is 35. Since 6 components are extracted, the same as the number of variables factored. Eigenvalues reflect the relative importance of the factors. The first factor always explains the most variance and has the largest Eigenvalue,

the next the second-most, and so on. The sum of Eigenvalues is total variance. In this analysis first component explains 48 percent variance having 18 variables. The cumulative variance explained by the first six factors is 76.26%. One main conclusion of factor analysis is that access to middle and secondary school, access to health facilities, household utilities and ownership of durable goods, adult female literacy, gender parity at secondary level and maternal health will bring greater change in quality of life than other social indicators..

For indexing quality of life, factor scores are employed which are like predicted scores for each district/sub district score for each factor. It is formed as weighted sum of factor scores following the equation (1). The weighted factor scores are used as quality of life index for ranking districts/*Tehsils* of Punjab on the basis of the welfare indicators in Table 2 and 4.

## **II) Ranking of Quality of Life: A district / *Tehsil* level analysis for Punjab**

This section examines quality of life in terms of quality of persons and quality of conditions in districts and *Tehsils* of Punjab. Assessments of quality of life must include these two dimensions of life, since both capture different dimensions of wellbeing. Joint use of these indicators is mostly helpful to get a complete picture.

The result based on principal component analysis for assessing quality of life is presented in Table 2 and Table 4 a and b. The study reports the estimates at the level of district and *Tehsils* (sub-districts). Province of Punjab is also divided into northern, central, southern and western regions based on, geographical boundaries, official district, regional economic differences, variations in irrigation, agriculture, and cropping patterns, differences in farm-size and land tenure patterns, and distinct historical, cultural, and linguistic influences in each region as suggested by Wilder (1999).

For rank ordering of quality of life the study employs four rating of wellbeing by making four quartiles of 35 districts of Punjab in descending order of weighted factor scores. The four quartiles are rated as good, fair, medium and poor in Table 2. The population share of each district in respective category is sum up to show the performance of quality of life.

**Table 2. Ranking of Quality of life at Districts Levels: 2007-08**

Name of Districts	Quality of life: Good	Weighted factor scores by Principal Component 1-6	Name of Districts	Quality of life: Medium	Weighted factor scores by Principal Component 1-6
Lahore*	1	44.57	Kasur	19	-8.21
Rawalpindi*	2	23.6	Khanewal	20	-8.29
Gujranwala*	3	23.04	Vehari	21	-8.84
Gujrat	4	17.21	Khushab	22	-9.49
Sialkot*	5	16.96	Okara	23	-9.8
Faisalabad*	6	11.69	Bahawalpur*	24	-10.96
Jhelum	7	11.23	Lodhran	25	-11.05
Multan*	8	6.49	Bhakkar	26	-11.66
Sheikhupur	9	5.3	R Y Khan	27	-13.04
<b>Quality of life: Fair</b>			<b>Quality of life: Poor</b>		
Chakwal	10	3.64	Mianwali	28	-13.15
Sahiwal	11	2.54	Layyah	29	-14.48
Sargodha*	12	0.27	DG Khan	30	-14.69
Attock	13	-0.03	Jhang	31	-14.8
M. Bahauddin	14	-0.14	Pakpattan	32	-14.87
T.T Singh	15	-0.35	Bhawalnaga	33	-15.72
Hafizabad	16	-1.36	Rajanpur	34	-20.73
Narowal	17	-2	Muzaffarga	35	-21.15
Nankana sahib	18	-3.71			

- Major cities located

Source: Computations are based "Multiple Indicator Cluster Survey" (MICS) Punjab 2007-08,

According to weighted factor scores ranking, the top 9 districts are rated as 'good' shown in Table 2. It is observed that six major cities are located in 'good' quality of life districts. These districts also include Lahore, the provincial capital of Punjab at the top. The district of Lahore is sub divided in ten *tehsils* out which 7 are at the top ranking whereas bottom three are ranked as 18,28 and 38 respectively as in Appendix A, indicating intra-district disparity in quality of life. District Rawalpindi which ranked at second, its top two *tehsils* are performing well but Kotli Sattian which is at the bottom within district ranked at 128 out of 143 sub-divisions. In the same way all the other districts which are rank as 'good' quality of life districts not necessary its *tehsils* are also have same ranking. It is observed access to education, access to health facilities and housing are the important variables in capturing variation in the district. It is also observed that those districts which are more urbanized and have major cities are ranked in upper quartile. Cheema *et al* (2008) also suggested that urbanization co-exists with a

large poor population that inhabits the periurban areas of the districts. The top 9 districts having household share of 33.07 percent in total sample of Punjab are concentrated in this category as seen in Table 3. As the Province of Punjab is sub grouped on the bases of geographical zone, central Punjab indicates highest share in ‘good’ quality of life while western Punjab gets zero share. In northern Punjab districts population is concentrated in ‘good’ and ‘fair’ rated quality of life while in western Punjab district population is seen in ‘medium’ and ‘poor’ quartiles of quality of life. MICS 2003-04 and 2007-08 estimated that mean per capita income and expenditure are also lowest in this region. The second quality of life categorized as ‘fair’ has one major city and out of 9 districts seven are located in central Punjab while two are in northern Punjab. The third quartile is termed as ‘medium’ quality of life where 23 percent population is residing, majority of which are from southern Punjab. The bottom quartile is categorized as ‘poor’ where districts from western Punjab are dominated. It shows some dynamic in variation of quality of life within districts of Punjab.

**Table. 3 Sub-Provincial Variation in Quality of Life Rating by District**

<b>Zones<sup>1</sup></b>	<b>Good</b>	<b>Fair</b>	<b>Medium</b>	<b>Poor</b>	<b>Overall</b>
North Punjab	6.89	5.19	--	--	12.08
Center Punjab	22.20	15.31	5.32	4.77	47.08
South Punjab	4.01	--	17.41	4.34	25.76
West Punjab	---	---	3.71	12.09	15.08
<b>Overall</b>	<b>33.07</b>	<b>20.51</b>	<b>25.44</b>	<b>21.20</b>	<b>100</b>

Source: Computations are based “Multiple Indicator Cluster Survey” (MICS) Punjab 2007-08.

In order to further explore variation in quality of life based on weighted factor scores at sub- district (*Tehsils*) levels in four quartiles is also analyzed. As indicated in Table 4.a and 4.b ranking based on sub district level are significantly different from district level quality of life. District Rawalpindi which ranked at second categorized as ‘good quality’ of life, had eight sub divisions, five are classified as ‘fair’ and one is

<sup>1</sup> Note: North Punjab: Rawalpindi, Attock, Chakwal and Jhelum  
 Central Punjab: Faisalabad, Jhang, TobaTak Singh, Nankana Sahib, Gujranwala, Gujrat, Hafizabad, Mandi Bahauddin, Narowal, Sialkot, Kasur, Okara, Sheikhpura, Pakpattan, Sahiwal, Sargodha and Lahore  
 Southern Punjab: Bahawalpur, Bahawalnagar, Rahimyar Khan, Multan, Khanewal, Lodhran and Vehari  
 Western Punjab: D.G. Khan, Layyah, Muzaffargarh, Bhakkar, Khushab, Rajanpur and Mianwali

‘poor’. In examining the classification of quality at sub-districts level, *Tehsils* of Gujranwala, Gujrat, Khanawal, Sahiwal, Narowal, Pakpattan, Rajanpur and Muzafarghar are located in their respective categories as the districts. Some districts like Bahawalpur, Hafizabad, Okara and Bahawalnagar have sub division which categorized above in terms of quality of life with their districts ranking as given in Appendix A.

Intra districts variation in quality of life can be quantified by 143 sub districts i.e. *Tehsils*. Samanabad that is located in district Lahore ranked at the top while *Tehsils* Alipur located in Muzafarghar placed at the bottom. Variation in quality of life with in district can be observed in Appendix A. It is however to note that even the relatively good quality of districts have pocket low quality sub regions like Rawalpindi. Alternatively, even a relatively low ranking district has some *Tehsils* with high level of quality of life like, Bahawalpur.

Variation in quality of life at sub-district (*Tehsil*) level by provincial zone is demonstrated in Table 5. The population from each *Tehsil* in respective categories are sum up to show the performance of the quality of life in Punjab.

**Table 4.a Ranking Quality of life at Tehsils Level: 2007-08**

Name of Tehsils	Quality of life: Good	Weighted factor scores by Principal Component 1-6	Name of Tehsils	Quality of life: Fair	Weighted factor scores by Principal Component 1-6
Samanabad town	1	57.93	Murree town	37	9.94
Gulberg town	2	56.72	Wahga town	38	9.22
DG Buksh town	3	51.04	Hazro	39	8.8
Shalimar town	4	50.45	Sheikhpora	40	8.55
Rawal town	5	47.32	Potohar	41	8.31
Ravi town	6	43.62	Mandi Bahatian	42	7.98
Aziz Bhatti town	7	36.23	Sargodha	43	7.62
Lahore cantt	8	36.15	Muridke	44	7.49
Jinnah town	9	33.98	Kallar saidan	45	7.44
Oila Didar Singh	10	32.52	Gujjar khan	46	6.89
Taxila	11	31.08	Boson town	47	6.43
Madina town	12	28.32	Sahiwal	48	6.01
Sialkot	13	27.61	Hafizabad	49	5.42
Nandipur	14	27.57	T.T Singh	50	2.73
Aroop town	15	26.85	Shangla hill	51	2.31
Allama I town	16	24.72	Chichawatni	52	2.3
Iqbal town	17	24.47	Gojra	53	2.05
Pasrur	18	23.3	Sumundri	54	1.95
Kamoke town	19	22.85	Sohawa	55	1.4
Khiali shah	20	21.84	Kahuta town	56	0.29
Gujrat	21	21.61	Bhalwal	57	0.02
Jhelum	22	21.46	Sharaqpur	58	-0.01
Shah RA town	23	20.52	Sambrial	59	-0.15
Dina	24	20.05	Shakargarh	60	-0.49
Mumtazabad	25	18.14	Pind dadan khan	61	-0.56
Sher shah town	26	17.67	Narowal	62	-0.64
Wazirabad	27	16.97	Fatehjang	63	-0.75
Nishtar town	28	16.76	Okara	64	-0.84
Bahawalpur city	29	15.68	Shah kot	65	-1.03
Layallpur town	30	14.52	Yazman	66	-1.08
Sara-e-alam	31	14.46	Ferozewala	67	-1.26
Attock	32	12.92	Choa saidan sh	68	-2.51
Daska	33	12.21	Burewala	69	-2.92
Kharian	34	11.39	Talagang	70	-3.16
Nowshera virkan	35	10.11	Malakwal	71	-3.21
Chakwal	36	10.03	Pattoki	72	-3.28

Source: Source: Computations are based "Multiple Indicator Cluster Survey" (MICS) Punjab 2007-08.

**Table 4.b** Ranking Quality of life at *Tehsil* Levels: 2007-08

Name of <i>Tehsils</i>	Quality of life: Medium	Weighted factor scores by Principal Component 1-6	Name of <i>Tehsils</i>	Quality of life: Poor	Weighted factor scores by Principal Component 1-6
Kamalia	73	-3.29	Darya khan	109	-12.63
Jahanian	74	-3.3	Kot addu	110	-12.73
Safdarabad	75	-3.44	Pindi Bhatia	111	-12.82
Sillanwali	76	-3.61	Piplan	112	-13.33
Chak ihumra	77	-3.74	Kallur kot	113	-13.44
Jaranwala	78	-4.62	Mailsi	114	-13.91
Khushab	79	-6.16	Hasilpur	115	-13.93
Khanewal	80	-6.51	Arifwala	116	-13.98
Phalia	81	-6.96	Tandlianwala	117	-14.77
Dunva pur	82	-7.22	Noorpur Thal	118	-15.38
Lodhran	83	-7.89	Rajanpur	119	-16.12
RY khan	84	-7.93	Pakpattan	120	-16.17
Christian	85	-8.43	Depalpur	121	-16.38
Sahiwal	86	-8.45	Fort Abbas	122	-16.41
Renala khurd	87	-8.51	Essa khel	123	-16.5
Bhakkar	88	-8.78	Bahawalnagar	124	-16.71
Kasur	89	-8.86	Mankera	125	-16.91
Kabirwala	90	-8.97	Kotli sattian	126	-16.95
Jand	91	-9.04	Keror pacca	127	-17.63
Pindigheb	92	-9.35	Shujabad town	128	-18.63
Karor lal	93	-9.47	Muzaffarghar	129	-19.48
Chunian	94	-9.6	Shorkot	130	-20.18
Hasanabdal	95	-9.79	Ahmadpur Sial	131	-20.19
Vehari	96	-10.84	Taunsa	132	-20.61
Mianwali	97	-11	Jalal pirwala	133	-20.98
Mian channu	98	-11.19	Khairpur	134	-21.77
Layyah	99	-11.44	Bahawalpur	135	-21.86
Nankana sahab	100	-11.6	Rojhan	136	-22.14
Chinniot	101	-11.6	Liaquatpur	137	-22.24
Kot momin	102	-11.71	Jampur	138	-23.17
Khanpur	103	-11.77	Jatoi	139	-27.99
Haroonabad	104	-11.96	Minchinabad	140	-28.68
Sadiqabad	105	-12.02	Ahmadpur east	141	-29.02
Shahpur	106	-12.05	Choubara	142	-29.88
DG Khan	107	-12.27	Ali pur	143	-32.17
Jang	108	-12.46			

Source: Source: Computations are based "Multiple Indicator Cluster Survey" (MICS) Punjab 2007-08.

**Table. 5** Sub-District (*Tehsil*) Level Variation in Quality of Life (%)

Zones	Good	Fair	Medium	Poor	Overall
North Punjab	4.86	5.54	1.47	0.21	12.08
Center Punjab	16.10	17.84	9.02	4.12	47.08
South Punjab	2.83	2.20	11.08	9.65	25.76
West Punjab	--	--	5.19	9.89	15.08
Overall	23.79	25.58	26.76	23.87	100

Source: Source: Computations are based "Multiple Indicator Cluster Survey" (MICS) Punjab 2007-08.

### **Identifying Quality of Life Differences in Punjab**

The key question is how to explain regional variations in quality of life in districts and sub districts levels in Punjab. In other words why is quality of life considerably poor in one area than in other areas? Some explanations in terms of socio-economic development indicators are also given as:

1. Incidence of poverty is low in ‘good’ quality of life regions while it is quite high in ‘poor’ rated districts (Cheema *et al*, 2008).
2. The level of urbanization is high in ‘good’ quality of life districts; Lahore, Gujranwala, Faisalabad, Multan, Rawalpindi, etc.
3. In southern Punjab, employment prospects in industry and the services sector are lower than the regions that are better connected to major centres of growth.
4. High dependency of the rural labor force on the agriculture sector in poor districts is a cause of concern.
5. Districts which have industrial zone i.e., Lahore, Faisalabad, Gujranwala, etc are in are placed in top ranking.
6. Remittances from overseas migrants, especially from Middle East play an important role in quality of life of Pakistani people. Recent statistics shows that sixty percent Pakistani in the Middle East migrated from only 20 districts with heavy concentration from Rawalpindi, Lahore, Faisalabad and Gujranwala, etc.
7. Inequality in land ownership is high; only less than half of all rural households own any agriculture land while the top 2.5 percent of all households account for over 40 percent of all land owned. Gini coefficient for land distribution is high in ‘poor’ rated quality of life districts.
8. In north Punjab, alongside of Islamabad Rawalpindi city has generated a lot of opportunities for its rural population as well as populations from neighboring districts, including Jhelum, Chakwal and Attock, by providing them employment opportunities, mainly in the services sector (Amjad *et al*, 2008).
9. Large family size, high dependency ratio in poor districts is observed in the Population Census of Pakistan, 1998.



#### 4. Conclusions

Quality of life is a multi-level and amorphous concept, and is popular as an endpoint in the evaluation of public policy. The study explores intra district variation in quality of life in Punjab by employing MICS, 2007-08 while in methodology principal component analysis is used for indexing wellbeing. The quality of life is examined through two dimensions, quality of persons and quality of conditions based on five domains: education, health, child protection, environment, and other socio economic conditions. All the thirty five districts and one forty three *Tehsils* (sub districts) are categorized in four quartiles that is good, fair, medium and poor.

According to weighted factor scores ranking, the top 9 districts are rated as 'good' quality of life districts where six major cities of Punjab are located, i.e. Lahore, Rawalpindi, Gujranwala, Gujrat, Faisalabad and Sialkot, etc. The second quality of life categorized as 'fair' has one major city and out of 9 districts seven are located in central Punjab while two are in north Punjab, i.e. Sargodha, Sahiwal, Chakwal and Attock. The third quartile is termed as 'medium' quality of life where 23 percent population is residing, majority of which are from south Punjab. The bottom quartile is categorized as 'poor' where districts from west Punjab are dominated, i.e. Mianwali, Jhang and Muzaffargarh etc. Intra districts variation in quality of life quantified by *Tehsils* is quite considerable. Some district like Rawalpindi, Faisalabad, Multan and Jhelum observed significant variation in quality of life in their respective *Tehsils*. Distribution of population by geographical zones also highlights sub districts discrepancies in quality of life when comparing it with districts. Some important determinants of regional variation in quality of life are access to middle and secondary school, access to health facilities, household utilities and ownership of durable goods, adult female literacy, gender parity at secondary level and maternal health as depicted by factor components. Some explanations in terms of socio-economic development indicators are poverty rates, extent of urbanization, overseas migration, industrial zones and geographical significance, etc.

Finally, the study has identified *Tehsils* ranked as ‘poor’ quality of life within each district as target for special resource allocation within Medium Term Development Framework.

### References

- Akhtar S, Sarwer M N (2007). Social development and quality of living in districts of Pakistan. Comparative ranking between 1998 and 2004-05, Centre for Research on Poverty Reduction and Income Distribution. Discussion paper series No: 16.
- Amjad R, Arif G M, Mustafa U (2008) Does the labor market structure explain differences in poverty in rural Punjab? *The Lahore Journal of Economics*. Special edition. 139-162.
- Campbell, Angus, Phil Converse, Willard Rodgers (1976) *The Quality of American Life*. New York: Russell Sage Foundation.
- Cheema A, Khalid L, Patnam M (2008) The Geography of Poverty: Evidence from the Punjab, *The Lahore Journal of Economics*. Special edition. 163-188.
- Cobb, Clifford W. (2000) *Measurement Tools and the Quality of Life*. Redefining Progress. San Francisco: [www.rprogress.org/pubs/pdf/measure\\_qol.pdf](http://www.rprogress.org/pubs/pdf/measure_qol.pdf)
- Erikson, N, Robert (1993) *Descriptions of Inequality: The Swedish Approach to Welfare*
- Ghaus A F A, Pasha H, Ghaus R.(1996) Social development ranking of districts of Pakistan”, *The Pakistan Development Review* 35:4 Part II, 593-614.
- Haq, H (2009) Measuring Human Wellbeing in Pakistan: Objective versus Subjective Indicators. *European Journal of Social Sciences*, vol.9 (3).
- Haq, H and Uzma Zia (2009) Dimensions of Wellbeing and Millennium Development Goals. *The Pakistan Development Review* 35:4 pp, 593-614.
- Jamal H, and Amir K J (2007) Trends in regional human development indices. Research Report No.73. *Social Policy Development Centre*, Islamabad.
- Lane, R.E (1994) Quality of life and quality of person: A role for government? *Political Theory*. 22(2). Pp 219-252.
- Murtag F, Heck A. (1987) *Multivariate data analysis*. Reidel Publishing Company, Dordrecht, Holland.
- Noll, Heinz-Herbert (2002b) Towards a European System of Social Indicators: Theoretical Framework and System Architecture. In: M. Hagerty, J. Vogel, V. Moeller.

Eds. *Assessing Quality of Life and Living Conditions to Guide National Policy*. Social Indicators Research Series, Vol. 11. Dordrecht: Kluwer Academic Publishers.

Pasha A G, Naeem A (1999) Pakistan's ranking in social development: Have we always been backward? *The Pakistan Development Review* 38(4): 739-754.

Pasha, H.A. et al. (1990) The changing profile of regional development in Pakistan, *Pakistan Journal of Applied Economics* , 9(1): 1-26.

Punjab, Government of. (2007) Multiple Indicators Cluster Survey, Punjab: 2007-2008. Punjab Planning and Development Department. Bureau of Statistics, Lahore.

Raychoudhuri, A. and Haldar, S.K. (2008). An investigation into the inter-district disparity in West Bengal, 1991-2005. Paper presented at the seminar on 'Intra-State Disparities in Development' organized by Asian Development Research Institute, Patna, India.

Schuessle, K.F and Fisher G.A (1985) Quality of life Research and Sociology. *Annual Review of Sociology*. Vol.11. pp.129- 149.

Sen, Amartya (1993) 'Capability and Well-Being'. In: M.C. Nussbaum, A. Sen. Eds. *The Quality of Life*. Oxford: Clarendon Press, pp. 30-53.

Siddiqui R. (2008) Income, public social services, and capability development: A cross-district analysis of Pakistan, Working papers No. 43. Pakistan Institute of Development Economics. Islamabad.

United Nation Development Programme (UNDP).2003. Pakistan National Human Development Report 2003. Poverty , Growth and Governance", UNDP.

Wilder , A., (1999) The Pakistani Voter, Electoral Politics and Voting Behaviour in the Punjab, Oxford University Press, Karachi.

**Appendix .A Intra Districts Disparity in Quality of life in Punjab: 2007-08**

Name of Districts	Tehsils Ranking within District	Overall Tehsils Ranking in Punjab	Name of Districts	Tehsils Ranking within District	Overall Tehsils Ranking in Punjab
<b>1 Lahore</b>	1		<b>7 Jhelum</b>		
Samanabad	1	1	Jhelum	1	22
Gulberg town	2	2	Dina	2	24
DG Buksh town	3	3	Sohawa	3	55
Shalimar town	4	4	Pind dadan	4	61
Ravi town	5	6	<b>8 Multan</b>		
Aziz Bhatti	6	7	Shah R A	1	23
Lahore cantt	7	8	Mumtazabad	2	25
Allama Iqbal town	8	18	Sher Shah t	3	26
Nishtar town	9	28	Boston	4	47
Wahga town	10	38	Shujabad	5	128
<b>2 Rawalpindi</b>			Jala Pirwala	6	133
Rawal town	1	5	<b>9Sheikhupura</b>		
Taxila	2	11	Sheikhupura	1	40
Murree town	3	37	Muridke	2	44
Potohar town	4	41	Sharaqpur	3	58
Kallar sayadan	5	45	Ferozwala	4	67
Gujar Khan	6	46	<b>10Sahiwal</b>		
Kahuta town	7	56	Sahiwal	1	48
Kotli Sattian	8	126	Chechawatni	2	52
<b>3 Gujranwala</b>			<b>11Chakwal</b>		
Qila didar	1	10	Chakwal	1	36
Nandi pur	2	14	Choa saidan	2	68
Aroop town	3	15	Talagang	3	70
Kamok town	4	19	<b>12T.T Sing</b>		
Khiali shahpur	5	20	Toba tk sing	1	50
Wazirabad	6	27	Gojra	2	53
<b>4 Gujrat</b>			Kamalia	3	73
Gujrat	1	21	<b>13 Mandi BD</b>		
Sara Alamgir	2	31	Malakwal	1	71
Kharian	3	34	Phalia	2	81
<b>5 Sialkot</b>			<b>14Attock</b>		
Sialkot	1	13	Attock	1	32
Pasur	2	18	Hazro	2	39
Daska	3	33	Fateh jang	3	63
Sambrial	4	59	Jand	4	91
<b>6 Faisalabad</b>			Pindigheb	5	92
Jinnah town	1	9	Hasan Abdal	6	95
Madina town	2	12	<b>15Narowal</b>		
Iqbal town	3	17	Shakargarh	1	60
Layallpur town	4	30	Narowal	2	62
Samundari	5	54	<b>16Sargodha</b>		
Chak Jhumera	6	77	Sargodha	1	43

Jaranwala	7	78	Bhalwal	2	57
Tandlianwala	8	117	Sahiwal	4	86
			Kot momin	5	102
			Shahpur	6	106

## Appendix A Continued.....

<b>17 Hafiz abad</b>			<b>27 R.Y khan</b>		
Hafiz abad	1	49	R.Y khan	1	84
Pindi bhatian	2	111	Khan pur	2	103
<b>18Nankana sahab</b>			Sadiq abad	3	105
Shangla hill	1	51	Liaqat pur	4	137
Shahkot	2	65	<b>28Mianwali</b>		
Safdar abad	3	75	Mianwali	1	97
Nankana sahab	4	100	Piplan	2	112
<b>19Kasur</b>			Essa khail	3	123
Patoki	1	72	<b>29Lyyah</b>		
Kasur	2	89	Karor lal	1	93
Chunian	3	94	Lyyah	2	99
<b>20Khanewal</b>			Chubara	3	142
Jahanian	1	74	<b>30D.G khan</b>		
Khanewal	2	80	D.G khan	1	107
Kabirwala	3	90	Taunsa	2	132
Mian chanue	4	98	<b>31Jhang</b>		
<b>21Vehari</b>			Chinniot	1	101
Burewala	1	69	Jhang	2	108
Vehari	2	96	Shorkot	3	130
Mailsi	3	114	Ahmadpur s	4	141
<b>22Khushab</b>			<b>32Pakpattan</b>		
Khushab	1	79	Arifwala	1	116
Nurpur thal	2	118	Pakpattan	2	120
<b>23Okara</b>			<b>33Bahawalna</b>		
Okara	1	64	Chistian	1	85
Renala khu	2	87	Haroonabad	2	104
Depalpur	3	121	Fort Abbas	3	122
<b>24Bahawalpu</b>			Bahawalnaga	4	124
Bahawalpur city	1	29	Minchinabad	5	140
Yazman	2	66	<b>34Rajanpur</b>		
Hasilpur	3	115	Rajanpur	1	119
Ahmadpur	4	131	Rojhan	2	136
Khairpur	5	134	Jampur	3	138
Bahawalpur sadar	6	135	<b>35Muzaffarga</b>		
<b>25Lodhran</b>			Kotaddu	1	110
Duniapur	1	82	Muzaffargar	2	129
Lodhran	2	83	Joti	3	139
Keror pacca	3	127	Alipur	4	143
<b>26Bhakkar</b>					
Bhakkar	1	88			
Darya khan	2	109			
Kallur kot	3	113			
Mankera	4	125			

Source: Source: Computations are based “Multiple Indicator Cluster Survey” (MICS) Punjab 2007-08.

Appendix  
Figure.1

