



Quality of life of students – A study in and around Delhi University north campus.

KEYWORDS

Quality of Life, Gis, University Campus, QOL Rank.

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ABSTRACT This study reports the result of a random sample survey of 110 students conducted in and around Delhi university north campus area. The main aim of the survey was to investigate the respondents' quality of life (QOL) in the area. To assess the quality of life an integration of surveyed data within a GIS framework is performed. In this study GPS based Ground Control Points are used to prepare the Geo-referencing the base map and GIS technology are used in overlay analysis of the various Socio-Economic factors which consider as important to determining the quality of life. Ten major factors like Education, Housing, Economy, Environment, Health and Medical, Consumer Goods, Transport, Securities, Public Facilities, Recreation are selected for the study of quality of life over the area. The result of the overlay analysis of all the factor are indicate that the zone one University campus high quality of life , zone four Dr. Mukherjee Nagar score moderate quality of life and finally zone two Kamlanagar, Jawahar Nagar, Maurice Nagar, Vijay Nagar and zone three Gurutegbahdur Nagar, Hakikat Nagar and Outtram line score moderate quality of life respectively. This information may be an essential guide to create a better living environment for the students in the area.

Introduction

The term Quality of Life" relates to the description and evaluation of the nature or conditions of life of people in a certain country or region. For any individual, QOL expresses that set of "wants" which after being supplied, when taken together, makes the individual happy or satisfied. Quality of life is a subjective name for the "well being" of people and the environment in which they live. However, QOL is seen as the product of the interaction of a number of different factors -- social, health, economic, and environmental conditions -- which cumulatively, and often in unknown ways, interact to affect both human and social development at the level of individuals and societies. It is the "the notion of human welfare (well-being) measured by social indicators rather than by ""quantitative"" measures of income and production."(United Nations Glossary 2009).

Objective of the Study

The purpose of the study is to access the quality of life scenario on campus area which can be used to monitor key issue that encompass the social, health, environmental and economic dimensions of the quality of life in the student community in university campus area. Therefore, the main objectives of the present study are -

1. Selection of indicators to assess Quality of Life of the students.
2. Assessment of responses of students to measure their quality of life.

Study Area

The study area is Delhi university north campus and surrounding area called as – University Campus, Kamla Nagar, Jawahar Nagar, Maurice nagar, Guru Teg Bahadur Nagar, Vijay Nagar, Hakikatnagar, Outtram Line, Dr Mukherjee Nagar. The area is located between the latitudes of 28°-40'-00" and 28°-44'-00" North and longitudes of 77°-12'-24" and 77°-26'-37" East. As we know that The University of Delhi is one of the most famous names in the country. The study area full with college as well as competitive exam preparation students, many of whom live in hostels and rented accommodation close by.

The study area has been divided into four Zone(Figure-1). They are as follows –

1. University campus.
2. Kamla Nagar, Jawahar Nagar, and Maurice nagar, Vijay nagar.
3. Gurutegbahadurnagar and Hakikatnagar, outtram line.
4. Dr Mukherjee Nagar.



Figure 1: Location Map of the study area.

Data Base

The data used in this project is derived from secondary as well as primary sources.

EsherCity Map (2010) is been used as a base map for the observation of the location of various physical structure over the area like road, college, hospital, building etc. The base map is also used for the collection of Earth coordinate system,(latitude-longitude Data) and Geo- referenc- ing of the area.

The primary source of data is the survey conducted among the various students over the study area. The survey con- ducts for the data are based on **Random Sampling**. The total numbers of sample collected are 110. Among the data 50 are sampled by girls and 60 are by boys students respectively. The surveys are conduct on the **Rent, Hostel** and **Paying Guest (PG)** accommodated students.

Methodology

To find out the Quality of Life among the migrant student over the area the **Subjective approach** have been Chosen 10 parameter have been selected to find out the quality of Life. Therefore the integration of **remote sensing and GIS** technologies has been applied and been utilizing as an ef- fective tool in analysis and modeling.

Then the questionnaires are prepared on the basis of ten socioeconomic variables namely**1.Housing, 2.Economy, 3.Education, 4.Environment, 5.Health and Medical, 6.Consume Good, 7.Transport, 8.Securities, 9.Public Fa- cilities, 10.Recreation**and a random surveys conducted over the area. The questionnaire consisted of 52 questions that were designed to assess the quality of life based on ten aspects. The wording of most questions (12 questions) occurred in the following format. For example, with an in- troductory statement such as "What is your satisfaction level with Available housing Facilities. ", the respondents were asked to select their answers from a 5-point Like of (1) "Very high", (2) "High", (3) "moderate", (4) "Low", (5) "Very Low" .The 12 questions on the spatial distribution and accessibility of community facilities and services were presented using the following format. An example of these questions was " How accessible are park natural area From your home". (1) " <5 Minute", (2) "5-10 Minute", (3) "10- 15 Minute", (4) " >5 Minute". Finally, some personal char- acteristics and socioeconomic variables of the respondents including their gender, their home type, size and nature, and years of occupancy, their family size, their study pro- gram and university, and their years of studying at univer- sity were recorded. Additional information was acquired from field observations.

Therefore the surveyed questionnaires are tabulated and index calculation is performing by using the formula.

Formula -

QOL Rank =

Where,

i = Number of questions

And j = Number of parameters

After the index calculation on various factor, all the value are integrated with GIS. Therefore the various layers are prepared on various factors. Finally overlay analysis of the various layer are performed and compost of QOL map are

Prepared and interpreted.

Results and Discussions

As mentioned above in section 2, Ten socioeconomic vari- able are Selected and based on that variable 110 students are sampled from university and surrounding area. Out of 110 respondent 60 are male and 50 are female students and out of 110 surveyed 81 were from University of Delhi, 21 were competitive exam preparation (Eg. civil service) student and 8 were from other institution. The mean of the overall satisfaction with the entire factor are very from the 3.15 to 3.25. The variation among the area is not high. Overall the Zone one, university campus area score a high quality of life, and Zone Four, Dr Mukherjee Nagar score a moderately quality of life and finally zone Two and Three combined namely kamla Nagar, Jawahar Nagar ,and Mau- rice nagar, Vijay nagar, Guruteg bahadur nagar and Hakia nagar, outtram line are scored a moderate quality of life.

Though the campus area scored a high QOL index but in some of the parameter the area perform a very low score where as others area reflect some good condition in other factor. A detail analysis on various factor and their average score over the area are provide below.

Table.1.0. Zone wise Average score of Various Factors (out of 5)

Parameters Location	Zone 1	Zone 2	Zone 3	Zone 4
Education	3.83	3.44	3.5	4
Housing	3.25	3.04	3.06	3.12
Economy	2.75	2.66	2.37	2.25
Consumer Good	3	2.91	2.81	3
Transport	2.83	3.25	3.19	3.11
Medical and health	3.5	3.33	3.25	3.5
Security	4	3.66	3.68	3.87
Environment	3.66	3.66	3.58	3.5
Public Facilities	3.16	3.38	3.25	3.41
Recreation	2.75	2.16	3	2.75
Over all QOL index	3.275	3.155	3.171	3.252

Education

As the area is famous for its academic services the most of the area are full with University students as well as oth- ers study program student. Out of 110 sampled 26 student are pursuing the Graduation degree,45 students are doing the M.A, 7 students are pursuing the M.Phil/Phd course from the Delhi university and 21 students are pursuing the coaching for various competitive exam and 11 students are pursuing their study program in other courses in vari- ous private and government Universities. From the Figure 2 it can be clearly identified that Zone one, two and three show a high density of the university student compare to zone Four as the zone four is full with the coaching center for various competitive exam therefore its show a high density of competitive exam preparation student. The an- other factor which

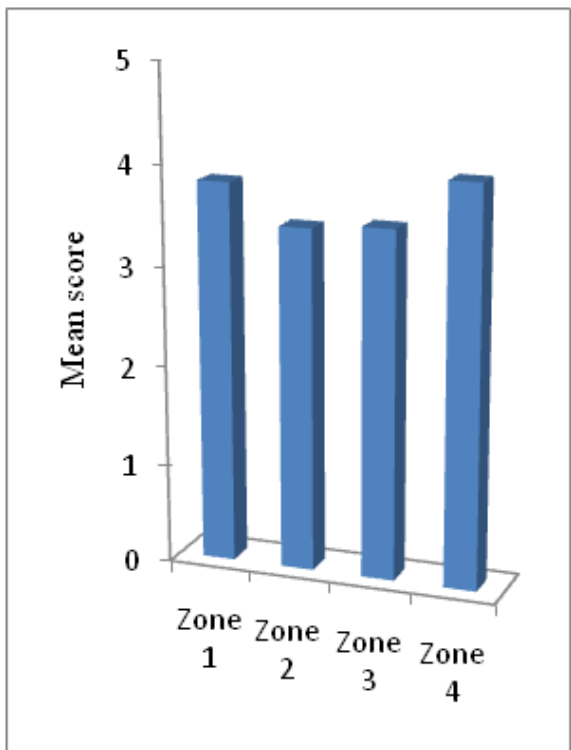
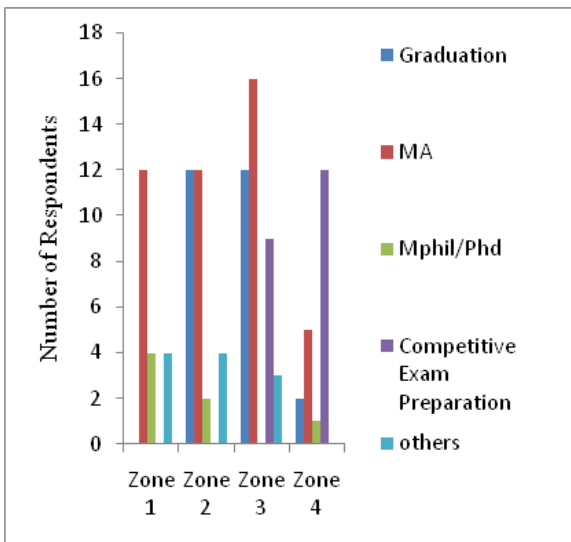


Figure2: Distribution of student Course wise and Average score on Educational Factor over the Area Over the Area

can be consider for such type of distribution pattern is that The Zone one, Two and Three are much close to the university. Therefore student try to locate themselves near the university as its reduce the cost of travel as well as travel time. On question about the satisfaction level with available education quality and facilities most of the students are agreed with highly satisfied. The mean score varied over the zones fall between, 3.44 – 4.00. Zone four depict the high satisfied whereas zone one show moderate satisfied and finally zone two and three show a low satisfied respectively.

Housing

Housing density (number of houses/Km²) shows the pressure of households on existing utilities and services i.e., drinking water and sanitation etc. which is needed by the people (Knox, 2010). In this studies responses were asked to rate the satisfaction level with available Room and its Architecture. This was done in an attempt to identify which aspects of their residential environment were deemed to be more important by the respondents so that we can understand what they really search for in pursuing a better QOL. The average density of room is higher in zone 3 as compare to other zone, and relatively zone 2 has higher density then zone 4 and 1 and zone, 4 has an average however zone 1 has better condition. it may be conclude that due to the high rent the student can't afford it, so student are compel to live in together two three student in single room. But student who got the university hostel live in better housing condition.

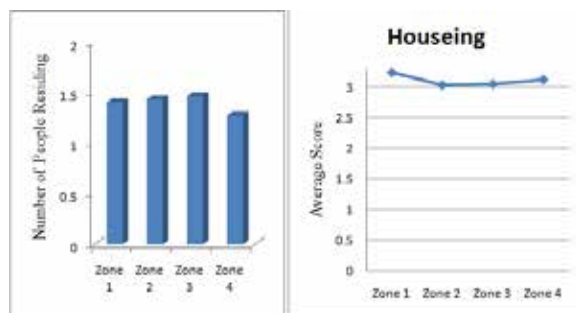


Figure3: Average density of the room over the locality and Average score on housing Factor over the Area

The variation on average score of available housing facilities and architecture over the area are Varies from 3.04 to 3.25. From the graph it can be said that the average score is highest in zone 1 compare to the other remaining three zones, zone two and three show a moderate satisfied and zone four depict the low level satisfaction respectively. So it can be predict that university hostel provide good housing facilities.

Economy

Economy condition is an important factor to determine the quality of life. Students who have good economic background lived in better residential locality and have high standard of living. They can afford the luxury items like laptop, two wheeler, washing machine and Personal internet facilities etc. Figure 4 shows the monthly expenditure of the students over the area. The number of student whose monthly expenditure are varies between 5000-10000 are highest compare to other and indicate a average Quality of Life over the area. Out of the 110 respond's who lives in surrounding area of campus 6 are self depends for their expenditure and 103 students depends on their family for their expenditure and 1 depends on other source like Scholarship. So it can be conclude that most of the students who live in this area are mostly dependent on their family for their expenditure. The variation on satisfaction level of economic factor are not so different, it varies from 2.25 to 2.75. Students, who live in zone one, have better conditions as compared to other reaming zones and have relatively high satisfying level.

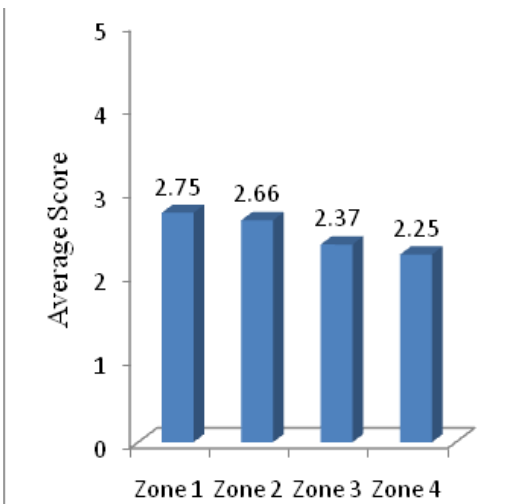
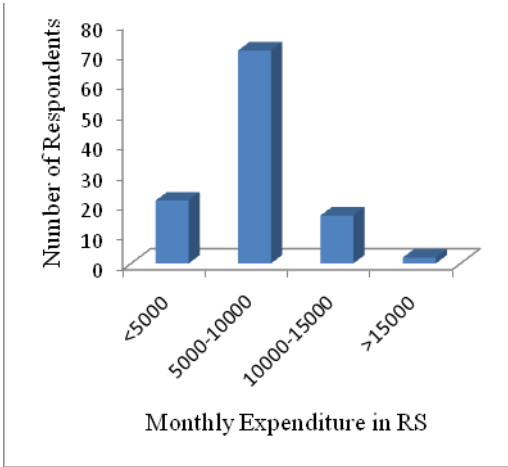


Figure 4: Monthly Expenditure of student Over the Area and Average score on satisfaction level of economic Factor over the Area.

Environment

The major reason for the air and noise pollution in campus and surrounding area are the flow of heavy traffic movement as the two major road NH1 and Mall road are connected with the area. To obtain the satisfaction level of environmental quality over the area the questioner like level of satisfaction with air quality, level of noise pollution, available greening area and water quality etc, are asked to the student who live in the study area.

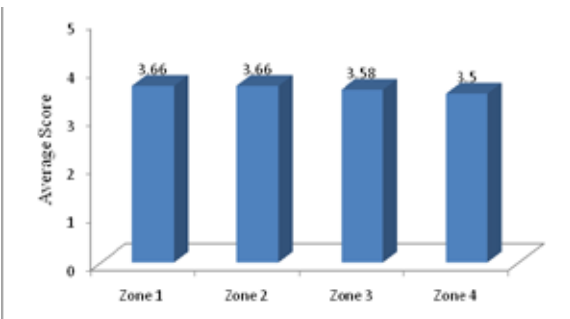


Figure.5: overall Satisfaction level on Environment

The result of satisfaction level with environment quality over the area shown in the Figure 5.0 which clearly show that zone one and two are highly satisfied with the environmental quality of the area as the area cover by mostly green area like Kamla Neheru Ridge, and park and garden of Delhi University. Zone three and four show moderate and low level satisfactions respectively may be due to the densely populated and heavy traffic flow with in the area.

Health and Medical

To obtain the satisfaction level on available health and medical facilities over the area the questioner like available medical facilities, how much time take to obtain the facilities, students have any health insurance or not etc, are asked to the student who live in the study area. Out of the 110 sample only 34% students have health insurance and 66% students have no health insurance which not indicates a very good condition over the area among the students.

The result of the health related quality of life parameter analysis are reveal that the zone one and four are highly satisfied with the medical facilities where as zone two indicate moderate level of satisfactions and zone Three as low. The fluctuation of score on medical facilities is not so differ as it varies Between the 3.25 to 3.50. So it can be conclude that zone three and four have good medical facilities like hospital medical shop etc compare to low satisfied zone.

Consumer Goods

It can be define as goods that satisfy personal needs rather than those required for the production of other goods or services. For e.g. Goods, such as food and clothing, that satisfies human wants through their direct consumption or use. To assess the quality of consume good and satisfaction level on this factor respondents are asked to rating the question like – available food and water quality, quality of available fruit and vegetable, how much time have to travel to take the good etc.

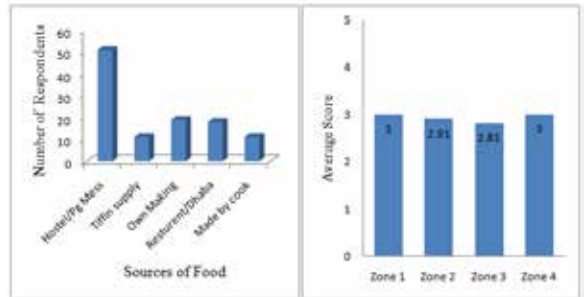


Figure.6.0: Source of the daily main food and their overall Satisfaction level with food.

Figure 6.0 show that the source of the daily main food of the students and their satisfaction level with the available food quality over the area. Most of the students take their daily food from the hostel mess. 17% students are own making and 16% depends on the restaurant and 10% are depends on Tiffin supply. On the aspect of satisfaction level students are mostly moderate satisfied which indicate that there is a problems with a available food quality among the respondent

The average score on the factor of consumer goods, Zone one depict high satisfied and two-three show moderate and four show low satisfied. So it may be conclude that the hostel and Pg mess provide good quality on consume good compare to other area. The average score varies between the 2.81 to 3.00.

Transport

Transport system provides convenient linkage between place of residences, centre of employment and education, community social and recreation faculty. Transportation affects urban quality of life because of the type of accessibility it allows. The importance of transport infrastructure is clearly indicated by the fact that the respondents ranked it as the highest priority. In this study, the respondents were asked to evaluate various aspects of transport like Flow of traffic, level of satisfaction with node to node traffic flow, various travel option, Road network density etc.

The average score on transport factor are very between the 2.83 to 3.25. The overall satisfaction level with the transport factor are show zone two and three is highly satisfied with the transport factor as the road density with in the area are very high and accessibility of various service and utilities are within a short distance and the facilities of the public transport are also high in this area. Zone three shows a moderate satisfaction level as the area are mostly covered by resident area and access covered by personal transport facilities . Zone one show low level of satisfaction as the within the campus facilities the public transport facilities are not available and therefore transport cost is very high.

Securities

As Delhi is a metropolitan city the and also the crime rate is very high in Delhi therefore it is necessary to study the security level and status of the study area. As the area is the residing by students mostly migrated which are more vulnerable. To obtain the satisfaction level with security factor over the area students are asked to response on question like felling of safety at home, park, feeling of safety at night etc, over the area.

The study depict that the response on satisfaction level with security facilities among the students are moderate which may consider as an important factor within the surrounding campus area. The overall satisfaction on security factor is shown in figure 7.0. The variation on average score on security factor are varies between the 4.00-3.66. The campus area show a high level of satisfaction with average score of 4.00 as area is covered by police patrolling. The zone three and four show a low level of stratification and zone four shows a moderate level of stratification with average score of 3.6.

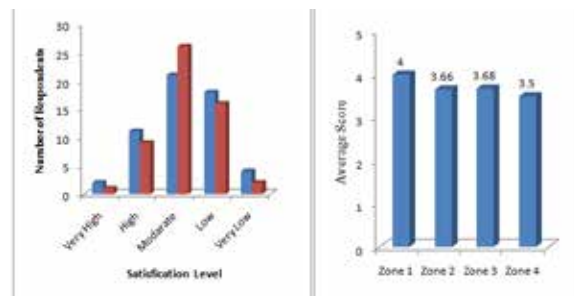


Chart.7.0: Sex Wise respondents of Satisfaction Level with Security Facilities and overall Satisfaction level on security factor

Public Facilities

The spatial distribution of community facilities and services is as important as the adequacy of the provision because the location of these facilities affects the whole gamut of daily activities. This study finds the opinions of the respondents concerning the spatial distribution of these facilities. The questions are asked like satisfaction level with available electricity supply, telephone-internet facilities, water supply, market facilities etc.

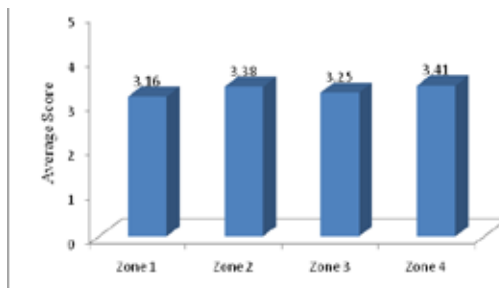


Figure.8.0: overall Satisfaction level on Public Facilities Factor

The average score on public facilities factor are shown in figure 8.0 which differ between the 3.16 to 3.41. Zone four show high levels, zone one and two show moderate level and zone three indicate a low level of satisfaction over the area.

Recreation

Recreation is an activity of leisure, leisure being discretionary time. The term recreation implies participation to be healthy refreshing mind and body. The question asked to respondent like the satisfaction level with available recreation facilities like play ground, park, Cinema Theater, leisure etc.

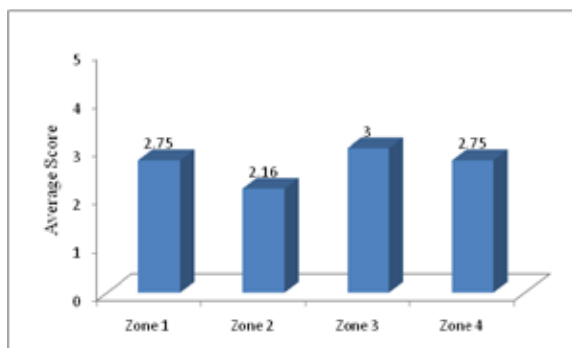


Figure.9.0: overall Satisfaction level on Recreation Factor

The result of all the overall factors on recreation facilities are shown on the figure 9.0, depicts that zone three has high satisfied as the zone fall between one and four which have facilities of play ground and cinema theater respectively. The zone one and four has relatively lower than three and has higher than two because of the facilities moderately distributed. However zone two has low satisfaction level because of the area is densely residential and marketing area. The variation of average score on recreational factor among the zones fell from 2.16 to 2.75.

Conclusion

The foregoing analysis reveals that the zone one score a high quality of the life index over all the factor, though satisfaction level with the environment quality is high over the area but transport, medical, public utilities facilities are show a lower score. The housing condition over the area is a very good condition which indicate that the university hostel provide a good housing condition for the student.



- IV. High noise pollution in Zone one and two.
- V. Low public transport facilities and High transport cost.
- VI. High price of vegetable, fruit and other consumer goods.
- VII. Less number of park and play ground. Etc.

Zone two and three score moderate level of satisfaction over the area as the location are much closer with the university campus and the area is basically residential area which full with students in pg and rented accommodation. As the area are full with high density building the environment quality over the area score a moderate level of satisfaction. In terms of housing facilities the area also score a moderate level.

Finally zone four depicts the low quality of life index over all factors .The zone four mainly consist of students preparing for competitive exam because the area boost of numerous coaching centers. Response on housing condition over the area show a low level satisfaction as area has high room rent but the room size and facilities are not so good, but students show a high level satisfaction with the medical facilities over the area. This study has presented a methodology to develop measures for the quality of life in Delhi university north campus and surrounding area based on the integration of remote sensing technique and survey data. Calculation analysis explored the relationship between environmental and socioeconomic characteristics. The major factor why the students are not satisfy which identify from the survey are –

- I. High room rent and small room size.
- II. Poor manner of land lord to the tenant.
- III. Low air and water quality mostly in zone two, three and four.

REFERENCE

- Rapley Mark, Quality Of Life Research: A Critical Introduction. New Delhi: Sage publication, 2003 | Susan Fournier and David Glen Mick, "Rediscovering satisfaction," *The Journal of Marketing*, Vol. 63, No. 4 (Oct., 1999), pp. 5-23, Accessed: 15/04/2011 04:32. | <http://www.jstor.org/stable/1251971> | K. F. Schuessler and G. A. Fisher, "Quality of Life Research and Sociology," *Annual Review of Sociology*, Vol. 11 (1985), pp. 129-149, Accessed: 15/04/2011 03:52. | <http://www.jstor.org/stable/2083289> | D. R. Cox, R. Fitzpatrick, A. E. Fletcher, S. M. Gore, D. J. Spiegelhalter, D. R. Jones, "Quality-of-Life Assessment: Can We Keep It Simple," *Journal of the Royal Statistical Society. Series A (Statistics in Society)*, Vol. 155, No. 3(1992), pp. 353-393, Accessed: 15/04/2011 04:00. | <http://www.jstor.org/stable/2982889> | Ben-chieh Liu, "Quality of Life: Concept, Measure and Results Author," *American Journal of Economics and Sociology*, Vol. 34, No. 1 (Jan., 1975), pp. 1-13, Accessed: 15/04/2011 03:37. | <http://www.jstor.org/stable/3485691> | H. J. Sutherland and J. E. Till, "Quality of Life Assessments and Levels of Decision Making: Differentiating Objectives," *Quality of Life Research*, Vol. 2, No. 4 (Aug., 1993), pp. 297-303, Accessed: 15/04/2011 04:01. | <http://www.jstor.org/stable/4034727> | S. M. Hunt, "The Problem of Quality of Life," *Quality of Life Research*, Vol. 6, No. 3 (May, 1997), pp. 205-212, Accessed: 15/04/2011 04:30. | <http://www.jstor.org/stable/4035081> | Ronette L. Kolotkin and Ross D. Crosby, "Psychometric Evaluation of the Impact of Weight on Quality of Life-Lite Questionnaire (IWQOL-Lite) in a Community Sample," *Quality of Life Research*, Vol. 11, No. 2 (Mar., 2002), pp. 157-171, Accessed: 15/04/2011 04:36. | <http://www.jstor.org/stable/4037475> | Erik D. Masthoff, Fons J. Trompenaars, Guus L. Van Heck, Helen J. Michielsen, Paul P. Hodiament, Jolanda De Vries, "Predictors of Quality of Life: A Model Based Study," *Quality of Life Research*, Vol. 16, No. 2 (Mar., 2007), pp. 309-320, Accessed: 15/04/2011 04:57. | <http://www.jstor.org/stable/40212561> | John Eyles, "Objectifying the Subjective: The Measurement of Environmental Quality," *Social Indicators Research*, Vol. 22, No. 2 (Mar., 1990), pp. 139-153, Accessed: 15/04/2011 03:59. | <http://www.jstor.org/stable/27520811> | Atiqur Rahman, Yogesh Kumar, Shahab Fazal and Sunil Bhaskaran, "Urbanization and Quality of Urban Environment Using Remote Sensing and GIS Techniques in East Delhi-India," *Journal of Geographic Information System*, 2011, 3, 62-84, Accessed: December 27, 2010. doi:10.436/jgis.2011.31005 |