Trans. Inst. Indian Geographers

Quality of Life in Slums of Varanasi City: A Comparative Study

Darshan Kumar Jha and V. K. Tripathi ; Varanasi, UP

Abstract

Though urbanisation is an indicator of development, but it is also bitter fact that poverty is growing faster in urban areas than in rural areas. Around the world, approximately one billion people live in urban slums, which are typically overcrowded, polluted and lack basic services. The situation is worst in developing countries like India. The slums of Varanasi portray a pathetic picture of life in slums. Social problems, disparities, well being and quality of life are the new domains of geographic study in this post-modern era. Quality of life studies form part of human geography, radical geography, welfare geography and of philosophical geography. The quality of life studies are becoming more relevant for inclusive development of society and country.

This study is based on primary survey of 150 households of 5 different slums (Rajghat, Onkareshwar, Sigra, Durgakund and Nagwa) of Varanasi city. This paper is an attempt to determine the quality of life statistically in slums of Varanasi city. For determining the Quality of Life in slums Composite Index and Standard Deviation techniques has been used. To calculate the composite index 10 variables were chosen to determine QOL. The paper also attempts to briefly compare the condition of slum dwellers with the targets of UN MDG and India vision 2020 and suggest some measures of inclusive development and planning to improve quality of life in slums.

Keywords: *Quality of life, slum, urbanisation*

Introduction:

Though urbanisation is an indicator of development, but it is also bitter fact that poverty is growing faster in urban areas than in rural areas. Being a complex socio-economic process closely connected with scientific technological revolution, urbanisation exercises a growing influence on all aspects of society, reflecting the nature of economic and regional development (Rao, 1999). Around the world, one billion people live in urban slums, which are typically overcrowded, polluted and lack basic services. One of the targets set by world leaders in 2000 was to improve significantly the lives of at least 100 million slum dwellers by 2020.

The situation is worst in developing countries like India. Varanasi, one of the oldest living city of the world, also faces the challenges of rapid urbanisation. The slums of Varanasi portray a pathetic picture of life in slums.

The ultimate objective of all planning and even human living is increased life quality and the resultant enduring happiness,

peace or contentment of population (Singh, 2009). Social problems, disparities, well being and quality of life are the new domains of geographic study in this post-modern era. Quality of life studies form part of human geography, radical geography and welfare geography and of philosophical geography. The quality of life studies are becoming more relevant for inclusive development of society and country.

Urbanisation is defined as the process whereby an increasing proportion of the total population in a geographical area lives in urban settlement. The world is undergoing the largest wave of urban growth in history. In 2008, for the first time in history, more than half of the world's population was living in towns and cities. By 2030 this number will swell to almost 5 billion, with urban growth concentrated in Africa and Asia. It has taken about 800 years for help of the world's population to become urban but it is predicted that it will take less than 80 years for urbanisation to encompass most of the remainder (Guinness and Nagle, 1999).

As per 2011 census, approximately 30% of total population of India is residing in urban areas and it is expected to reach 40% by the year 2050. India's urban population is expected to increase from a little under 350 million in 2011 to about 800 million by the middle of the 21st Century, an increase of an astonishing 500 million persons. At this point, urban India will account for more than half of the country's population. India will thus make a historic transition from a largely rural and agrarian society to one that is predominantly urban. This will be more than just an economic transition: it will result in the transformation of Indian society, its culture, its politics, and the country's natural and built environment. At the same time, it will also place an enormous strain on existing urban centers and the many new ones that will come into existence (IIHS). Urbanisation is closely associated with modernization, industrialization and sociological rationalization. Though Urbanisation is an indicator of development, it also brings many socio-economic problems. One billion people live in urban slums, which are typically overcrowded, polluted and dangerous, and lack basic services such as clean water and sanitation (UNFPA, 2007). Slums can be found in most large cities around the world. But the concept of slums and its definition vary from country to country depending upon the socio -economic conditions of each society. The basic characteristics of slums are inadequate housing and ventilation, acute over-crowding, inadequate lighting, paucity of safe drinking water and non-availability of basic physical and social services. 'Slums' have been defined under section 3 of the Slum Areas (Improvement and Clearance) Act, 1956 as areas where buildings are in any respect unfit for human habitation or are by reason of dilapidation, over-crowding, faulty arrangement and design of such buildings, narrowness or faulty arrangement of streets, lack of ventilation, light, sanitation facilities or any combination of these factors, which are detrimental to safety, health and morals. According to the Census of India, 2001, a slum is a compact area of at least 300 population or about 60-70 households of poorly built congested tenements, in unhygienic environment, usually with

inadequate infrastructure and lacking in proper sanitary and drinking water facilities.

The magnitude of slum population needing attention has increased from about 33.1 million in 1985, to over 35 million in the early 90s and to over 40 million in 2001 (Mallick, 2001). The rapid growth of slums and squatter settlements has largely contributed to the social, economic and environmental problems in urban areas. The various philosophies which can be adopted for development, particularly human development are highly correlated with quality of life (Singh, 2009). Today quality of life seems essential to express and explain the socio-economic pattern and well being of a society and its different strata. It has long been accepted that material wellbeing, as measured by GDP per person, cannot alone explain the broader quality of life. Various international banks, organizations, credit agencies, economists, sociologists and geographers took interest in the process of identifying parameters of quality of life and development of quality of life indexes. Significance of quality of life was realized by modern thinkers quite recently, particularly in the last quarter of the last century.

Morris (1979) has tried to study the 'Physical Quality of Life Index' (PQLI).

He has combined three component indicators of infant mortality, life expectancy and basic literacy. PQLI is called a direct forerunner of today's HDI and is classified under economic perspectives to QOL (Sirgy et al. 2006). HDI as developed by United Nation Development Program (UNDP) is most popular index of quality of life. It summaries the level of human development attained by a country. It is compound of sub-indices relating to health, education and income at national level of aggregation (Narayana, 2008). Hagerty et al. review includes 22 indexes of last 30 years, but none of these indices except HDI is computed for India. The indices are related to both subjective and objective measures/indicators of quality of life. Some of indexes of quality of life are (a) Johnston's QOL Index, (b) Miringoff's Index of Social Health, (c) Annual quality-of-life in Virginia survey; (d) Netherlands Living Conditions Index, (e) German System of Social Indicators and (f) Swedish ULF System. The latest quality of life index is 'The Economist Intelligence Unit's Quality of Life Index'. It is based on 9 indicators for 111 countries including India in 2005. After the work of Smith in 1977 geographers took interest in the study of social well being. In this post-modern globalised era where economic growth and disparities co-exist, the study of human well being and quality of life is more significant. This paper is an attempt to determine the quality of life statistically in slums of Varanasi city. The paper also attempts to compare the condition of slum dwellers with the targets of UN MDG and India vision 2020 and suggest some measures of inclusive development and planning to improve quality of life in slums.

Objective

The study was undertaken with following objectives:

1. To identify slums of Varanasi city.
2. To determine and examine the Quality Of Life (QOL) of different slums of Varanasi city.

3. To compare the QOL of different slums of Varanasi city with the United Nation's Millennium Development Goals (MDG) and India Vision 2012.
4. To suggest inclusive measures to urban planning for improve the QOL in slums.

Methodology

The study is based on secondary as well as primary data. Secondary data are collected from Census and District Urban Development Authority (DUDA), Varanasi. Primary data are collected through an interview schedule by field survey of 150 households of randomly selected slums (Rajghat, Onkareshwar, Sigra, Durgakund and Nagwa) of Varanasi city. For determining the Quality of Life in slums Composite Index and Standard Deviation techniques (Bracy, 1952. R.L. Singh and Rana P.B. Singh, 1979) have been used. To calculate the composite index 10 variables were chosen to determine QOL. Statistically each variable was powered with X1, X2 etc. Reasonable weightages was assigned to each variable. Composite Scores of all variable are taken as X value and Mean value is calculated. After that SD value is calculated. The quality of Life under deviation is grouped and finally comparative analysis is done to show QOL in different slums.

The study area

"*Banaras is Older than history, older than tradition, older even than legend, and looks twice as old as all of them put together*" - *Mark Twain*

Varanasi (also known as Kashi or Banaras) is one of the oldest living city in the world, with a continuous history dating back 3,000 to 5,000 years. It is known as cultural and spiritual capital of India. Varanasi (82°56'E – 83°03'E and 25°14'N) is located on the left crescent-shaped bank of the Ganga river. The city is a part of 'Varanasi Urban Agglomeration' (VUA). Due to increasing population growth and rapid development of Varanasi by 1991 it became million city. Rapid urbanization has increased urban problems in Varanasi city. Lopsided urbanization, faulty urban planning, and urbanization with poor economic base and without having functional categories led to some basic problems in the city like, housing, slums, transport, water supply and sanitation, water pollution and air pollution, inadequate provision for social infrastructure etc.

Slums in Varanasi City

Slums in Varanasi city has been continuously increasing from 1941 to 2011. With the increase in population of the city, housing needs of the city also grew, which could not be met out by the formal housing market. Migrating population, which could not avail the facilities of formal housing market, satisfied their needs by occupying vacant land and this has resulted in formation of slums. Another factor, which contributes in the formation of slums, is proximity to work place and low level of income and un-affordability of pucca houses (CDP, JNNURM, 2006). People living in the slums of Varanasi city are poor working as labour, rickshaw pullers and thela keepers (Tripathi, 2010).

Total wards in Varanasi Metropolitan Corporation are 106, amongst these wards

the slum dwells only in 61 wards. The population of urban poor and slum dwellers in Varanasi accounts for about 37.69% of the city population. Table 1 shows population projection on decadal growth rate, slum population and population below poverty line.

Table 1: Population Projection on Decadal Growth Rate

Year	Total Population	Slum Population	BPL Population
2001	12,02,443	4,53,222	96,344
2006	13,70,785	5,16,668	1,09,787
2011*	15,35,279	5,78,646	1,22,962
2021	19,65,157	7,40,667	1,57,391
2031	25,74,356	9,70,274	2,06,183

*According to Census (2011), the population of Varanasi is 1203961.

Source-DUDA, 2006

Slum locations are spread all over the city but major concentrations are in the old city areas near the Ghats, industrial units and the Rajghat area due to proximity to work place. Employment due to tourism and availability of open land has led to indiscriminate squatting (Tripathi, 2011). Varanasi has 227 slums spread all over the city, either on government or private lands. About 50% of slums are located in central city, 13% in old city while 37% in peripheral areas. The average density in slum areas is approximately 330 persons per hectare in the city area. Table 2 gives an overview of slums in Varanasi city.

Table 2: Slums in Varanasi: An Overview

	No. of HH	Population	Area (Ha)	Density (person/Ha)	HH size	Average Income (Rs/Day)
Varanasi City	151654	1202433	7979	150	7.3	NA
Slums	57055	453222	1372.6	330	8	100-150
Percentage	37.6%	37%	17%	-	-	-

Source-DUDA, 2006

Sample Slums:

For sample survey 5 wards were selected from the different parts of Varanasi City (Fig. 1). The Nagwa ward which is located on the southern part of the Varanasi is adjacent to the western side of BHU and Ganga River. In this ward 25 households were surveyed. This slum is situated along the Assi Nala which flows from the middle part of Nagwa ward. Sigra ward is situated in the middle part of the city. It is mainly situated on the front of Sampurnanand Sport Stadium. In this ward 25 households were surveyed. Due to location on main road the position of dwellings is better than other slums. The slum of Durgakund ward is situated on the eastern side of Durgakund temple on the western side of Lanka-Ravindrapuri

road. Here the dwellers belong to a specific community of sweeper. The living standard and economic status is comparatively better than the dwellers of Nagwa ward. Here the total of 25 households was surveyed. The slum area of Onkaleshwar is known by Hasanpur. This is situated on the western skirt of Machhodari Park and scattered every side of Shiva temple Onkaleshwar. Here 50 households were surveyed. Rajghat slum (Kazzakpura) is situated on the eastern part of Varanasi city on the east of Varanasi-Mughalsarai main road and on the west of Ganga River. Here 25 households were surveyed.

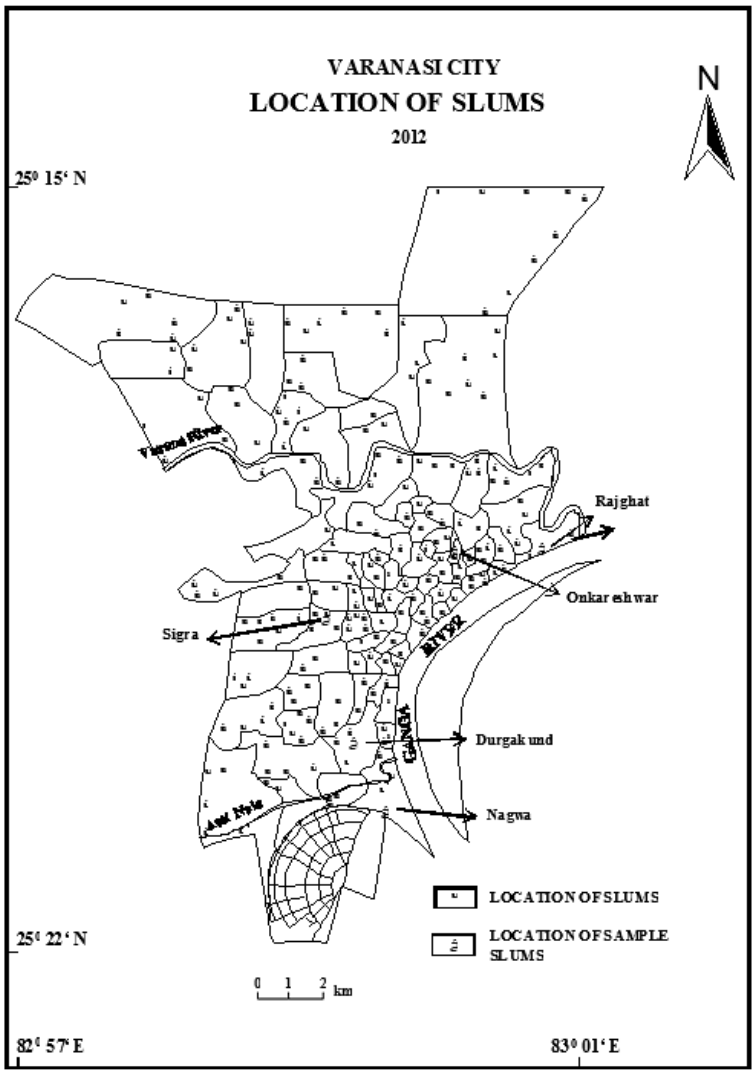

Fig.1

Parameters of quality of life

In the present study altogether 10 variables have been carefully chosen to determine the existing quality of life in slums of Varanasi city.

Source of lighting (X1)**:**

Electricity is considered as a parameter of measurement of development and quality of life. Regarding this parameter it is seen that 70% of sample households in slums used electricity, while 30% household used kerosene as a source of lighting. But it is notable that majority of household had no legal connection.

Fuel used for cooking (X2)**:**

Regarding this as a parameter of the measurement of quality of life, it is seen that for the cooking LPG (36%) is used by the majority of sample household. Though much of them have not got LPG connection, they use the small cylinders of 2 kg and 4 kg. The 32% residents of slums use illegal electric connection for illuminating their heaters. Kerosene, coal and cow-dug-cakes are others fuels which are used for cooking.

Source of drinking water (X3)**:**

Safe and pure drinking water is basic need for life. The sample survey reveals that 64% residents of slum areas use water of hand pump, while 36% use water of municipal tap for drinking. The quality of water of hand pump is not up to mark. Almost all sample slums have similar X3 value varying from 1.28 (Nagwa) to 1.48 (Sigra).

Housing condition (X4)**:**

One billion people of the world live in inadequate housing, mostly in slums and squatter settlements. The situation is worst in urban areas of developing country, where one quarter of housing units are temporary structure.

The type of houses basically depends upon the geographical environment as well as economic and social structure of the people (Sahay, 2006). A deplorable scenario exist in sample region, where all of the sample slums dominated by *kachha* and *semi-pucca* housing structure. Out of 150 houses, 128 houses had only one room. Durgakund slum had more *pucca* houses than any other slum. Variable X6 is highest for Durgakund slum and lowest for Onkareshwar.

Sewage disposal facility (X5)**:**

Sanitation is not only important for healthy living but also ensuring a non polluted environment. The majority of sample households had poor sewage disposal facility. The condition of Onkareshwar, Sigra and Durgakund is worst where more than half of sample household had poor sewage facility.

Place of waste dumping (X6)**:**

The risk to human health are compounded in these slums, where garbage collection is nonexistent in most cases and drainage tends to be poor, promoting the growth of insects and other diseases vectors (Sundari, 2003). There is no adequate arrangement for the dumping of domestic wastes. Only one third households used the place fixed by municipality for the dumping of domestic wastes.

Medical facilities (X7)**:**

Around half the urban population in developing countries is suffering from one or more of the diseases associated with inadequate provision of water and sanitation (DFID, 2001).Therefore medical facility is a significant parameter of measurement of quality of life. The 48% slum dwellers used private clinic and 35% government hospital, while 17% used traditional medical practitioner. The condition of Onkareshwar is better than other slums.

Literacy (X8)**:**

Due to wide spread poverty in the slum areas, illiteracy prevails and even it can be said that poverty exists because illiteracy exists (Tripathi, 2010). The literacy is most significant indicator of socio-economic condition and quality of life. Though literacy is very poor in slums of Varanasi city, comparatively Sigra and Nagwa wards are better literacy than other wards.

Female Literacy (X9)**:**

Female literacy is not only indicator of education but also status of women in society. The sample area had very poor female literacy. The sample survey shows very poor female literacy which indicates bad condition of women in slums of Varanasi city.

Ration card type (X10)**:**

Ration card is a significant indicator of poverty in India. Red ration card holders are people below poverty line while yellow card holders are people above poverty line. Some people reside in slums don't have any kind of ration card. The reason for not getting any card is non awareness and lengthy procedure.

Table 3: Selected Variables for Quality of Life of slum dwellers of Varanasi city and their X value

Variables	Parameters	Indicators	Weightage value	Rajghat		Onkareshwar		Sigra		Durgakund		Nagwa	
				% of HH	X value	% of HH	X value	% of HH	X value	% of HH	X value	% of HH	X value
X1	Source of lighting	electricity	2	70	1.4	64	1.28	68	1.36	72	1.44	76	1.52
		kerosene	1	30	0.3	36	0.36	32	0.32	28	0.28	24	0.24
X2	Fuel used for cooking	LPG	5	26	1.3	40	2	48	2.4	40	2	36	1.8
		electricity	4	24	0.96	16	0.64	12	0.48	20	0.8	32	1.28
		kerosene	3	18	0.48	16	0.48	20	0.6	16	0.48	12	0.36
		coal	2	12	0.24	16	0.32	12	0.24	8	0.16	8	0.16
		cow-dug-cakes	1	20	0.2	12	0.12	8	0.08	16	0.16	12	0.12
X3	Source of drinking water	municipal tap	2	30	0.6	44	0.88	48	0.96	36	0.72	28	0.56
		hand pump	1	70	0.7	56	0.56	52	0.52	64	0.64	72	0.72

X4	**Housing condition**	pucca	3	10	0.3	12	0.36	20	0.6	30	0.9	8	0.24
		semi pucca	2	60	1.2	52	1.04	62	1.24	64	1.28	70	1.4
		kaccha	1	30	0.3	36	0.36	18	0.18	6	0.06	22	0.22
X5	**Sewage disposal facility**	average	2	56	1.12	36	0.72	40	0.8	35	0.7	55	1.1
		poor	1	44	0.88	64	0.64	60	0.6	65	0.65	45	0.45
X6	**Place of waste dumping**	area fixed by municipality	3	28	0.84	28	0.84	24	0.72	24	0.72	12	0.36
		on roads	2	60	1.2	56	1.12	64	1.28	68	1.36	48	0.96
		near water bodies	1	12	0.12	16	0.16	12	0.12	8	0.08	60	0.4
X7	**Medical facilities**	govt hospital	3	40	1.2	40	1.2	36	1.08	16	0.48	36	1.08
		private clinic	2	50	1	44	0.88	48	0.96	56	1.12	40	0.8
		traditional practitioner	1	10	0.1	16	0.16	16	0.16	28	0.28	24	0.24
X8	**Literacy (% pop.)**	literate	2	19	0.38	20	0.4	30	0.6	18	0.36	25	0.5
		illiterate	1	81	0.81	80	0.8	70	0.7	82	0.82	75	0.75
X9	**Female literacy (% pop.)**	literate	2	10	0.2	12	0.24	20	0.4	15	0.3	18	0.36
		illiterate	1	90	0.9	88	0.88	80	0.8	85	0.85	82	0.82
X10	**Ration card type**	yellow card(APL)	3	52	1.56	40	1.2	36	1.08	44	1.32	16	0.48
		red card(BPL)	2	32	0.64	36	0.72	32	0.64	32	0.64	36	0.72
		without card	1	16	0.16	12	0.12	32	0.32	24	0.24	48	0.48

Source- Field Survey, 2011-2012

Levels of quality of life:

To determine the level of quality of life, quantitative analysis of data has been done. Aggregates of all the variables have been taken. A composite score has been calculated by adding up the total of all the variables for different slums separately (Table 4).

Table 4: Composite Score for Slums of Varanasi City

SLUM	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X	X-X	$(X-\bar{X})^2$
Rajghat	1.7	1.88	1.3	1.8	2	2.16	1.3	1.19	1.1	2.36	16.79	-1.496	2.238
Onkareshwar	1.64	3.56	1.44	1.76	1.36	2.12	2.24	1.2	1.12	2.04	18.48	0.194	0.037
Sigra	1.68	3.8	1.48	2.02	1.36	2.12	2.2	1.3	1.2	2.04	19.2	0.914	0.835
Durgakund	1.72	3.6	1.36	2.24	1.35	2.16	1.88	1.18	1.15	2.2	18.84	0.554	0.306
Nagwa	1.76	3.72	1.28	1.86	1.55	1.72	2.12	1.25	1.18	1.68	18.12	-0.166	0.027
Total											91.43		3.443

The mean value of composite score is18.286 with standard deviation = 0.829. The levels of quality of life under deviation are grouped (Table-5).

Table 5: Levels of Quality of Life in Slums of Varanasi City.

Levels of Quality of Life	Statistical Value	Composite Score	Name of Slum
Good	to +2	19.115 – 19.944	Sigra
Medium	to +	18.286 – 19.115	Onkareshwar, Durgakund
Poor	to -	17.457 – 18.286	Nagwa
Very Poor	to -2	16.628 – 17.457	Rajghat

The qualitative and quantitative processing is fully justified and four level of quality of life have emerged. The Sigra slum enjoys good quality of life and the condition of slum dwellers of Sigra is better than other slums of Varanasi city. The Durgakund and Onkareshwar slums have medium quality of life and the conditions of these slums are better than Nagwa and Rajghat slums. Some basic facilities such as drinking water facility, housing conditions are better than other slums. The Nagwa slum has low quality of life. The basic facilities are very poor in this slum. The situation is worst in Rajghat slum. The Rajghat slum has very poor quality of life. The medical facility and drinking water facility are inadequate in this slum. Though four levels of quality of life have been achieved, the condition of slums is very poor.

UN Millennium Development Goals, India Vision 2020 and QOL in Slums:

The goals and targets for various quality of life (QOL) indicators are set at global and national level. Their communality is a case for policy integration at different levels. In the field of education UN-MDG as well as India Vision 2020 advocates the universalization of primary education but the study reveals that about 70% of population and 80% of females are illiterate in study area which is far from the above mentioned goals. In the health sector, UN-MDGs and India Vision 2020 has the goal of expansion of the infrastructure for public health, improve maternal health, medical care to ensure health for all and also to combat HIV/AIDS, malaria and other diseases. In the sample slums less than 35% household

use govt. hospitals, about 26% of people consult the traditional practitioners, even they don't have safe drinking water supply and awareness about HIV. The major cause of poor quality and non-availability of resources is poverty. The UN-MDGs and India Vision 2020 advocate food and nutritional security to eradicate extreme poverty and hunger. The study reveals that only 34% of population in sample slum have red card to get the benefits of the govt. programs. The UN-MDG and India Vision 2020 document advocates continuous expansion of the physical infrastructure and reversal of loss of environmental resources to achieve social equity and environmental sustainability. But in sample slums only 24% household use place fixed by municipality for dumping waste, 64% residents of sample slums uses water of hand-pump for drinking and 30% households use kerosene as source of energy for lighting.

This comparison of the status of slum dwellers with global and national goals portrays a pathetic picture. Thus we can say if we have to achieve these goals, we have to understand the significance of problems related to slums. The Slums and their problems need special attention not only for improving QOL in slums but also to achieve the targets of UN Millennium Development Goals and India Vision 2020. "*If cities do not deal with the problems of the slums in constructive way, they will deal with the cities in a destructive way*" Says Robert McNamara, former president of World Bank. Varanasi is known as center of education, religion and culture. It is on the verge of being included UNESCO's list of world heritage city. So, it is very essential to alleviate urban poverty and inclusive development of city.

Conclusion:

The study highlights that, low and very low quality of life exists in the slums of Varanasi city. The housing, literacy and medical facilities are poor, the lack of piped water supply in the slum areas leading to high dependence on ground water, the lack of proper waste disposal facility and poor sewage system leading to pollution and health related problems and the level of disparity is related to the socio-economic setup of the city. Though quality of life is low in all sample slums but it varies from one slum to another. The suggestion therefore is to improve the socio-economic condition which led to improvement of quality of life in slums. For this, there is a need of strengthening the role of NGO's and private sector in slum up-gradation, participatory planning for slum areas, gender based planning and other inclusive planning measures. Finally, there is a need of holistic work to understand the above mention issues at city level as well as to analyze linkage among proliferation of slums, 'urbanization of poverty' and 'poverty in planning'. In principle, cities offer a more favourable setting for the resolution of social and environmental problems than rural areas (UNFPA, 2007). The future of humanity depends on how we deal problems and challenges of urbanisation and unequal development.

References:

1. Census of India ,2001 (Series 1): *Slum Population 640 Cities and Towns Reporting Slums,* Vol.1, Published by Registrar general and Census Commissioner, India, New Delhi
2. Census of India, 2011, *Town Village Directory*, http://www.censusindia.gov.in/2011census/censusdata2k11.aspx
3. Government of India (2002a): *Report of the Committee on India Vision 2020*. New Delhi: Government of India.
4. Government of India (2002b): *National Human Development Report 2001*. New Delhi: Government of India.
5. Government of India (2006): *Towards faster and more inclusive growth: An approach to the 11th Five Year Plan: 2007–2012*. New Delhi: Government of India.
6. Guinness, Paul and Nagle, Garrett (1999): *"Advanced Geography: Concepts and Cases",* Hodder and Stoughton, London.
7. Indian Institute for Human Settlements (IIHS), website main page, http://www.iihs.co.in
8. JNNURM: *City Development Report (2006).*
9. Kabeer, Naila (2010): *Can the MDGs provide a pathway to social justice?: The challenge of intersecting inequalities,* Institute of Development Studies, University of Sussex, UK
10. Kaushik, S.P. and Sharma, Vinod(2010): "Evaluation of housing and sanitation condition in slums area of industrial city, Panipat", *Transactions*: Journal of the Institute of Indian Geographers, Vol. 32, No. 2.
11. Mallick, Rabial (2001): *"Urban Poor in Calcutta*". achr@loxinfo.co.th
12. Mishra, R.N. and Sharma, Pawan kumar(2002): "Quality of life in human settlement-A case study of Jaisalmer District", *Studies in Geography*, Jaipur
13. Narayana, M. R. (2008): "Education, Human Development and Quality of Life: Measurement Issues and Implications for India", Published online: *Springer Science+Business Media B.V. 2008*
14. Rao, P. Padmanabha (1999): "Urbanization in Telangana and Its Future Implications", Rao, R. Ram Mohan and Simhadri, S. (eds): Indian Cities: Towards Next Millennium, Rawat Publication, Jaipur.
15. Sahay, Anuradha (2006): "Quality of life of slum dwellers: A case study of Bindtoli, Patna west", *Annals of the National Association of geographers, India,* Vol. XXVI (No. 2).
16. Singh, O. P. (2009):Philosophy of Development, Quality of Life and Philosophical Geography, *Journal of Regional Science and Development,* Vol. 4-5, No. 1-2,June-December 2004-05,The Himalayan Geographical Association, Nainital.
17. Singh, R.L. (1955): *"Banaras- A study in urban geography*", Nand Kishore and Brothers, Varanasi.
18. Singh, R.L. (1981): "Varanasi: A geographical analysis", *National City Souvenir 68th Session of Indian Science Congress, B.H.U.*, Varanasi, January 1981.
19. Singh, R.L. and Singh, Rana P.B. (1979): "Spatial Planning in Indian Perspective", *N.G.S.I. Research Bulletin.*
20. Singh, Rana P.B. and Rana P.S. (2002): *"Banaras Region",* Indica Books, Varanasi.
21. Sirgy, J., Michalos, A. C., Ferriss, A. L., Easterlin, R. A., Patrick, D., & Pavot, W.

(2006): "The quality-of-life (QOL) research movement: Past, present, and future", *Social Indicators Research,* 76, 343–466.

22. Smith, O.M. (1977): "*Human Geography: A Welfare Approach*", Edward Arnold Publishers sheet, London.
23. Sundari, S. : "Quality Of Life Of Migrant Households In Urban Slums" in Martin J. Bunch, V. Madha Suresh and T. Vasantha Kumaran, eds*., Proceedings of the Third International Conference on Environment and Health, Chennai, India, 15-17 December, 2003*. Chennai: Department of Geography, University of Madras and Faculty of Environmental Studies, York University, Pages 537 – 552.
24. Suresh, V.: *"India Vision 2020*" www.urban. India.
25. The Economic Intelligence Unit of Quality of Life, www.economist.com/media/pdf/QUALITY_OF_LIFE.pdf
26. Tripathi (2010): "Socio-Economic Status of Urban poor Living in Slums of Varanasi City", *Bhootal Digdarshan (Earth Science Review)*, Vol. 1, No. 2, Bhaugolik Vikash Sodh Sansthan, Gorakhpur.
27. Tripathi (2011): "Urban poor living in slums of Varanasi city", Sharma, P. R., Yadava R.S., Sharma V.N.(eds.): *Research methodology: Concepts and Studies*, RK BOOKS, New Delhi, Pages 493-515.
28. U.P. Government: *Varanasi Master Plan (2011).*
29. UNDP (1990): *Human Development Report 1990*. New York: Oxford University Press.
30. UNDP (2007): *Human Development Report 2007/08*. New York: Palgrave Macmillan.
31. UNFPA (2007): *Linking Population, Poverty and Development,* http://www.unfpa.org/pds/urbanisation.htm
32. United Nations (2006): "*The Millennium Development Goals Report: 2006."* United Nations Development Programme, www.undp.org/publications/MDGReport2006.pdf

Darshan Kumar Jha
Junior Research Fellow

V. K. Tripathi
Associate Professor
Department of Geography
Banaras Hindu University,
Varanasi-UP (India)