Quality of Life at the Micro-Scale: A Study of Sangrah Development Block (Himachal Pradesh)

Puran Chand and B.R. Thakur[1]

Abstract: The quality of life in different places is subject to considerable debate. In the postmodern world, quality of life is viewed as a unique living experience of an individual or group at any place. Quality of life is considered a multidimensional social, environmental and perceptual concept. In the present framework, quality of life has been viewed as satisfaction, where the ideas have been operationalised at the household level. In all, 436 households (about 20% of the total) spreading across 18 villages were selected randomly for the primary survey for the quality of life domains, i.e. education, health, housing, environment cleanliness, employment, income and wealth, information and communication, governance and democracy and public participation. It attempts to understand the dynamics of quality of life in the study area in three altitudinal zones. Principal components analysis has been applied to subjective and objective variables of quality of life domains to understand the key determinants. The study concluded that villages with betterease of physical access, administrative centres, andlarge populations reported better quality of life in the study area.

Keywords: Quality of life, Life satisfaction, Community, Principal components analysis, Himachal Pradesh

Introduction

The concept of quality of life emerged when the society in the West grew wealthier, but the people's life satisfaction did not witness concomitant improvement. As a result, scholars began to argue against raising the material standard of living, claiming that such increases would do little to raise wellbeing. These arguments are based on a key finding in the emerging literature on subjective wellbeing, the Easterlin paradox, which suggests no link between a society's economic development level and its members' happiness (Stevenson and Wolfers, 2008). Quality of life studies have emerged since the late 1960s as an extension of the set of measuring instruments to gauge the impact of development policies and efforts. Recognition of the multidimensional nature of the development process gave rise to a growing dissatisfaction with the narrow and truncated contribution of GDP per capita as a measuring instrument. This led to the search for a wider range of social and economic indicators reflecting a more holistic picture of how well people live (Beukes and Cloff, 1997). Quality of life studies approach the question from various perspectives and disciplines. At the centre of this growing interest is the attempt to define the concept of "Quality of Life" to study the elements that determine it and propose mechanisms that could contribute to its improvement (Lever, 2000).

The term quality of life finds appearance in various disciplines, but there is little agreement on the definition of the concept. It is used interchangeably with other concepts like wellbeing, subjective quality of life, satisfaction, happiness etc. (Cummins, 2000; Bramston, 2002). Quality of life is too broad to define as it combines many factors like place, time, technology, environment,

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[1]　　Corresponding Author

culture etc. People react differently to the same condition and evaluate circumstances based on their unique experiences, values and expectations. The element of diversity for culture and value systems makes the standardisation of definitions difficult. Quality of life means different things to different people, with an idea of satisfaction or wellbeing to each individual or group at any place. (Dissert and Deller, 2000). Quality of life has been assessed at a subdomain, domain and global quality of life levels. Similarly, society can be assessed at different geographical scales ranging from individual, group, regional and national scales. The larger spatial scale of inquiry generalises our understanding of the individual quality of life(Pacione, 1982). Large spatial scales like state and nation were assessed on objective variables during the social indicators movement.This could not provide adequate information about individual or subjective quality of life. The concern of the social indicators movement continued to compare cultural units or within cultural units over time (Evans, 1994).

While there is no overwhelming consensus on actual measures of subjective life quality, there is a widespread agreement that subjective life quality is related to such aspects of personal life as aspirations, expectations, happiness, and satisfaction (Schneider, 1975). Subjective wellbeing and subjective quality of life are overlapping concepts. Subjective quality of life includes a personal evaluation of the objective conditions of life. This generally includes life satisfaction, pleasant effect and unpleasant effect. The effect implies emotions and moods associated with cognitive experiences and perceptions/judgments of the individuals (Diener &Suh, 1997). A person may report a high level of subjective wellbeing, despite environmental conditions that are bad enough to shorten life expectancy, affecting immediate future QOL significantly.

Similarly, a person's objective QOL conditions (e.g., health, material possessions) may have little to do with subjective wellbeing. For example, a person may be wealthy yet feel very dissatisfied with life, perhaps because of a comparison with others who may have more material possessions. Hence, the argument is that subjective and objective indicators are necessary conditions, but neither is sufficient to encompass life experiences (Hagerty et al., 2001). Social indicators and subjective wellbeing measures are complementary. Individuals and cultures transform objective inputs to produce what is perceived by individuals and cultures as desirable or undesirable. Subjective wellbeing measures assess peoples' reactions involved in such a transactional process. What is good for people cannot be determined without considering their views. (Monteiro, 2019).

Objective indicators are based on quantitative statistics rather than individuals' subjective perceptions of their social environment. Such indicators are relatively easily defined, and widespread agreement exists about what is being measured (Dienier & Suh, 1997). Since there can be no measured reality beyond our capacity to experience the world, the so-called 'objective' measures are a product of our perceptions and, consequently, subjective (Cummins, 2000). Such indicators are generally used to assess life quality at state and national levels as it is helpful in social comparison compared to subjective indicators, which vary from person to person and culture to culture due to perception weight and are generally applied at individual or group level studies.A combination of subjective and objective variables is necessary to understand life quality.

Theoretical perspectives

There are different approaches in the literature to studying the quality of life. Kaufmann et al. (2007) have given a detailed description of approaches generally applied in quality-of-life studies. Prominent among these are the welfare approach (utility maximisation), capital approach (human and natural capital), capability approach (Sen, 1993) and migration rates (Greenwood, 1991) to measure the absolute and relative quality of life and living standards across regions and ecosystem sustainability approach etc. Apart from these approaches, important perspectives applied to study the quality of life are happiness, life satisfaction, and need and life satisfaction.

Happiness is considered an important aspect of quality of life. Campbell (1976) believed happiness was a momentary state. Shin and Johnston (1978) proposed that happiness is based on specific needs and resources in the environment and cultural settings. Kahneman (1999) proposed the objective happiness concept and argued that happiness is more than pleasurable stimuli. Peiro (2007) concluded that health and marital status are strongly related to happiness and overall life satisfaction. However, such conclusions are partially correct in the case of marital status context, and it needs further deeper cultural contexts. As in the case of India, a large share of the population spend their life as saints, staying unmarried and living a happy life. Among the need-based approaches, Maslow (1954) proposed that some needs are more basic than others; this theory proved to be the foundation for other need-based life satisfaction theories. Campbell (1976) argued that there are some threshold satisfiers of wellbeing beyond which it is hard to expect positive results. Following Maslow's need hierarchy, Sirgy (1995) proposed that the greater the satisfaction from the basic and higher-order needs greater the life satisfaction achieved. Drewnowski (1980) views the quality of life as a function of 'basic need' and 'environment'.Arndt (1981) proposed physical, social, and self-actualisation needs as imperative for life satisfaction. Allardt (1993) proposed 'having', 'loving' and 'being' needs of life to achieve life satisfaction. Regarding need satisfaction, Sirgy et al. (2006) mentioned that the type of need in any society depends on the prevalent development type. Increasing development shifts focus from basic needs to growth needs and, thus, the overall picture of the quality of life.

Conceptual framework

This study addresses the issue of good life and good place in the rural settings. This has been achieved by studying the subjective and objective dimensions at the household and village levels. To the question, what is a good life? Some directions of the moral psychology of gratitude, religion and numerous other branches of knowledge offer a criterion for a good life. In the works of Plato, Aristotle, and St. Augustine, the text of the Old Testament, the Upanishads or the Quran, and the relevant literature, Peterson and Seligman identified over 200 virtues. In almost all the works, regardless of the time of origin and civilisation environment, they found six basic human virtues: wisdom, courage, love, justice, moderation and spirituality. Peterson and Seligman consider these six virtues of being basic human qualities which together form the concept of good character and are almost supported by all religious and philosophical schools of thought (Murgas & Klobucnik, 2016). Today's postmodern world can no longer completely accept the idea of grand theories of the good life as preached by religion and suggested by various disciplines like psychology or every branch of knowledge that seeks to enhance the quality of life of individuals and communities.Those values are undoubtedly part of a good life anywhere in the world. However, there is something more than that which changes with place and time, i.e. culture (way of life), which influences human needs and desires and eventually the standards of a good life. Life quality is a product of this system of culture realised by the individual and communities who live in the system anywhere.

To assess the good life in the study area, ten domains have been considered as key areas of quality of life. These domains are environment cleanliness, housing, education, health, personal wellbeing, democratic and public participation, information and communication, employment, income & wealth and governance. An attempt has been made to explore the relationship between the socio-economic conditions of the rural folk concerning their place or location-based conditions and experiences thereof. In the present study, direct and proxy measures of quality of life dimensions like economic wellbeing, education level (i.e. knowledge and skill), health (accessibility and quality of services), social organisation (i.e. community cohesion and participation), political participation (democratic awareness) have been used to bring out some inferences about the determinants of quality of life. Household-level analysis has been undertaken to reduce the generalisation of quality of life. The quality of good life has been viewed as satisfaction concerning these life domains. As the quality of life differs from individual to individual and region to region, a micro-level analysis of life across three altitudinal zones has been done to see how satisfaction varies across the quality of life

domains within the study area. This is based on the bottom-up approach in which individual satisfaction leads to communitysatisfaction.

To the question of what makes it a good place to live? Popular publications such as *Places Rated Almanac* fed the community's desire for self-worth. To be successful communities, they must accurately assess the internal resources and translate these resources' qualities into value (Sirgy et al., 2001). Place studies are one of the facets of quality-of-life research. Our image of place and attachment to place influence our evaluation of places, our behaviour towards them and ultimately, the quality of life we find there. Many geographers argue from the existential point of view that places are unique, have different meanings to different people, and are experienced in their own way. The most extensive review of these humanistic approaches to place is found in *Places and Placelessness*, where Relph describes the essence, sense and identity of places and the role of phenomenology in studying places (Cutter, 1985). Geographers and others working on a range of issues of quality of life and their effects on individuals and groups prominently featureovercrowding, natural hazards and ambient environmental conditions, stressful events in everyday life with ease of access and orientation, security and privacy, residential satisfaction and communities (McCann, 2004).

Quality of life research helps differentiate and evaluate the places to explain the social demographic changes at any level. The study of quality of life is also important when two places are of equal importance from the economic perspective. This is also important from the government policy point of view to highlight the distribution of resources allocated and spatial variation in the quality of life. The present study's quality of life index has been composed based on subjective and objective variables.This will help us know the key area of life mostly viewed by residents as an essential part of life and the performance of areas on quality of life issues. In addition, the spatial distribution of factor score has been used to unmask the household-level variation of quality of life. This will help understandpeople in mind and people on the ground in the study area. Another purpose of the index is to make policymakers understand the importance of both dimensions of life to enhance people's quality of life. This is aboutunderstanding the essence and experiences of peoples' life.

Objectives

1. To identify the determinants of quality of life in the study area.

2. To compare and examine the quality of life across altitudinal zones in the study area.

Study Area

Sangrah block lies in the Sirmaur district of Himachal Pradesh state in India. Geographically, the study area is located between $30^{\circ}22'30''$ and $31^{\circ}01'20''$ north latitudes and $77^{\circ}01'12''$to $77^{\circ}49'40''$ east longitudes (Fig. 1). Sirmaur district is divided into two parts by the Giri River, which runs parallel to the Himalayan mountain range. The northern part is known as the Trans-Giri region (beyond Giri) and the southern as the Cis-Giri (inside Giri). Trans Giri region is inaccessible and mountainous as compared to the southern Cis-Giri part, which is well connected to other parts of the state. Its northern boundary is marked by Churdhar Mountains and southern by the Giri River. It is bounded by Tons and Yamuna rivers in the east. Sangrah community development (CD) block is located in the central part of the Trans Giri region. The study area occupies a total area of 486.4 km^2, and it had a total population of 70,410 persons in 2011, the whole of which is rural. There were 11,567 households in the block living in 121 inhabited villages. The village is the lowest administrative unit in India. The area supported a population density of 193 persons per km^2.Wide differences in income, housing conditions and a combination of modern and traditional settlements characterise the block. Based on the level of living indicators, 60% of the total households reside in RCC buildings, 53% of the total literates are educated beyond matriculation, 80 % have access to basic sanitation and merely 17% of the total own a car.

Database and Methodology

The present study is based on primary data. The data have been collected through interview schedules applied at the household level. For sampling at the household level, the study area has been divided into three altitude zones. After superimposing the village boundary upon the relief map, the required villages in each characteristic altitude zone have been selected for sampling purposes. The low altitude zone, less than 1200 meters above mean sea level (AMSL), has 35 villages. The medium and high altitude zones are inhabited by 53 and 34 revenue villages, respectively (Fig. 1). Based on the maximum and minimum population size, female literacy rate, and female work participation rate of each village as per the 2011 Census, 18 villages (6 villages from each altitude zone) comprising 15 per cent of total villages have been selected for sampling at the household level. Four hundred thirty-six sample households (about 20 per cent of total households) spreading across 18 villages were randomly selected for the primary survey. From each village, seventy per cent of households have been surveyed from the general castes and thirty per cent from the scheduled castes. In the total share of respondents, 51.6 per cent (225) have been males and 48.4 per cent (211) have been females. The 18-40 years age group comprised 40 per cent, the 41-59 age group 44 per cent, and 60 years and above aged accounted for 16 per cent of total respondents. The face-to-face interviews lasting about an hour have been conducted, and responses have been recorded. The field survey has been undertaken from 1 June 2018 to 28 August 2018.

This study used two variables, one at the household and the second at the village level. In all, 41 variables (with a correlation of 0.3 visually observed in the correlation matrix of all variables) relating to ten domains of quality of life at the household level have been taken for the study (Table 1). Each objective variable has been evaluated with a subjective aspect on the Likert scale of classification. This included subjective responses from the community to personal level satisfaction in different aspects of quality of life. The variables have been transformed into scores ranging from 1-5. Score 1 has been given to the lowest contributor and 5 to the highest contributor in the overall quality of life in the study area. In order to calculate the aggregate household economic activity score, the households have been classified into five categories based on the occupation practised at the time of the survey. While computing the economic activity score of each household, a 0.5 score has been assigned to an individual engaged in primary, 1 to secondary, 1.5 to tertiary, 2 to quaternary and 2.5 to quinary occupations. In addition, each household's score of all household workers has been computed.

The principal components analysis (PCA) method used by many social scientists in multivariate statistical analysis has been employed to identify the key determinants of quality of life. The principal components method of factor analysis has been used to reduce and adequately summarise the information contained in the original variables into smaller groups of factors with minimum loss of information. The suitability of the principal components analysis (PCA) technique has been assessed by standardisation of variables, visual analysis of correlation matrix for all the variables and Kasier-Meyer-Olkin (KMO) - a measure of data adequacy.The KMO measure was 0.734, which is above the criteria of 0.5. Based on eigenvalues 1.00 and above, scree plot, visual analysis of correlation matrix for all variables, and total variance explained >70 per cent, only 28 variables (with correlation 0.5 in the correlation matrix of all variables) have been extracted(Table 2). Chronbach alpha has been used as the measure of data reliability, and the value for each domain is given separately in Table 1.

In order to formulate a social policy and adopt appropriate interventions at the village level, a quality of life index based on subjective and objective variables has been constructed. Index construction also helps rank villages according to quality of life variables. The variables included for the index construction have been extracted through PCA (Table 3). Following Greyling (2013) and Saitluanga (2015), the method developed by Nicoletti et al. (2000) has been applied as a weighing

technique. The method used PCA to weigh the index according to the explained variance in the data.The benefit is that a higher proportion of variance in the data set is explained.

While computing this index, firstly, the raw data (quality of life total score at the village level) are normalised using the following formula:

$$N_{ij} = 1 - [\text{Best Xij} - \text{Observed Xij}] / R$$

Where R= Best Xij-Worst Xij, i=ith observation and j=jth village.

PCA has been used to calculate the factor loadings and eigenvalue of the indicators. In the next step, weights were calculated. The weight of each variable is derived by squaring the variable's loading divided by the factor's eigenvalue. The weights have been calculated for each indicator, and the index was determined using the following formula:

$$I = \Sigma x_i (\Sigma |L_{ij}|.E_j) / \Sigma(\Sigma |L_{ij}|.E_j)$$

Where I is the index, Xi is the ith indicator, Lij is the factor loading of the ith variable on the jth factor, and Ej is the eigenvalue of the jth factor.

The weight score is obtained by multiplying the variable weight and weight of the respective factor. Then, the final weight is obtained and rescaled again to sum up to one to preserve comparability. Finally, each sample village has been ranked and mapped according to the final weights.

Table 1:Sangrah Block: Domains and indicators of quality of life (household level)

Domains	Indicators	Chronbach Coefficient of Reliability
Environment Cleanliness	Water quality (based on international wealth index) Provision of waste water disposal facility in the house Satisfaction with overall quality of physical environment Satisfaction with waste water disposal facility in the house	0.629
Housing	Main cooking fuel Room density (persons per room) House type (building material) Satisfaction with the quality of housing material with respect to climate conditions Satisfaction with the open space available in residential complex Provision of toilet, bathroom etc.	0.690
Education	Interviewee educational level Head of the household educational level Satisfaction with overall quality of education	0.733
Health	Satisfaction with the sleep Satisfaction with overall health Number of household member ill since more than five years Overall satisfaction with access to the health services	0.702

Domains	Indicators	Chronbach Coefficient of Reliability
Personal Wellbeing	Overall satisfaction with life Trust behaviour in the neighbourhood Satisfaction with overall achievements in life Satisfaction with feeling part of the community	0.654
Democratic and Public Participation	Frequency of participation in the panchayat meetings Importance of participation in the panchayat meetings Frequency of participation in the community cleanliness drive	0.659
Information and Communication	Frequency of listening the news Frequency of readingnewspaper Importance of reading/listening news daily	0.702
Employment	Satisfaction with animal husbandry practice Number of females of the household engaged in economic gainful activity Household economic activity score Satisfaction with overall employment opportunities available Satisfaction with overall economic conditions	0.724
Income and Wealth	Overall satisfaction with consumer durables available Satisfaction with standard of living Total landholding ownership (ha) Average annual income of the household Average monthly expenditure of the household	0.705
Governance	Satisfaction with the work of panchayat leaders on right issues Satisfaction with work get done without any political or administrative closeness at the panchayat level Satisfaction with work get done without any political or administrative closeness at the block level Satisfaction with work get done without any political or administrative closeness at the district level	0.935

Source: Compiled by Authors

Results and Discussion

Principal components analysis results

The present study used 28 variables of quality of life. The scree plot shows that nine components have an eigenvalue greater than one and can be retained. The total variance explained from the cumulative percentage is 71.66% extracted from the nine components of the total variables. The first component explained 18.36%, while the second, third, fourth and fifth explained 11.52%, 10.12%, 7.63% and 6.05% of the total variance of the factor solutions. The factor analysis also indicates a high correlation ranging between 0.533 to 0.972 among the extracted variables. This indicates that each variable taken for the analysis was significantly correlated with all other variables.

Table 2: Sangrah Block: Factor loading matrix for quality of life at household level

Variables	Factors								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Satisfaction with work get done without any political or administrative closeness at the block level	0.972								
Satisfaction with work get done without any political or administrative closeness at the Panchayat level	0.969								
Satisfaction with work get done without any political or administrative closeness at the district Level	0.951								
Satisfaction with the work of panchayat leaders on right issues	0.747								
Satisfaction with overall health		0.957							
Overall satisfaction with access to the health services		0.955							
Satisfaction with sleep		0.769							
Household economic activity score			0.832						
Female in economic gainful activity			0.678						
Average annual income of the household			0.672						
Average monthly expenditure of the household			0.637						
Satisfaction with the waste water disposal facility in the house				0.771					
Satisfaction with the open space available in residential complex				0.699					
Frequency of reading newspaper				0.55					
Main cooking fuel				0.541					
Satisfaction with animal husbandry practice				0.533					
Overall satisfaction with life					0.886				

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9
Satisfaction with overall achievements in life					0.812				
Satisfaction with overall quality of physical environment					0.619				
Interviewee educational level						0.896			
Satisfaction with overall quality of education						0.882			
Head of the household educational level						0.548			
Frequency of participation in the panchayat meetings							0.925		
Importance of participation in the panchayat meetings							0.916		
Total landholding ownership (ha)								0.846	
Satisfaction with overall consumer durables available								0.734	
Satisfaction with feeling part of the community									0.887
Trust behaviour in the neighbourhood					0.501				0.667
Eigen value	5.143	3.226	2.834	2.132	1.696	1.463	1.298	1.211	1.063
% of Variance explained	18.367	11.52	10.123	7.613	6.056	5.226	4.634	4.325	3.797
Total variance explained	71.66								

Source: Compiled by Authors

Factor 1: Governance

Factor 2: Satisfaction with health

Factor 3: Occupation, income and expenditure

Factor 4: Cleanliness, news and standard of living

Factor 5: Satisfaction with life.

Factor 6: Education

Factor 7: Participation in local governance meetings

Factor 8: Landholding and consumer durables

Factor 9: Trust in the neighbourhood

Spatial pattern of governance factor score

Governance has emerged as a key determinant responsible for about 18% of variations in the quality of life in the study area. The spatial unevenness of the first component of quality of life, named governance, has been categorised into five classes based on the factor scores (Fig.1). The governance aspect has been evaluated through a five-point perception scale, i.e. very satisfied, satisfied, moderately satisfied, dissatisfied and very dissatisfied for four variables, i.e. i) Panchayat leaders working on right issues, ii) people get their work done without any political/administrative closeness at the panchayat level, iii) people get their work done without any political/ administrative closeness

at the block level and 4) people get their work done without any political/ administrative closeness at the district level. The positive factor score is symptomatic of better governance, determining the quality of life and vice-versa. The factor score has been analysed across the three altitudinal zones.
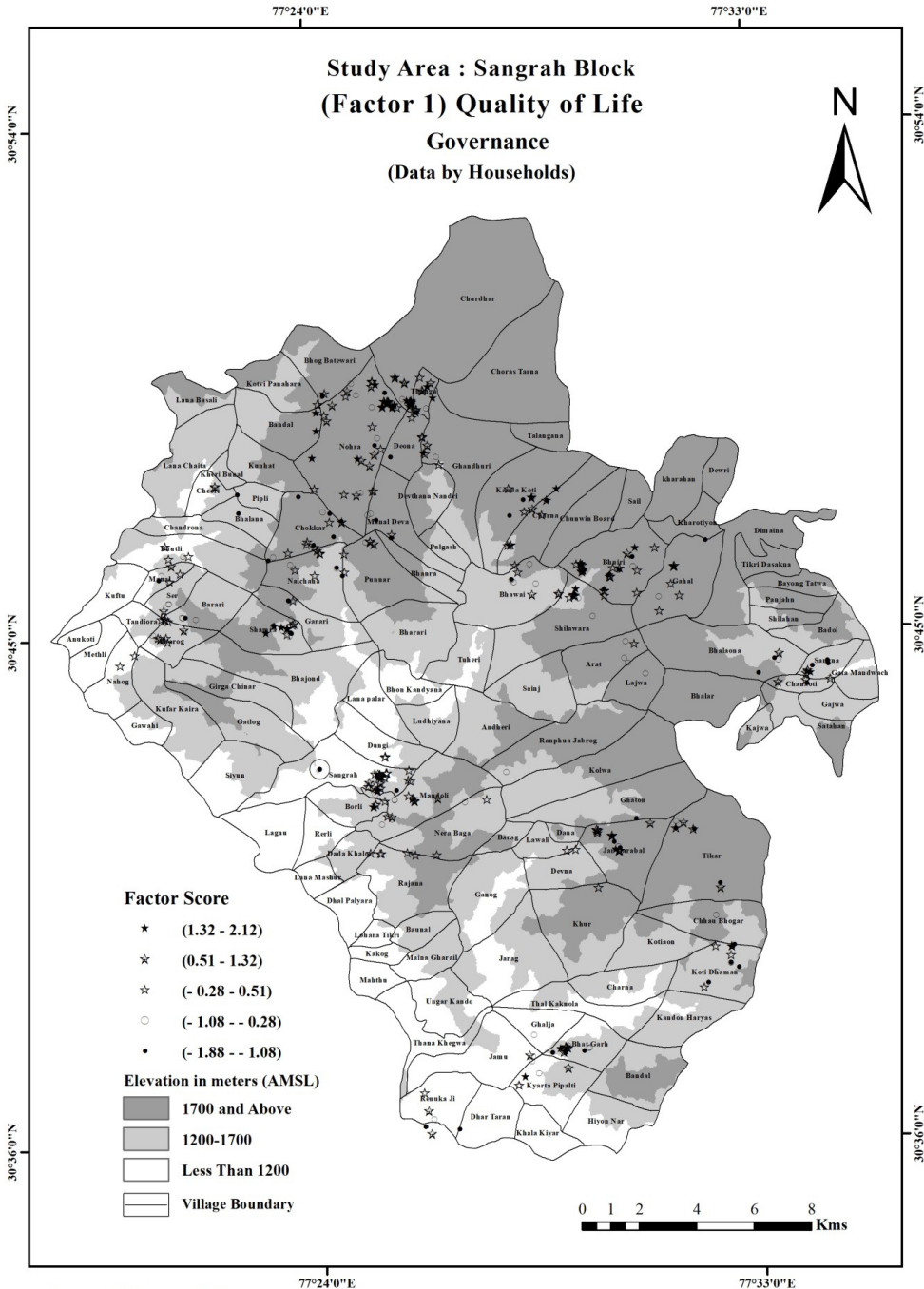

Fig. 1

High altitude zone

The high altitude zone is characterised by the highest share of households (14.9%) falling in the very high category of governance. The particular concentrations of such households (24.7%) have been reported in the Nohra village of the area. The share of the moderate category of households is 7% of the total in this zone. The very low category has a share of 15.4% of total households in this zone. The highest share in this zone's high quality of life is attributed to the good governance experience of people in the public offices at the Panchayat, block and district levels.Besides, the inhabitants feel that Panchayat leaders are working on the issues required for local area development.

Middle altitude zone

This zone is characterised by a higher share of total households falling in the low and very low categories of governance. This zone observed 41.9% of households falling in the low category factor score and 24.8% of the same falling in the very low category. A higher share of the low category has been reported in Bhawai and Kotion villages. Bhawai is the most populated village in this zone. Bhawai reported 18.3% of households in very low and 45% in low categories.

On the other hand, the share of a very high governance score was observed for 13.7% of households. Shamra village reported 15% of total households in the very high category, while Bhawai reported 14% in the same bracket. The higher share of households in this zone's low and very low categories of factor score may be attributed to the common practice of malfunctioning at the public offices and improper working of the Panchayat leaders.It shows that penetration of ill governance at the Gram Panchayat level hampers the social wellbeing in the mid-altitude zone. It is indeed a matter of grave concern to the general public, dependent on the functioning of governance bodies for their wellbeing.

Low altitude zone

This zone is characterised by a very low share of households (4.6%) falling in the very high factor score category. The households found in a very low category are 8.39%. This zone's low factor score category accounted for the highest share of 67% of households in the study area. The households with very high concentrations of moderate governance levels have been reported from Sangrah, Jamu and Kuftu.Sangrah is the most populated village in the zone. It recorded 46.47% of the total households in the moderate category. The high share of households in the moderate category indicates this village's moderate level of governance experience. In brief, this zone portrays dissatisfaction with the quality of governance.

The high altitude zone, the most inhabited zone, accounted for 14.9% of households in the very high category. The mid-altitude zone shared 13.7 % of the sample households in the same category. The low altitude zone accounts for 4.6 % of the same households in high, including the very high categories of governance affecting the quality of life. The study shows that governance varies from village panchayat to village panchayat and altitude zone to altitude zone.

In brief, the very high factor score reported in the northern part of the study area (high and mid-altitude zones) indicates a better governance experience for people. Therefore, the study calls for effective governance policy at the panchayat level to improve the quality of life across the altitude zones.

Pattern of quality of life

Based on 14 variables of quality of life (Table 3) extracted through Principal components analysis, the villages have been ranked and mapped according to the quality of life index (Fig. 2). In this, Renuka Ji village was ranked at the top position (Table 4). This village is well connected with roads mediating to other district blocks. The village supports a small population size but is a famous

pilgrimage of the district**.** This village scored very well in educational and economic variables. Good educational attainment, good housing conditions and satisfaction of life variables contributed to this village's good quality of life score. Renuka Ji was followed by Sangrah village, a block administrative headquarters. It is the second most populous village of the block. Being the community development block headquarters, it enjoys good educational and health services and many public offices at the block level. Based on the variables, this village performed well on workers associated with the tertiary sector of the economy and healthy physical environment, house type, car ownership and cooking fuel. Nohra village was ranked in third place in the quality of life index. This is the most populous village and has sub-headquarters of the block-level administration. This village falls in the high altitude zone of the block and is endowed with agricultural and forest resources. The moderate slopes and combination of sub-tropical and temperate climates make it favourable for commercial crops like apples, peaches etc. This village has scored high on the quality of the physical environment, satisfaction with access to health services, and percentage of the population educated up to matriculation level and beyond. Bhawai village was ranked fourth in the overall quality of life index. This village is the third most populous village in the study area. Being a populous village, it has access to health and medical institutions within the village. This village scored well in the satisfaction with access to health services, satisfaction with life and percentage of matriculates and above but scored poorly on the variables like room density and RCC buildings.

Table 3: Sangrah Block: Indicators employed in index of quality of life (village level)

| Indicators	Definition
Car ownership	Percentage of households with car ownership
Workforce	Total worker engaged in tertiary and above sectors of the economy
Pucca houses	Percentage of householdswith RCC buildings
Total workforce	Percentage of population in 15-59 age group
Cooking fuel	Percentage of households using LPG as main fuel type
Average household size	Average household size of the village (household members)
Interviewee education	Percentage of interviewee educated graduate and above level
Matriculate and above educated	Percentage of population educated 10th and above
Head of the household education	Percentage of household head educated graduate and above level
Room density	Total person per room (children taken as half unit)
Satisfaction with physical environment	Respondents reporting satisfaction with environment
Satisfaction with life	Respondents reporting satisfaction with overall life

Importance of panchayat meetings	Respondents reporting importance of participation in Panchayat meeting
Access to health services	Respondents reporting satisfaction with access to health services

Source: Compiled by Authors

Table 4: Sangrah Block: Villages by index of quality of life

Village	Population (2011)	Index Score	Rank
Renuka Ji	104	0.65	1
Sangrah	2028	0.64	2
Nohra	2489	0.63	3
Bhawai	2137	0.54	4
Shamra	701	0.39	5
Chokar	1194	0.38	6
Ghaton	863	0.36	7
Kotion	711	0.34	8
Bhuiri	148	0.33	9
Kuftu	464	0.33	10
KheriBunal	100	0.28	11
Jamu	913	0.27	12
Chanoti	97	0.27	13
Kanda Koti	342	0.26	14
Mithli	143	0.25	15
Bhalona	508	0.24	16
Ser	111	0.20	17
Kunhat	28	0.11	18

Source: Compiled by Authors

Source: Field survey 2018
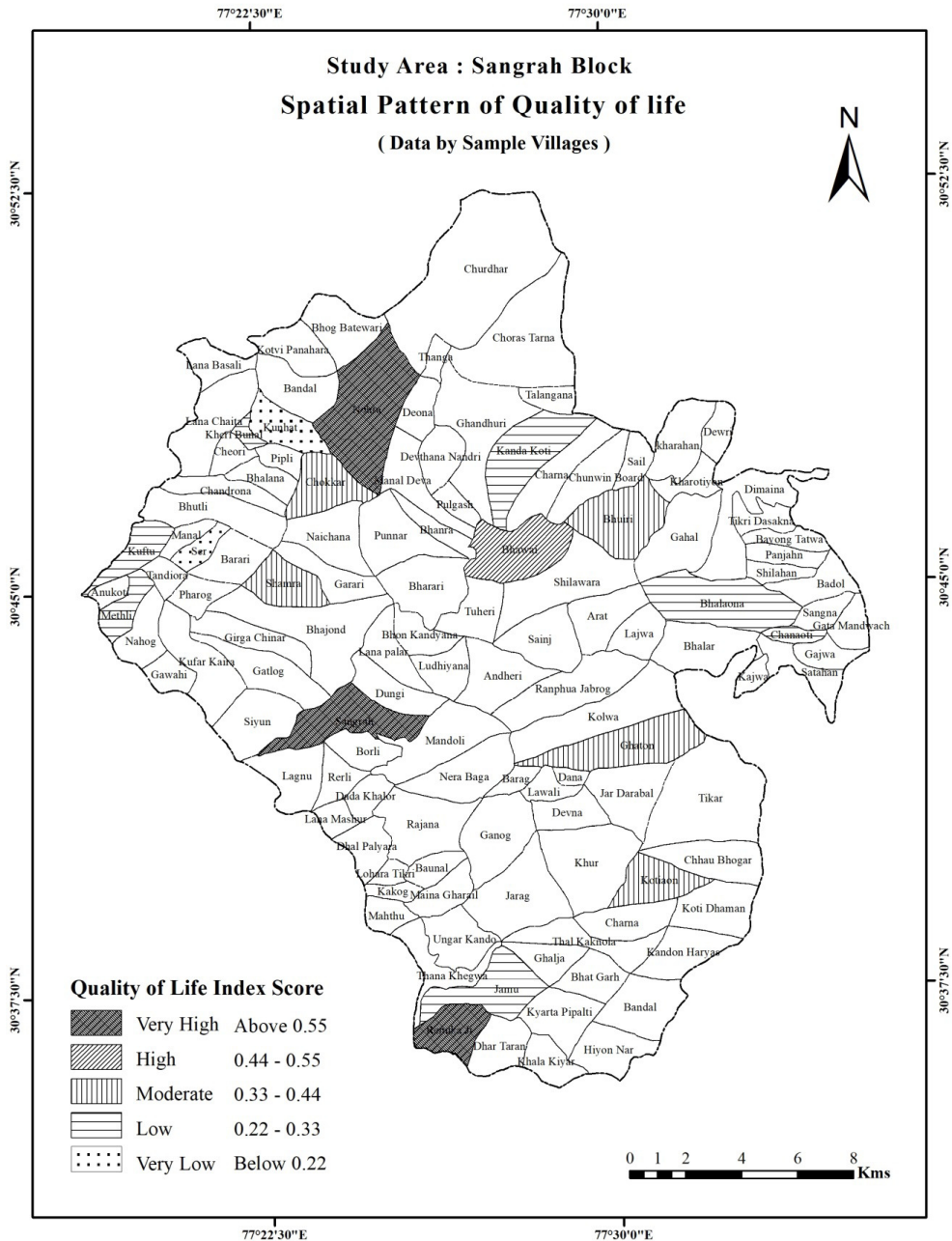
In the next order are the villages such as Shamra, Chokar, Ghaton, Kotian and Kuftu. All these villages are moderately populated. Many of them have access to basic learning facilities but lack healthcare facilities. Therefore, they have underperformed in the variables such as satisfaction with access to medical facilities, house type and main cooking fuel used. The next ranking order comprises the villages with very small population sizes (less than 30 households). In such villages, prominent are Ser, Kunhat, Bhalona, Chanoti, Kanda Koti, Kheribunal and Jamu. These villages are poorly

connected to the road facility, many of which are still not connected with road transport, such as Kunhat and Chanoti. The prominent features of small-sized villages are few households, lack of basic learning and medical facilities, and deprivation of clean water and sanitation provisions.

Unlike small populous villages, villages with large populations benefit from access to the basic medical and educational infrastructure for a long time as these villages fulfil the government norms of instituting such facilities. However, this drives the small villages a step back compared to large villages regarding access to basic facilities. The study, therefore, calls for devising a small village development policy to improve the quality of life of its inhabitants.

Conclusions

The study identifies the determinants of quality of life and their spatial distribution across three altitudinal zones.To capture the real picture of the quality of life, subjective and objective dimensions are necessary to understand the application. Since objective or subjective aspects alone cannot reveal the totality of life experience and essence of people residing in a particular area for a long time. Based on the principal components analysis results, the governance factor emerged as the main determinantof quality of life, followed by health, occupation & income, cleanliness & standard of living, satisfaction with life etc. This indicates that as per the experiences and aspirations of people living and working there, the economic aspect does not figure as the main determinant of the good life in the study area.

The spatial statistics of both dimensions are necessary to understand the regional pattern of quality of life. The spatial distribution of factor scoreportrays that the high factor score reported in the northern part of the study area (high and mid-altitude zones) indicates a better governance experience for people. While addressing the issue of quality of village life, quality of life index results show that the advantage of being the administrative headquarters of the study area, physical nearness of various administrative and public offices, availability of educational and health facilities in low altitude zone two villages namely Renuka Ji and Sangrah maintain top two ranks in the quality of life index. The second important driver that impacted the quality of life at the village level is the demographic factor, as large populous villages have a better quality of life rank than small villages. It is discovered that large villages enjoyed a greater degree of having basic educational and medical facilities within village boundaries for a long time, whereas the small villages lack basic minimum facilities such as road connectivity. Similar results have been observed by Thakur (2011) that spatial variations in the quality of life are largely related to geographical accessibility and, thereby, availability and use of physical and social infrastructural amenities and services (p.62).

The index surely may help policymakers combine subjective and objective aspects to understand the essence of quality of life and identify the good or poor performing areas.The study calls for the policymakers to revisit the social policy for effective governance, particularly in the low altitude zone that showed a preponderance of very dissatisfied respondents with the quality of governance. Although the results are not definite, they are indicative as it is subjected to data availability, people's perception and the limits of statistical analysis.

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