

SOCIO-ECONOMIC CHANGES DUE TO URBANIZATION IN DEHRADUN

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Abstract

Up to 1980 people associated Dehradun with greenery and an old aged population only. But it is worth noting that in recent years, this city has undergone a number of socio-economic changes for the better and for the worst of the people in the city. These transformations were perhaps manifested most dramatically after November of 2000 when Dehradun was officially declared the capital of the newly created UT of Uttarakhand. This new status brought in a flood of diversified job prospects to Dehradun making it an employment city. Therefore the area of built-up land in the city has increased almost two folds in the past two decades. On the one side of the equation there is the growth of population and need for space in the city, on the other side there is the finite nature of the stock of land. Spatial land use and land cover change in Dehradun due to urbanization has brought changes in the socio-economic status of people living therein. In order to know the effects of these changes more specifically, structured questionnaire was administered through field survey with sample size of 303 participants. This survey was aimed at those households that have lived in Dehradun since 1998 and this is what they had to share regarding the growth of the city. The purpose of this research was to determine the social economic effects of future urban sprawl and come up with composite strategies of integrated and sustainable urban planning to counter the effects. This research tries to offer some lessons for policymakers to solve these problems, advance balanced and sustainable urban development in Dehradun, and enhance people's well-being.

Keywords: Socio-economic transformations, urbanization, residential changes, sustainable planning, Dehradun.

Introduction

Uttarakhand, India, is home to the capital city Dehradun and a number of other major cities and towns spread out across the state's two main regions: the northern Garhwal and Kumaon districts, which are relatively active geological zones, are particularly vulnerable to earthquakes because of their location. There are thirteen districts in all of Uttarakhand. Nainital, Almora, Pithoragarh, Udham Singh Nagar, Champawat, and Bageshwar are all part of the Kumaon area, while Uttarkashi, Dehradun, Haridwar, and Rudraprayag are all part of the Garhwal region. Out of these ten districts, nine are defined by their mountainous terrain,

but just four—Nainital, Haridwar, Dehradun, and Udham Singh Nagar—also have sections that lie in the plains.

Apart from being a famous tourist spot, Dehradun holds immense importance in the administrative, commercial as well as the defense structure of the area. Many of such higher learning and research institutions are located within the city making it a centre of academic and research activities. The Indian Military Academy, the Survey of India, the Forest Research Institute, the Indian Institute of Petroleum, the Indian Institute of Remote Sensing, the Indian Institute of Natural Gas, the Indian Military Academy, the Indian Military Academy, the Indian Institute of Zoological Survey of India, and the Indian Institute of Natural Gas all have Dehradun offices or run programs there.

Regarding geographic regions, Dehradun is located between 78 00'E to 78 15'E longitudes and 30 15'N to 30 25' N latitudes This strategic location makes Dehradun an important urban centre of Uttarakhand and play vital role for plains and hills of the state because of its multi faceted functions as mentioned above. As a complex city that is undergoing tremendous spatial transformation, the socio economic development and land use of this city remains relevant to the overall sustainable development and management agenda.



Source:Uttarakhand Map, Uttarakhand State Map, India

Dehradun city is located in synclinal valley belonging to the Siwalik geologic formation. The city occupies the area of 57 square kilometers. 31 sq. km and has under gone lot of changes from the time when Uttarakhand was created out of Uttar Pradesh on November 9, 2000 with Dehradun as the state capital. This change brought about socio Economic and Demographic transformation resulting to massive urbanism.

Another major factor which has emerged because of Dehradun 's new status as a state capital is the influx of population from rural areas and other states including Uttar Pradesh, Haryana, Punjab and Delhi. This has led to the development of the city's areas and, as well as, its suburbs rims. Thus, the land use evidently has witnessed a revolutionary change in the case of Dehradun with massive alterations in built-up areas, patches of green, infrastructural facilities, modes of transport and carriage ways. All these have to an extent transformed the city structural framework and the physical natural endowment bearing implications on the socio economic lives of those who dwell in the city.

Objective of paper

1. Investigate the changes in land use and land cover as a result of urbanization in Dehradun.
2. Assess the socio-economic consequences of these changes on the residents, especially those who have lived in the city since before 1998.
3. Identify potential challenges posed by future urban expansion.
4. Propose sustainable planning strategies that could mitigate negative impacts and guide balanced urban growth in Dehradun.
5. Provide insights for policymakers to enhance the quality of life for the city's residents while preserving its cultural and environmental heritage.

Field Survey Method for Data Collection

This study through direct data collection where field surveys, interviews, questionnaires, and focus education group discussions were used to collect the required data. The data have been collected by the researcher with face-to-face interviews during the five months of June to October 2017, with the purpose to reveal the impressions and attitudes of Dehradun's population towards the city's changes and development during the two last decades.

A structured questionnaire instrument was used to elicit the respondents' impression about the development of Dehradun since 1998 especially the residential areas. This survey was conducted in the period of 6 months starting from January, 2018 to April, 2018. The researcher had to visit all the 60 wards of the Dehradun Municipal Corporation periodically for collecting accurate data as per the map prepared as per 2021.

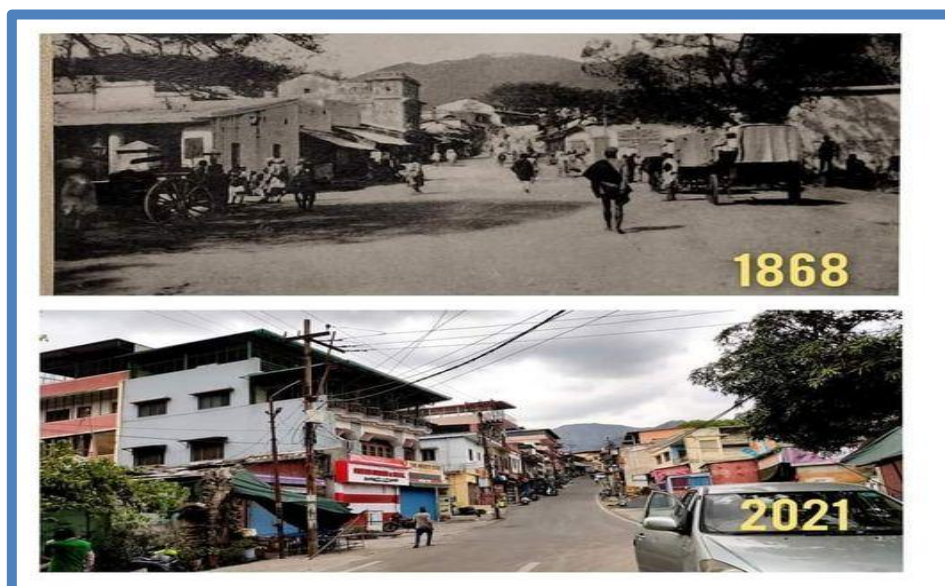


Figure2 :Comparison of pre-1868 road conditions with those of 2021 and the rispana river

Particular attention was paid to the collection of responses from people who live in areas of land conversion from agriculture to built-up; because such areas mark the development of the city's urbanization. Such approach made it possible to trace the trend of the effects caused by changes in land utilization on the socio economic status of people inhabiting Dehradun.

Sampling Method and Sample Size for Main Study: Dehradun

Finally, the locational context was narrowed down to Dehradun city for study. The city as per the 2011 Municipal Corporation map is divided into sixty wards and these fifty six wards consist of different colonies, Mohallas, and sectors. In this research, all the wards of Dehradun were included as part of the study universe with emphasis on those who have been residing in the city since 1998 or earlier.

Convenient sampling was used to sample 303 respondents out of the 60 wards in Dehradun as shown in table 1. The sampling technique entailed more people from newly developed colonies and more so from such areas in the outskirts of the city that have developed from agricultural lands into residential areas. Also included in the sample were those who were residents from the core old city wards, who have also constructed new houses in the above mentioned outer or new areas.

Out of 60 wards, 303 household were selected randomly and this was the number of households that formed the sample. The number of individual respondents is from these households was equal to 1,408; So, for this study the total cases were fixed at 303 households and 1,408 residents. The aim of the study was to get firsthand account from the inhabitants of Dehradun with regards to their experience regarding the socio cultural and economic transformation that has taken place in the recent past.

The alterations in land use over tenure were done through satellite images of the years, 1998, 2007, and 2017. The sampling technique involved taking more samples from new areas which are characterized by increased urbanization especially on the outskirts of the city than actually from old areas like Bakrawala, Indira Colony, Race Course, Jhanda Mohalla and Khurbura. The researcher also tried to interview the residents those who have shifted from core old city areas to newly developed zones thus, encompassing a wide influence of city expansion in Dehradun. By employing this approach it was possible to understand the socio economic and land use dynamics in Dehradun, which captures the views of the indigenes as well as fits into the changed geography and structure of the city over the last two decades.

S. No.	Name of the Ward	No. of Samples Selected
1	Rajpur	16
2	Jakhan	6
3	Arya Nagar	3
4	Vijay Colony	4
5	D.L. Road	2
6	Karamu	2
7	Chhakhuwala	2
8	Clock Tower	3
9	M.K.P	1
10	Tilak Road	2
11	Shivaji Marg	6
12	Dhamawala	2
13	Dalanwala (North)	2
14	Dalanwala (South)	2
15	Adhoiwala (South)	1
16	Rajeev Nagar	2
17	Nehru Colony	6
18	Deep Nagar	16
19	MataMandir Road	3
20	Rest Camp	1
21	LakhiBagh	1
22	Sahastardhara	5
23	HathiBarkala	5
24	Dobhalwala	5
25	Krishan Nagar	1
26	Rispana	5
27	Bakrawala	2
28	Indira Colony	2
29	Race Course	2
30	Kalika Mandira Marg	2

31	Khurbura	2
32	Indresh Nagar	2
33	Jhanda Mohalla	2
34	Dalanwala (East)	2
35	Adhoiwala (North)	15
36	Bhagat Singh Marg	2
37	Defense Colony	4
38	Dharampur	2
39	Ajabpur	10
40	Race Course (South)	4
41	ReethaMandi	3
42	Kargi	5
43	Bharamपुरi	3
44	NiranjanPur	6
45	Mazra	15
46	Turner Road	35
47	Indira Purum	5
48	Dronapuri	1
49	Kanwali	5
50	Indira Nagar	6
51	VasantVihar	15
52	Mohit Nagar	3
53	Patel Nagar (West)	5
54	Gandhi gram	3
55	Yamuna Colony	5
56	Govindgarh	3
57	Shri Dev Suman Nagar	2
58	Ballapur	8
59	Kaulagarh	15

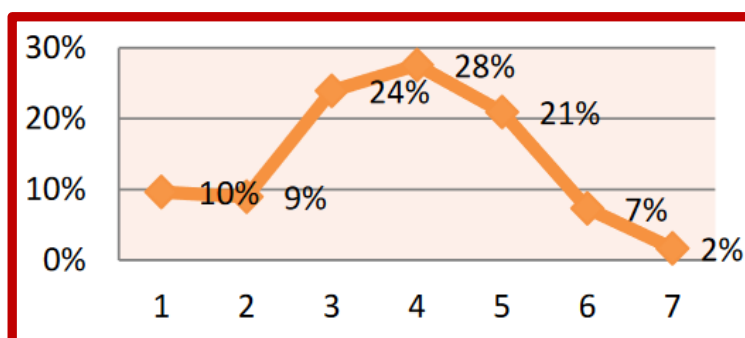
Table 1 :Details of the 59 wards and the number of samples taken from each

S. No.	Year of Construction of House	No. of Samples Surveyed	Percentage of Total Survey	Remarks
1	1998-2007	94	31%	31% are surveyed in the wards are shown in the map below
2	2007-2018	82	27%	31% are surveyed in the wards are shown in the map below
3	1998-2018	127	42%	31% are surveyed in the wards are shown in the map below

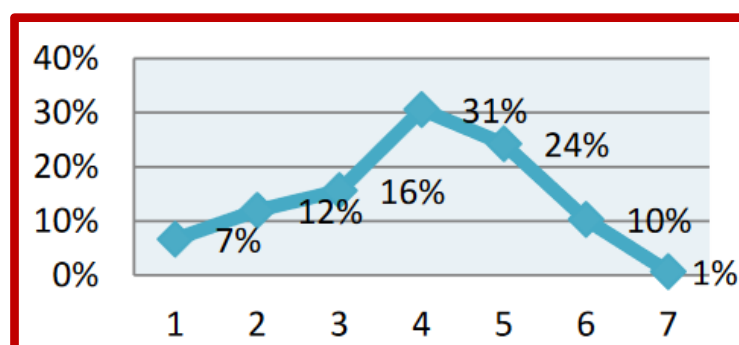
Results of the Survey on the Impact of Neighborhood Changes in Dehradun (1998-2008)

The cross-sectional study undertaken following a structured questionnaire on 303 respondents from 60 wards in Dehradun evaluated the socio cultural and economic changes from 1998 to 2008 in local neighbourhood. More so, changes in recreational facilities were assessed on a scale of 1 to 7 as illustrated in the table in the following section. According to the findings, a percentage of 28 % of the respondents categorized their perception about the impact of these facilities at 4, which point could be regarded as a neutral viewpoint. This means that although residents do not consider changes in recreational facilities as highly positive or negative they still understand the transformation from the spacious city of Dehradun that was seen twenty years ago to a more integrated urban layout. While there is still an amount of green space in the city, fears have been raised that in the future should local development authorities fail to progress policies to maintain and build more recreational areas, residents' dissatisfaction might rise.

Graph 1 The following table displays the ratings assigned to the facilities based on their influence on the area's recreational facilities.



Graph 2: Ranking of local values in %



SC-2: Local Values

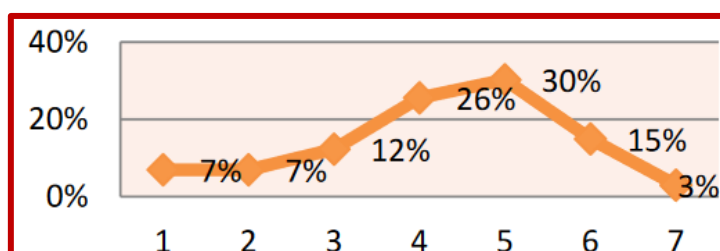
According to the survey done on the residents of Dehradun about local values, as many as thirty percent of the three hundred and three respondents scored the impact on local values with 4 of 7. This implies that though the views on the change in values from that of the traditional residents are not so prominent, values are still in existence in the community. For

example, most of the residents believe in the local religious beliefs, and practice some of the religious believes as seen during the celebrations of the Holi where many head to Jhandeji Gurdwara to perform some religious activities. These findings imply a tradition of local culture, which remains relevant to Tam Kale excerpts with constant concern for the culture and continuity of the culture in the context of a continuously developing urbanized modern city.

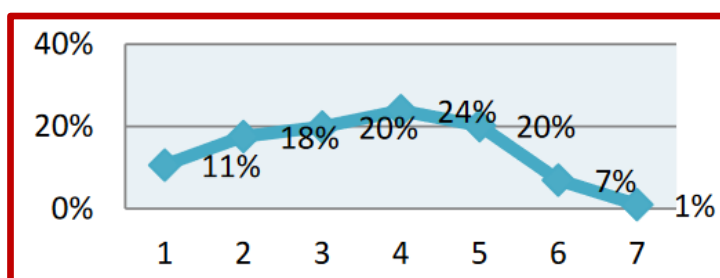
Traffic Norms in the Area

A similar picture can be observed also of the traffic norms of the localities in which people residing: 24 percent of respondents chose the score 4 on the same 1 to 7 scale, which can also be intend as the existence of the neutral attitude towards the problem. This means that traffic norms are not seen as good or bad but there is an apparent concern among residents about traffic congestion. Long traffic jams which may last up to 3-4 hours has been noted to be an inconvenience, and use of words like ‘strict traffic control’ was frequently mentioned by the respondents to help reduce such difficulties. It probably means that the ratings contain some neutrality because of the existing efforts addressing the problem of traffic management but there is disappointment and frustration resulting from the fact that the problem continues to be present.

Graph 3: Area facility traffic standards ranked as a percentage



Graph. 3: Customs assessment as a proportion



SC-4: Customs

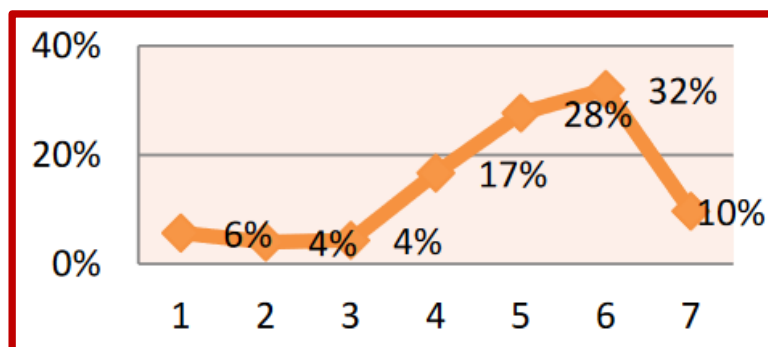
The customs of Dehradun society, according to the survey, are well-liked: 30 of the 303 respondents chose 5 on the scale from ‘un pleasant = 1’ to ‘pleasant = 7’. This has the implication that most of the people are comfortable with how culture is preserved and promulgation is done within the city. They eagerly follow the traditions and even the fests like Diwali, Holi and Eid are festivals that are the real rejoice of the composite cultural

heritage of Dehradun. The second highest, 25 respondents rated as 4 which means they were not happy and not unhappy about the fact that the residents of the country appreciate their culture and traditions.

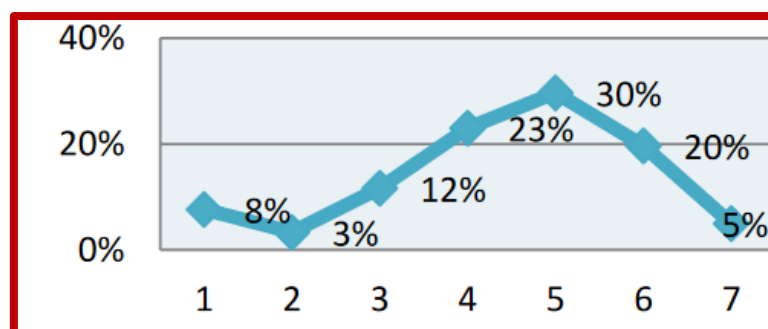
SC-5: Shopping Opportunity

In case of shopping places in Dehradun 32% of the respondents expressed their satisfaction level 6 out of 7 which is highly appreciable. This means that a large number of population is more than satisfied with shopping facilities provided in the city. Some of the comments regarding change made by a number of respondents included here was that they ‘lauded the rise in new shopping opportunities’. This positive attitude towards shopping options is indicative of advances and development of shopping and business establishments or within and around Dehradun to meet the market’s demand.

Graph.4: Percentage evaluation of shopping opportunities



Graph.5: Grading system for the upkeep of historical sites



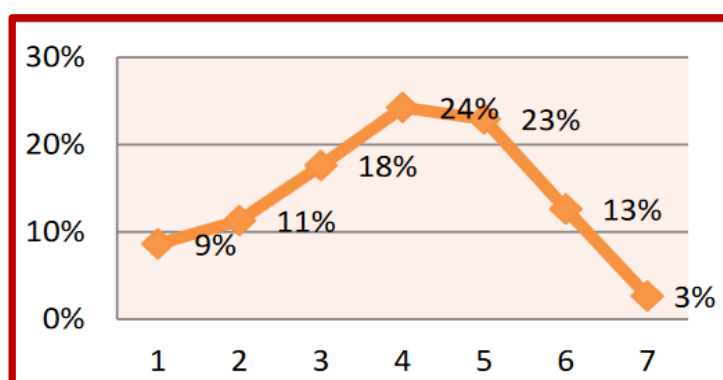
SC-6: Maintenance of Historical Monuments

Among the 303 people surveyed 30% gave maintenance of historical monuments in Dehradun a score of 5 out of 7 which presents a positive picture. This imply that majority of the residents are content with how the historical monuments in the city are being preserved and managed. The positive attitude is seen in the consciousness of residents about the efforts being made to preserve the culture of Dehradun that is a part of the identity of the place.

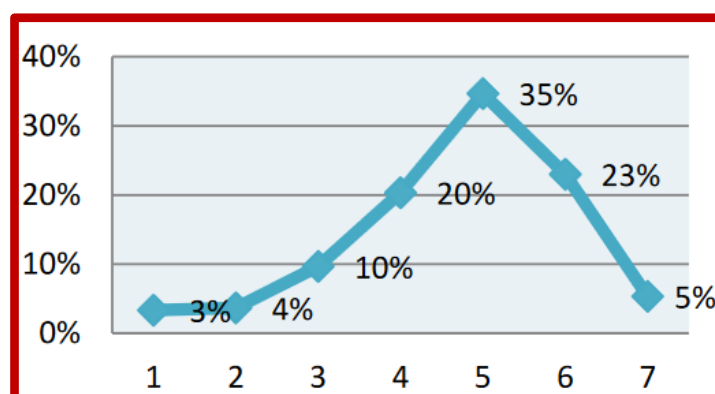
SC-7: Peace of the Area

Concerning the aspects of the peace of the area, 24 percent of the respondents scored 4 on the neutral rating the scale meaning that they were threshold of being either pleased or dissatisfied by the peace of their neighborhoods. This was further backed by 23% of respondents who gave it an average rating of 5 thus indicating that, they have a slightly positive perception about the tranquility of their area. Therefore there is a mixed feeling where some residents seem to be happy with the peace in their environment while others could wish it to be better. The variation in responses might be due to dissimilarities in noise sensitivity, safety and other aspects that affect the serenity of the different regions of Dehradun.

Graph.6: Percentage score for Area Peace



Graph.7: Percentage of the population literate



SC-8: Literacy Rate

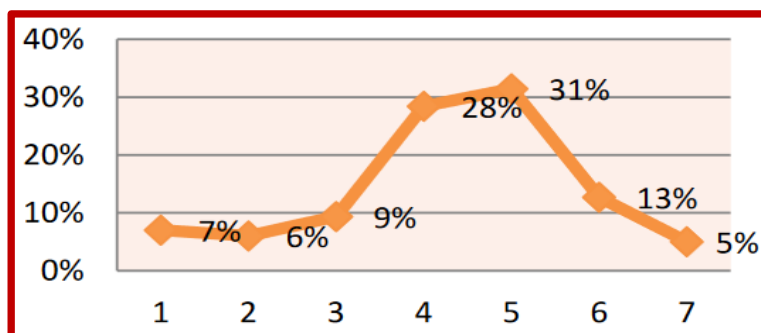
Out of 303 participants in the survey 35% said that the literacy rate in Dehradun is 5 on the scale which ranges from 1 to 7 and thus express rather positive attitude towards literacy in the city. Second came a score of 6 which indicated that the respondents had a very good perception of the literacy rate. These outcomes suggest that Dehradun is one of the best educational city with educational background majority in the city's population. The positive

ratings reveal that residents' quality of life in the city has improved in terms of concern for education and employment opportunities.

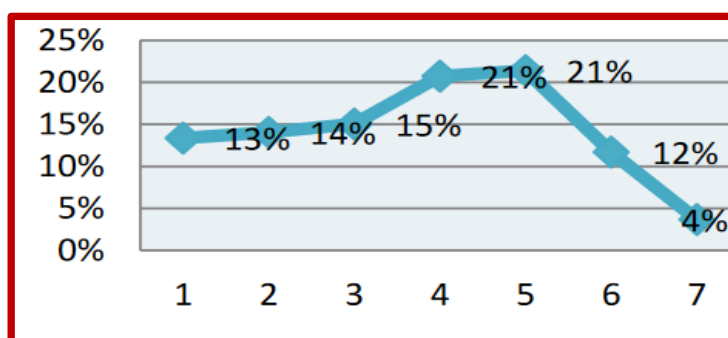
SC-9: Faith in Local Deities

As for the faith in the local deities 31 % of the respondents described their satisfaction by giving a 5 which means that these people have strong faith and they are happy with the local religious practices and gods. The second most frequent response indicated they were 'somewhat neutral' with 4 being the third most frequent response. Establishing holy places, including Shakubhari Devi temple, Jhandeji Gurudwara, Daat Wali Devi helps to protect the religious and ethnical identity of Dehradun. These responses evidently point to the fact that these religious institutions are still revered in the hearts of the people and are still valuable to them in helping maintain the fabric of unity, continuity and tradition of the said city.

Graph.8: Confidence in regional deities as measured in %



Graph 9: Popularity of the area as a whole, as measured in percentage



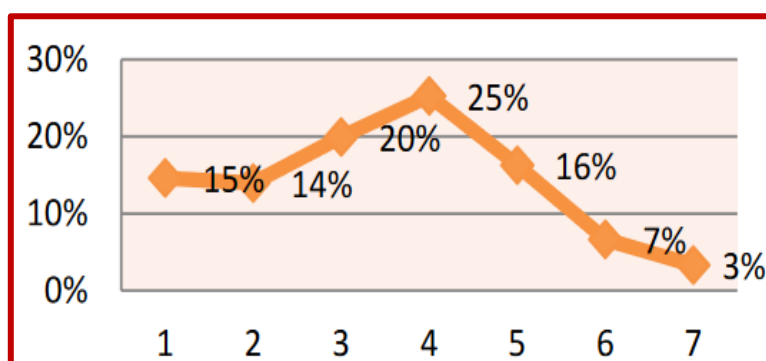
Crowd of the Neighborhood

About the crowd in the neighborhoods of Dehradun the survey has given 303 students and 21 of the percentage has marked their satisfaction level in the scale of 1-7 as 4 or 5. This implies that a good number of the residents perceive the crowd levels in their neighborhoods as being average and to even marginally positive. This is evidenced by the fact that majority of the respondents gave their regions a neutral to positive rating in terms of population density and crowding. Participants' responses indicated that the imbalance in the neighbors was moderate and hence make many of the neighborhood residents comfortable.

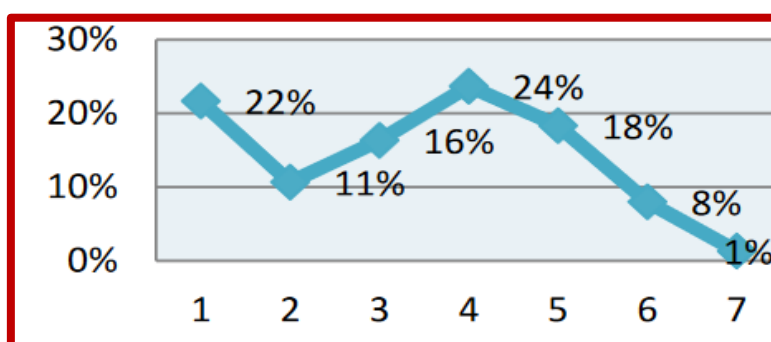
Social Evils (Alcoholism, Gambling, and Prostitution in the Area)

When assessing social evils like alcoholism, gambling and prostitution in their neighborhoods, 25% of the respondents responded with a score of 4 out of 7 meaning that they were in the middle of the road. On average, 80% of the respondents responded that they agree strongly with the statement while 20% rated it as 3, meaning they have a negative impression over these issues. Several respondents who felt that such activities have deteriorated complained and stated several concerns in their comments especially touching on the increased incidence of such occurrences at night. This would mean that there is perceived need to address social problems that may exist in some regions or to find ways on how these can be solved. The mixed responses explained the differences in the level of impact of the neighborhood on the level of practising that is associated with the social evils.

Graph.10: Percentage of Negative Social Factors in the Region



Graph.11: The proportion of problems with law and order



Impact of Economic Scenario (ES) Changes

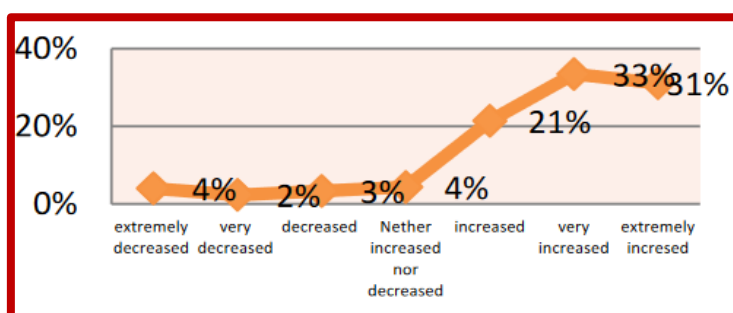
The survey results regarding the economic scenario, specifically the cost of land and housing in Dehradun, reveal significant concerns among the residents:

ES-1: Cost of Land/Housing

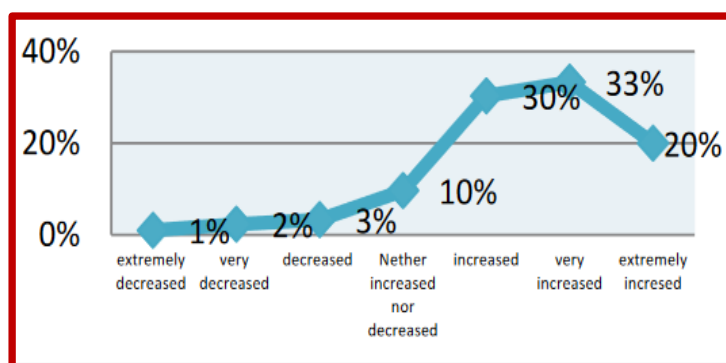
The results therefore reveal that about 33 percent of the respondents gave an increase in the cost of land and housing the highest score of six on the 7 point scale, implying very high increase. This shows the people's discontentment with the increasing prices and this is

attributed to factors such as high demand and scarcity of land. The property prices have continued to rise rapidly, and this concern has resulted in reduced affordability of houses as well as increasing costs on the community. This view is anchored to the realization that land is a basic need that is as important as food because people have to live somewhere but its scarcity together with the growing demand has lead to increased housing prices which people find unpalatable.

Graph.12: Percentage of land/housing cost



Graph.13: Daily essentials cost ranking in %



ES-2: Cost of Day-to-Day Basic Needs

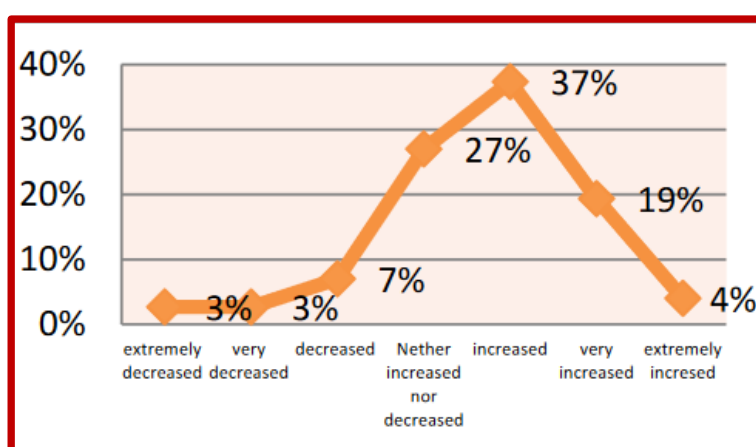
From the survey conducted among 303 respondents, 33 % of them COMMONLY described 6 out of 7 on the rating scale as having day-to-day basic needs cost as “very increased”. This implies an increase in the general cost of products and services hence putting the Dehradun residents in a state of dissatisfaction. Such increased costs have probably placed more burden and pressure to individuals as well as families who may have been stretched and struggled in their ability to cope with their expenditure requirements on a daily basis. The mood is actually anxiety since several essential commodities in people’s lives are becoming pricey as the quality of life diminishes.

ES-3: Family Income

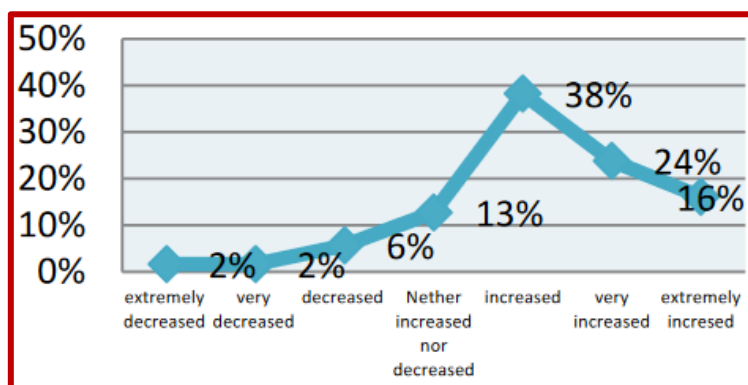
With regards to family income, 33 % of the respondents evaluated the income levels within their families to have improved through the use of a 7 point scale and giving them a rating of 5. Although this amounts to an improved income level among households, the increase in this

respect has not entirely eased worries as people continue to have complaints to make about their income levels. After the shift of capital of the newly carved state of Uttarakhand to Dehradun in the year 2000, there has been slight employment generation and subsequently, increase in Family income. But equally important is the fact that most of the basic needs, land, and even shelter have also become costly at the same time resulting in diminishment of felt income increase. Therefore, while it may appear that with City development there are improvements in economic returns, most families that are residents complain of the fact that there is economic tension due to the rising costs as compared to their earnings.

Graph.14: Percentage of family income



Graph 15: Property rent expressed as a percentage



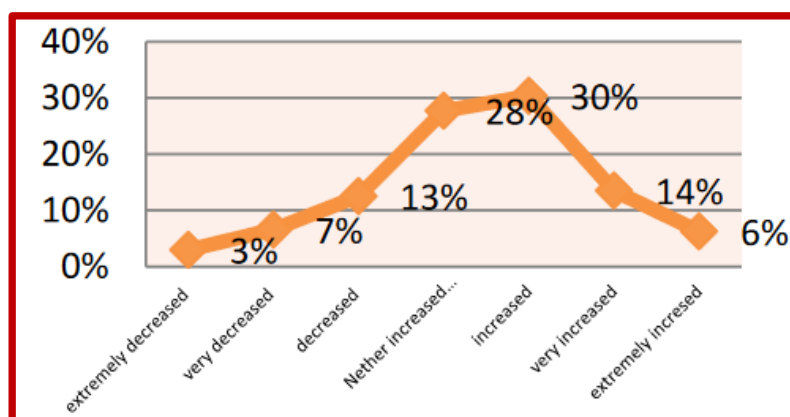
ES-4: Rent of Property

Self generated with the help of respondents a survey was carried out which pointed that out of the 303 numbers that were surveyed 38% rated the increase in property rent as '5' on the 1 to 7 scale suggesting a raise in rent costs. This implies that most of the resident are dissatisfied with the current rent charges consecutively due to high demand. Many have considered the rising rent as a real burden which has affected almost all renters in today's society. This can be attributed to the increase in property demand in Dehradun hence increasing property rental charges hence the high charge.

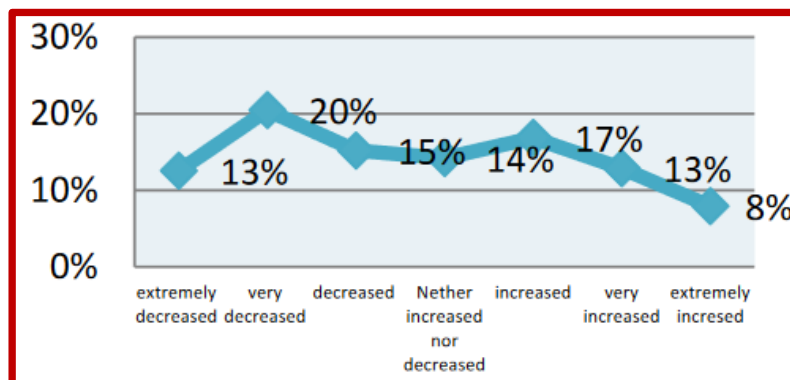
ES-5: Service/Job Opportunities

As for the service and job vacancies 30 percent of the respondents gave a 5 on the 7 point scale of perceived importance showing an improvement. People are satisfied with availabilities of jobs that have created especially after Dehradun became the capital of Uttarakhand. The development of city has resulted in generation of employment opportunities and services hence a plus for its populace. Residents have had improved expectations in the rate at which the city economy is expected to grow due to availability of increased number of employment opportunities.

Graph 16: Evaluation of available services and jobs as a percentage



Graph 17: Ranking of business prospects by percentage



ES-6: Industrial Opportunities

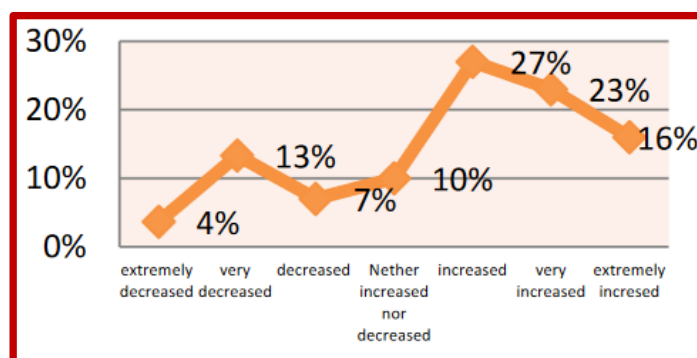
According to the survey which garnered 303 responses, only 20 per cent of the respondents gave an average score of a 2 with reference to the scale from 1 to 7 representing decreased industrial opportunities in Dehradun. From this it can be inferred that most residents are unhappy with the current status of industrial prospects in the city. New or unexpected openings may have become scarce due to the closure of industries, and as a result those who expect such an opportunity to open up will become frustrated. The decrease in the amount of

industries may be viewed as the negative factor to the overall advancement of the city, and people complain of stagnation in this sector.

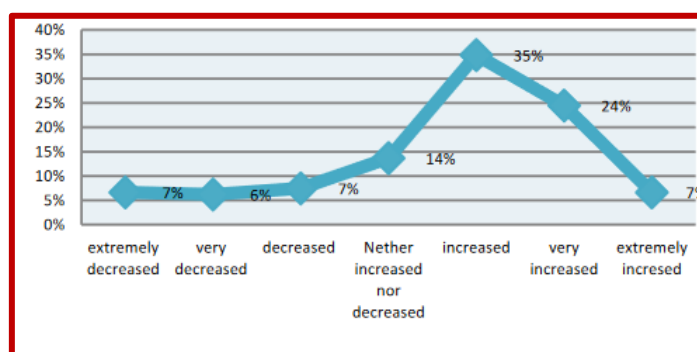
ES-7: Educational Opportunities

About the availability of educational opportunities, 27 % of the respondents provided the score 5 on the 7 point scale demonstrating the positive shift. In general, the inhabitants of Dehradun are satisfied with educational possibilities that the city can offer to them. Since times immemorial Dehradun has been regarded as an education city and hence the development of educational facilities remains another specialty of the city. An increase in the educational provisions is considered positive by the residents as it opens up the door to education as well as the development of a good reputation for the city. Such positive attitude stems from appreciation of the availability of education that is taken in the community and the adequate provision for the same.

Graph 18: Ranking of educational possibilities



Graph 19: Medical centers ranked by %



Conclusion

The data presented in the survey based on the findings obtained from 303 respondents of Dehradun shed a light on the socio-economic effects of the city growth on its inhabitants. The findings therefore present both positive and negative opinions about diverse aspects of life in Dehradun as the city grows, which indeed, has undergone transformation since the time it was chosen as the capital city of newly formed state of Uttarakhand in the year 2000.

Socio-Cultural Factors: People have moderately to rather favorable attitudes towards socio cultural factor like local culture, norms, and culture and conservation of historic buildings. But, to peace of neighborhoods certain opinions appeared – some positive and close quarteing and others negative due to crowding and social evils like alcoholism, gambling and prostitution. On one hand, there is appreciation of some cultural beliefs and spiritual practices that exist in the society; the increasing population as well as urbanization presents some formidable tasks, especially in promoting harmony in the Black society and addressing social vices.

Economic Factors: The economic environment scenario seems to be far more complicated. The ever rising cost of land, house and other basic necessities that a person incurs on a daily basis has been a subject of concern among the society due to this it's become difficult to live in society. While it is evident that most families have improved their living standards through better earning from jobs etc, these achievements have not captured the higher inflationary rates in the country. Even rent for property has gone up and when coupled with the prices of basic commodities this means even the income that people get is no longer enough to cater for their needs.

On the positive note, there is a perception that there are more services and jobs available, which is an indication that Nairobi is developing to be a regional employment centre. Availability of educational facilities has also increased and hence strengthens the educational hub city image of Dehradun. But the decrease of industrial vacancies is still questionable since it reduces the number of possible jobs for the citizens. **Overall Implications:** From the data it can be inferred that with the growth and development of Dehradun it has experienced social and economic transformation, however this transformation has been rather selective in nature and majority of population has not been benefited. High costs of living especially in the areas of housing and food are some of the critically important issues that need to be tackled to make the city growth efficient and fair for everyone. However, it is also imperative that its growth is done in a manner that will still retain the cultural attributes and identity of the city as well as the social fabric that is present in the community. Dealing with these challenges in a comprehensive manner by way of framed strategies and policies therefore shall pose as a base necessity in ensuring that the quality of life of residents of Dehradun is kept acceptable as the city grows.