

Trend of Population Change in Nepal and its Adverse Effect on Diverse Aspects

Laxman Singh

Asst. Prof. Mid-West University

thakurising96@gmail.com

Abstract

This research paper aims to describe the trend of population change and its adverse effects on diverse aspects of individual, family, community and the nation. Secondary data have been used from the statistical reports of various census conducted in Nepal in this study. This study has focused on the trend of population change from the initial census 1911 to the last census year 2021 with its adverse effects on human being. Nepal's population was under the 6 million in initial census year 1911. After during the 110-years period later, as per a latest statistical report 2021, the current population has crossed 29 million due to high birth and low death rate, poor use of contraceptives, illiteracy, unemployment, poverty, low status of women, traditional system of marriage, cultural and religious beliefs, increasing trend of immigration and regional or provincial difference which contributes to create environmental degradation, possibility of extinction, rise in unemployment, lack of education, high cost of living, conflict and wars, deterioration of culture, lower life expectancy and quality of life.

The feeling of risk resulting from the large population size in Nepal is same as other developing countries. Looking at the current demographic situation as compared with limited resources in Nepal, it is suggested that the exceptional population influencing policies and programs should be formulated and implemented in every regions or residences to combat against adverse effect of overpopulation.

Keywords: Population Change, Overpopulation, Adverse Effect, Mitigating Measures

Introduction

Population change means a change in the size of the population which refers to the change in the total number of people living in a specific area during a specified time period which is determined by the population growth rate. Population change is a continuous global phenomenon and multidisciplinary in nature. It provides enlightening insights into changes in population structure and behavior, pinpointing causal relationships and refining explanations (Aryal, 2008). Hence, the demographic changes indicate not only the changes in population size but also the changes in its composition, distribution and the related development process (Aryal, 2013). It means, overpopulation is identified as a major problem of socio-economic development for any region or a country. Overpopulation occurs when there is excess burden of any species on the environment (Chawla and Verma 2018) and it refers to the situation where the number of individuals exceeds the carrying capacity of the environment to sustain them and is a relative concept that varies depending on the region (Sarve 2023). Therefore, overpopulation is identified as a major problem of socio-economic and sustainable development for any region or a country.

The world population size reached 8 billion in November 2022 and is predicted to peak at 10.4 billion by 2080 and to remain at that level until the end of that century. The population of any nation cannot be found as the present condition in the future because its size is changing in infinitesimal of time due to the procedures of high birth, low death, and high immigration. The population of Nepal represents 0.36% of the total population in the world. Nepal's population reached 11.5 million marks in the year 1971. The first census was taken in Nepal in 1911 and thereafter once every ten years. It is therefore possible to study changes in population size and growth rate during the last 110 years. The first population census of Nepal 1911 has indicated that the population of 5.6 million conducted. After during the 110-years period later, as per a latest statistical report 2021, Nepal's current population is more than 29.9 million of which the number of males is 14253551 (48.87 percent) and the number of females is 14911027 (51.13 percent) an increase of 2670074 (10.08 percent) people from 2011 census with actual growth rate 0.92 percent and ranking it as the 15th largest population in the world, whereas as Nepal has been ranked at 93th position in terms of land area, which has given rise to an inequality between the land mass and the population density. If the current growth rates of Nepal continuous at the rate of 0.92 percent per annum, population will be double in every fifty years.

The causes of concerning population growth were not available before the industrial revolution, where the link broke between land and population (James, 1994). After the industrial revolution, decline in death rates, birth control, and lack of family planning and better medical facilities are identified as the key causes of overpopulation (Sharma 2017). In case of high birth rate and low death rate, the population size will continue to increase results overpopulation. Overpopulation can create infanticide, deformed and colonization (Plato and Aristotle), and unchecked human procreation can lead to resources scarcity and eventual collapse (Malthus 1797) as well as environmental catastrophe and mass starvation (Ehrlich 1968), because, overpopulation depletes of resources and the earth can only produce a limited amount of resources (Rinkesh 2017). These concepts depict that, if population size is disequilibrium with resources, people's standard of living is sure to come down.

Additionally, according to the various studies of population change in Nepal, the proportion of population is increasing trend as compared with the proportion of resources which is held responsible for diminishing in both renewable and non-renewable resources, increasing the dependence on flora and fauna as well as environmental issues like deforestation, landslide, soil erosion, global warming, green house effects, climate change, rapidly melting icebergs and other social inequalities. The sense of risk resulting from the overpopulation in Nepal is not new phenomenon. Hence, this study focuses on the current demographic situation and its adverse effects of large population size as well as various strategies of overcoming this phenomenon.

Purposes

The major purpose of this study is to describe the trend of population change and its adverse effects on individuals and country's resources, but the specific objectives are:

- To illustrate the trend and causes of overpopulation
- To examine the effects of overpopulation on diverse aspects of individuals and country's resources.
- To ascertain the mitigating measures to be adopted for the population management

Methods

The study was concerned to look at demographic situation from the first census 1911 to the current census 2021, paying attention mainly to the possible results of overpopulation and to various plan and ways of preventing this phenomenon. This study based on secondary sources of data collection. Specially, the statistical report related to population size and growth rate from various censuses and relevant websites have been used as sources of required information. The obtained information have been integrated and presented into number, percentage, table, graph and chart. Presented data have been analyzed and interpreted to expand knowledge, skills and understanding about the current situation of population and its adverse effects at present and future.

Result and Discussion

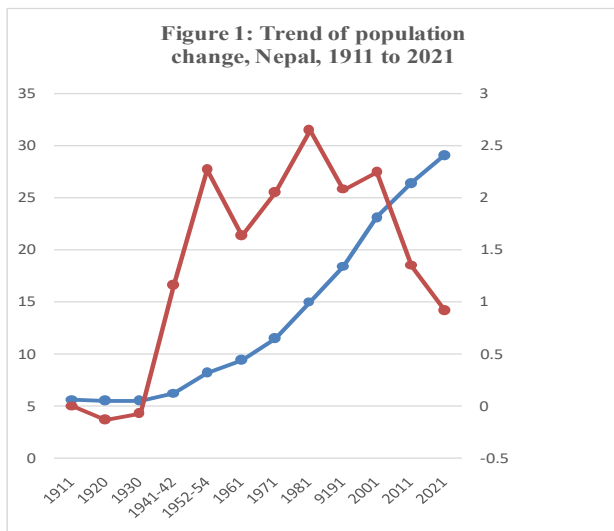
Due to the high birth rate and low death rate results in high possibility of population explosion in Nepal. The entire population at various censuses during the period between 1911 to 2021, along with the corresponding annual growth rates and the timeline over which the population doubled has been verifying in table 1 and figure 1. Since the first population census 1911, the population had doubled by the census year 1971, rising from 5.6 million to 11.5 million. The last census of 2021 has shown a population of 29.1 million, presenting an average annual growth rate of 0.92 percent per annum during the inter-censal period 2011- 2021. The annual growth rates were low until 1941 which average annual growth rate during 1941/42-1952/54 period was above 2 percent. For 40 years from 1961 to 2001 the average annual population growth rate was above 2 percent. Between 2001 and 2021 the average annual growth rate has suddenly declined to less than 2 percent and 1 percent per annum in 2011 and 2021 respectively.

Table 1: Trend of Population change, Nepal, 1911-2021

Census years	Total population	Growth rate (%)	Inter-censal change (%)
1911	56,38,749	-	-
1920	55,73,,788	-0.13	-1.15
1930	55,32,574	-0.07	-0.74
1941-42	62,83,649	1.16	13.58
1952-54	82,56,625	2.27	31.40
1961	94,12,996	1.64	14.01
1971	1,15,55,983	2.05	22.77
1981\	1,50,22,839	2.65	30.00

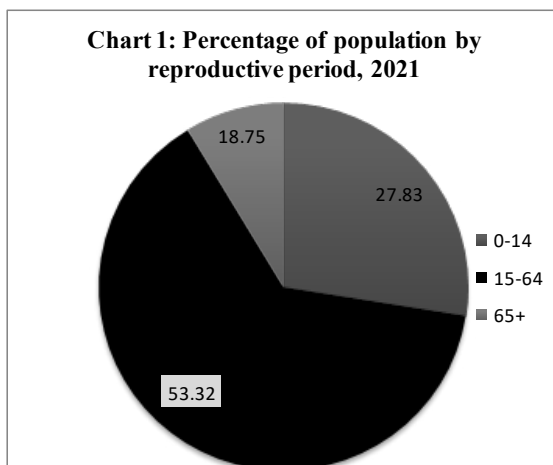
1991	1,84,91,097	2.08	23.09
2001	2,31,51,423	2.25	25.20
2011	264, 945, 04	1.35	14.44
2021	29,164, 578	0.98	10.08

Source: CBS, (2014). *Population Monograph of Nepal 2014*, CBS (2021). *Nepal Population and Housing Census 2021*.



As mentioned above, there was 5.6 million population in the first census 1911, but after 110 years up to the census year 2021, the current population size is more than 29.1 million increased by more than five times. During the last decades since 2011-2021, the population has increased by 10.08 percent with an average annual growth rate of 0.92 percent which is lower than the 1.35 percent average annual growth rate recorded in 2011 census. It depicts that the population size is in increasing trend but the growth rate does not seem very challenging in Nepal.

As presented in chart 1 below, more than 53 percent of Nepal’s total population is between the ages of 15-49 years, the population aged 14 years or below and 50 years and above are 27.83 percent and 18.75 respectively. It means more than half of the total population lies in reproductive age group in Nepal. Apart from this, 38 percent of Nepal’s population is under the age of 19 years and it is projected that Nepal will be the most populous country in future.



As can be seen in table 2 the existing size and density of population is uneven in all provinces. It differs on or after province to province and depends on several reasons such as diversity in environmental condition, socio-economic status, peace and security, availability of natural resources, position of cultural and traditional custom, values and beliefs.

Table 2: Trend of size and density of population by provinces, Nepal, 2011-2021

Provinces	Census Year			
	2011		2021	
	Population	Density	Population	Density
Koshi	4534943	211	4961412	192
Madhesh	5404145	564	6114600	636
Bagmati	5529452	754	6116866	300
Gandaki	2403757	153	2466427	116
Lumbini	4499272	208	5122078	230
Karnali	1570418	79	1688412	61
Sudurpaschim	2552517	121	2694783	136

Source: Karki, Y. B. 2016. Population First. Republica. February 1. Kathmandu.

CBS (2011). National Population and Housing Census 2011.

CBS (2021). National Population and Housing Census 2021.

As evident from the data, provinces with unfavorable environments tend to be sparsely populated whereas provinces with favorable environments tend to be densely populated. Therefore sparse and dense population density is affected by geographical obstacles, economic barriers, and even sometimes political decisions. Although, the size and density of population is uneven but it is increasing trend in all provinces in Nepal. Although population density vary significantly between different provinces and some provinces continue to experience increasing trend.

Cause and Effect of Overpopulation

Although fertility mortality and migration are three major components influencing a national natural population change. The trend of population size in Nepal is high due to high fertility as compared to low mortality rate resulting overpopulation, which cannot be sustained by the resources available in any country.

Especially, the causes for over population growth in the country are high birth rate, low death rate and immigration age composition, duration of marriage, imbalanced sex composition, religious background, level of education, age at the time of marriage, customs and tradition, status of individual, policies of the government, family income, availability of food and nutrition, occupation, poverty, family type system, environment condition including illiteracy, position of women, marriage system, poor use of contraceptives, unequal distribution of development activities and standard of living. The causes of over population in Nepal are:

- The birth rate remains higher (20.0 per thousand populations) than the death rate (6.7 per thousand populations) and, improved medical facilities, health and hygiene awareness has declined the death rate which leads to over population.
- Most of the people in Nepal are illiterate (25%) and unaware about the adverse effects of over population. Those people who are illiterate people feel that they do not get respect in the society if they have no children. They have an attitude that the children are economic assets and social security for old age and give happiness, love and relief from strain to their parents. Moreover, Absence of family planning is commonly seen in the illiterate in Nepal as well as the world. Due to illiteracy, parents do not take to family planning measures, thus contributing to a rise in population.
- Lack of required food and balanced diet is another cause of overpopulation. If the people have no balanced diet, they become unhealthy along with their children due to malnutrition. As a result, number of deaths of children increases every day and then parents will not assure that their children can be alive. Therefore, they want to give birth too many children.
- Most of the people are engaged in agriculture that needs more manpower. Especially farmers and labors want to give birth too many babies because they feel that more hands in a family mean more income in the future. They hope that their children can help them in their fieldwork. Therefore, they want to increase number of births.

- Most of Nepalese people are below under poverty line. They have common belief that, children are the important source of income and social security for old age of their future, therefore, they want to encourage the high birth rates, results overpopulation in Nepal.
- Low status of women is a major cause of overpopulation. Women mostly do domestic and agricultural jobs and bear children to satisfy their husband, parents-in-law or relatives rather than to fulfill their own wish. It means dominated women are compelled to give the birth of a child; results increase the population growth rates.
- The tradition of polygamy system is existing in Nepal even today. People having more than one wife produce more babies. Besides this, getting their children married at an early age increases the chances of producing more kids which naturally increases the population of Nepal.
- Cultural and religious belief of people is major causes of overpopulation. In such societies, there is one traditional value that, children are god's gift and it is immoral to interfere in the will of god, children are regarded as the blessing of god and the door of heaven can only be opened by a son, not by a daughter. Therefore, people want to have large family size by increasing the number of child until the birth of child has not taken place.
- Large number of people who are traditional, illiterate, and live below the poverty line and have little or no knowledge about family planning; they do not want to use contraceptives and have high chances of producing more kids of the result over population.
- In Nepal, children are considered as a possible source of revenue among the lower income families, family size is restricted to a minimum.
- Most of the Nepalese people, especially in rural area live in a joint family arrangement are more likely to have more children
- Improved technological advancement in fertility treatment, treating infertility medical conditions with latest techniques available to conceive and undergo fertility treatment methods and making the pregnancies safer.
- Nepalese law has defined a legal marriageable age of 18 years, yet the concept of early marriage still prevails in the rural sectors and most of the girls are pushed under this sacred obligation and are tied under knots at their reproductive age itself. The 2021 census shows that 34.4 percent (Male: 32.6% and Female: 35.9 %) of the ever married population aged 10 years and above had their first marriage between the ages of 18 and 20. Similarly, 22.3 percent of them got married in the ages between 15 to 17 years, 7 percent of them got married at the ages of 10-14 years and some of them (0.3 %) got married for the first time under the age of ten years, which is an alarming scenario.

Due to overpopulation, existing services for the large number of people become insufficient, rises in unemployment, crime murder, starvation, violence, diseases and environmental pollution which lead to the falling of living standards and sustainable development. Nepal still remains in the list of developing countries and is facing with the problem of over population. Some of the adverse effects led by over population are:

- The growth of population puts great demand on the limited natural resources. With the overuse of natural resources creates depletion of resources and biodiversity of natural habitat results environmental degradation.
- Rapid population growth creates problem of unemployment. When a region or country becomes overpopulated, it gives rise to unemployment as there are fewer jobs to support a large number of people. The rise in unemployment gives to crime, such as theft, as people want to feed their families and provide them basic amenities.
- There is continuous increase in school going students due to increase in population. The number of school, teachers, and physical facilities are to be increased in the population to the increase in the number of students. Availability of reading, books and educational materials and many other things are necessary for the quality education. Such are challenges to the world as well as our country.
- Rapid population growth adversely affects the availability of health services and facilities. The government cannot fulfill the unlimited demands of over population to survive by limited resources. As a result many people could suffer by various types of diseases. The untimely death of people due to lack of treatment would become very common in the world.
- Many people will cut the trees to fulfill their needs. The sounds of water will get dry due to cutting of trees and destruction of the environment. As a result, there will be insufficient water supply due to the lack of conservation and maintenance of existing sources of water.

- Over population causes a shortage of resources resulting in less access to medical care, fresh water, food and jobs. It increases the chance of new pandemics and epidemics resulting low life expectancy of people.
- As the difference between demand and supply continues to expand due to overpopulation. It raises the prices of various essential commodities including food, shelter and health care facilities. This means more people cannot fulfill their unlimited demands to survive by limited resources.
- Over population can lead to conflict and wars, if combined with resources scarcity and when the state has limited capacity to manage disagreement of people.
- Growing population brings changes in socio-cultural traditions, customs, values, beliefs and behavior of the society. It attempts to bring in the western way of life which means deterioration of our culture. The young boys and girls will be immoral due to deterioration in our culture. They could be attracted towards western culture which affects culture badly.
- Overpopulation contributes to decrease in the number of species on the planet. If present trends of population growth continue the wild life species will be at risk of extinction.
- Over population would strain the resources, make infrastructure more susceptible to competition, increased costs of provision of public goods and services, and start to return law of diminishing return in agriculture.

As discussed above, there is cause and effect relationship of overpopulation where the cause is directly responsible for creating such adverse effects on various aspects of human being and natural resources. The cause of population increase proceeds the effects on individual life and the effects appears unlikely to have happened without the cause. Hence, overpopulation means the high consumption of natural resources and leads to environmental degradation, inadequate basic needs, limited access to educational and employment opportunities, lack of infrastructures, overcrowded cities, social crime, conflict and war, and a higher risk of large scale diseases. The relationship between cause and effects of overpopulation has shown in figure 2.

Figure 2: Cause and Effect Relationship of Overpopulation

As stated above, various socio-economic, political, cultural and religious factors are responsible to increase the size of population for any area or a country and the increased size of population bring adverse effects on quality life of human being.

Mitigating Measures

Several philosophers, planners, policy-makers, educationist, scientists, researchers and other scholars should concern to find out the solution of complex problems facing the human beings due to over population in Nepal. Some major steps to be taken towards the over population is:

- Government should make essential policy for rising age at marriage, legal abortion, proper use of contraceptives, birth spacing, and safe motherhood, equal rights of opportunities for both sexes and improvement of women status.
- Sex-education, health services and facilities, contraceptives especially for young adult women should be free, easily accessible and available, even in remote area.
- Traditional socio-cultural and religious customs, beliefs, norms and values towards the marriage and number of birth should be transformed.
- Urbanization and industrialization should be extended in rural areas, and immigration should be reduced whereas emigration should be encouraged.
- Public programs through mass media and door-to-door programs related to gender discrimination, small and happy family and proper use of contraceptives should be conducted and implemented.

As interpreted above, effective policies and programs should be conducted and implemented in terms of improving women's education and empowerment, promoting family planning and reproductive health services, ensuring easily access of contraceptives to address the issues of overpopulation.

Conclusion

The study has established the cause and effect relationship of overpopulation in Nepal. Although, overpopulation may always be a source of strength as well as cause of misery, but it has become a serious problem in Nepal as compared with limited resources. Due to the overpopulation, existing services for the large number of people become insufficient, rises in over exploitation of resource, unemployment and social crimes. Many social, economic, cultural, environmental and infrastructural problems as well as the problems of peace and security may

occur, as a result people's life may be difficult and most of the people may die because of starvation, violence and diseases.

Nepal's population was under the six million in 1911 census. After during the 110-years period later, as per a latest statistical report 2021, Nepal's current population has crossed more than 29 million. Similarly, the annual growth rates were fluctuated from the census year 1911 to 1961. After 40 years from 1961 to 2001, the growth rate continuously increased by more than 2 percent, and suddenly declined to less than 2 percent and 1 percent per annum in 2011 and 2021 respectively. During the last decade since 2011-2021, the population has increased by 10.08 percent with an average annual growth rate of 0.92 percent which is lower than the 1.35 percent average annual growth rate recorded in 2011 census. The overall patterns in the trends show that over the period from 1911 to 2021.

As evident from the data, the size of population has been increasing trend but the rates of population growth don't seem very challenging in Nepal. Apart from this, provinces with unfavorable environments tend to be sparsely populated whereas provinces with favorable environments tend to be densely populated; the sparse and dense population density is affected by geographical obstacles, economic barriers, and even sometimes political decisions. The size and density of population is uneven but it is increasing trend in all provinces in Nepal. Although population density vary significantly between different provinces and some provinces continue to experience increasing trend.

The study has revealed that the trend of population change in Nepal has accepted as a serious human problem. Therefore both government and the public require adopting urgent actions together to reduce population growth and its negative impacts, and the government should formulate an exceptional population influencing policies related to obtain an optimum size of population.

References

- Aryal T. R. (2013). Application of demographic models to investigate levels, differential and determinants of fertility of Nepal. *Journal of Institutes of Science and Technology* 18(1), 148-156.
- CBS, (2011). *National population and housing census 2011, National Report, I*. Kathmandu, Nepal.
- CBS, (2014). *Population monograph of Nepal, 1*. Kathmandu: Nepal.
- CBS, (2021). *National population and housing census 2021, National Report, I*. Kathmandu, Nepal.
- Chawla, K. and Verma, K. (2018). A research paper on over population and its effects. *Amity Journal of Energy and Environment Studies*, 4(1), 18-19.
- Hakeem, M. A. (2017). *Effect of population density on the level of development*. https://mpra.ub.uni-muenchen.de/82301/MPRA_82301.
- Joseph, J. (2024). Over population: cause and effect. Retrieved 22 April 2024.
- Karki, Y. B. 2016. *Population First, Republica*. February 1. Kathmandu.
- Regmi, L. K. (2014). An overview of population growth trends of Nepal. *Journal of Institute of Science and Technology*, 19 (1), 57-58.
- Sarve, A. A. (2023). Over population: A main social problem in current scenario. *International Journal of multidisciplinary research*, 9(8), 44.
- Singh, L. (2024). *Principles of philisophy and population education*. Pinnacle Publication, Nepal.
- Sharma, R. k. (2017). Human over population: Impact on environment. *Environmental issues surrounding human over population*, 2-3. <https://doi.org/10.4018/978-1-5225-1683-5.ch001>
- Subedi, P. K. (2012). *Principles of demography*. Kriti Prakashan.
- Wilson, C. (1985). *The dictionary of demography*. Roland Pressat
- UNFPA (2017). *Population Situation Analysis of Nepal*. <https://nepal.unfpa.org/sites/default/files/pubpdf/Nepal%20Population%20Situation%20Analysis.pdf>.