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DYNAMICS OF POPULATION DENSITY IN SOUTH ASIA: A GEOGRAPHICAL ANALYSIS

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ABSTRACT:

In 2024, population of South Asia was 1.97 billion that was nearly one-fourth (around 24 percent) of the world's total population (8.2 billion). South Asia is comprised of eight countries, which also called as SAARC countries, displays wide variation in density due to its diverse socio-economic-cultural milieu and physiographic situations as well as human-induced landscape. This paper examines the dynamics of population density during 2001-2024 in South Asia with aiming at density changes in absolute term and percentage points. As of 2024, the lowest density (21) was recorded by the Himalayan nation Bhutan and the highest (1759) by the Maldives situated in the Arabian sea. Over the study period the maximum absolute changes of 803 points occurred in the small island country the Maldives and the minimum of 5 points in Bhutan. At the world level this change was 13 points and in the South Asian region it was 111 points. The dynamics of population density of South Asian countries is shaped by natural as well as anthropogenic factors, and needs sustainability of demographic features.

KEYWORDS:

DYNAMICS, POPULATION DENSITY, SOUTH ASIA, SAARC, SOCIO-ECONOMIC-CULTURAL MILIEU, PHYSIOGRAPHIC SITUATION, TERRAIN, SUSTAINABILITY.

"Asia has many places where people are few, and a few places where people are very many." – Cressey (1944, pp. 26-27)

INTRODUCTION

Population density is a quintessentially spatial phenomenon, expressing the way that human beings spread out over, and occupy, the earth. As such it is a highly significant element in population geography, social geography and settlement geography (Smailes et al., 2002). It is related to population size and the land area with a view to assessing the pressure of population upon the resources of the area. Thus, it is a measure of the incidence of population concentration and is generally expressed in terms of persons per square kilometre. (Kumari & Rai, 2011, p. 33)

This is calculated by dividing the number of persons of a region by the total land area of the region. In case the land area is small for a given population, the density will be high, but if the land area is large, then the density will be low. Density depends on many natural and human factors, such as relief and landforms, climate (temperature and rainfall), soil, water availability, economic resources, types of land use, agricultural and industrial development, transport facilities, urbanization, and the level of technological development (Kumar & Kumar, 2023, p. 64).

The number of person per square mile or kilometre is known as simple arithmetic density. Agricultural density means the number of agricultural people per unit of cultivable land. Physiological or real population density substitutes arable land for total area in man-land ratio. It omits unproductive land from consideration. Physiological density takes into account all types of population, whereas agricultural density takes into account only the agricultural population. Demko et al. (1970, p. 22) recognizes that land and people constitute the two significant elements of an area and, therefore, the ratio between the two is of fundamental interest to all scholars concerned with population analysis. But it cannot be treated as a measure of population pressure on land because it merely spells out a simple quantitative relationship between man and land, both of which may be of widely varying quality (Chandna & Sidhu, 1980, p. 18). Improving the index of man-land ratio another type of population density, economic density has been suggested by George (Shryock et al., 1976, p. 71). Economic density is considered as a ratio between the requirements of a population the resources made available to it by production in the area it occupies.

In developing countries, excessively high population densities are a frequent concern in terms of overpopulation and pressure of population on the environmental carrying capacity. But when population density gets too *low*, it also has adverse impacts in rural areas (Smailes et al., 2002).

STUDY AREA

South Asia, is composed of eight countries, viz. Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan, and Sri Lanka. All countries are member of SAARC organization, therefore, also called as SAARC countries. Due to dominating geography of India, the South

Asian region is too known as the 'Indian Subcontinent'. It is noteworthy here that the Indian Subcontinent consisting at least of India, Pakistan, and Bangladesh. Bhutan, Nepal, and offshore Sri Lanka and the Maldives may also be included in it for the some uses of the term, which is frequently, but not always. According to the World Bank, all the countries of South Asia come under the developing regions. Bhutan, India, the Maldives, Pakistan, and Sri Lanka are less developed countries, whereas Afghanistan, Bangladesh, and Nepal are least developed countries as per World Bank definition. In 2024, the South Asian region was home to nearly one-fourth (around 24 percent) of the world's total population spread over less than 4 percent area of the world. The total population of this region was approximately 1.97 billion in 2024 (Worldometer Website; United Nations, 2024, Calculated). India (1451 million), Pakistan (251 million), and Bangladesh (174 million) are among the ten most populous countries of the world with first, fifth, and eighth ranking respectively (United Nations, 2024, p. 36). India, Pakistan, and Bangladesh have the potential to develop meta or hyper cities, which are urban agglomerations with 20 million inhabitants or more. It is projected that Delhi (38.94 million), Dhaka (28.08), and Karachi (20.43) will be meta cities in 2030 (United Nations, 2019, pp. 17, 29).

Although South Asian countries occupies less than 4 percent surface of the world, but these countries represent wide variations in their geography, history, economy, political systems, governance regimes, and socio-economic conditions. Therefore, these variations affect population growth, its distribution and density in South Asia. In this background an attempt has been made to study the dynamics of population density in this region, focusing on the temporal changes, affecting factors, and implications for regional development.

OBJECTIVES

An attempt has been made in this paper to bring out population density changes in South Asian countries in the first quarter of the twenty first century, i.e., for the period 2001 to 2024, and also find out some explanation for variation in population density.

MATERIAL AND METHODOLOGY

The present study is based on secondary data. Data for this paper are primarily sourced from *World Population Prospects 2024*, United Nations Population Division Data Portal, and Worldometer website that are given in references. Density of population is calculated by dividing total population by land area excluding the inland waters (the main rivers, lakes, and other water bodies). Changes in density over a quarter century period is obtained by simple percentage method. Absolute change in density arrived at subtracting two densities, i.e., density (2024) – density (2001).

DISCUSSION

The South Asian Region is one of the most densely populated areas globally. As of 2001, population density of this region was 302, where at the world level this figure was significantly low at 42 persons per square kilometre. The South Asian Region have very high range of variation in density within and across its countries. The maximum density (1051) was recorded in Bangladesh, followed by small island nation the Maldives (956), India (363), Sri Lanka (313), Pakistan (207), Nepal (169), Afghanistan (31), and Bhutan (16). During the study period (2001-24), ranking and relative position in terms of density almost remain unchanged among SAARC nations. But it increased in absolute term.

TABLE NO. 1

SOUTH ASIA: COUNTRY-WISE DENSITY OF POPULATION 2001-2024

(PERSONS PER SQUARE KILOMETRE)

Country/Region	Population Density		Change in Density	
	2001	2024	Absolute	In Percentage
Afghanistan	31	66	35	112.90
Bangladesh	1051	1333	282	26.83
Bhutan	16	21	5	31.25
India	363	488	125	34.44
Maldives	956	1759	803	84
Nepal	169	201	32	18.93
Pakistan	207	326	119	57.49
Sri Lanka	313	368	55	17.57
South Asia	302 (Calculated)	413 (Calculated)	111	36.75

World	42	55	13	30.95

Source: UN Population Division Data Portal; Worldometer Website

Now in 2024, the Himalayan country Bhutan, once again, is the most sparsely populated with 21 persons per square kilometre and with density of 1759 persons the Arabian sea island country the Maldives was most densely populated. Bangladesh with density of 1333 persons relegated to second place next to the Maldives. Fertile alluvial plains and Upper Deltaic region of the Ganges-Brahmaputra-Meghna rivers support this dense population. However, Madhupur forest, lower coastal areas and hill tracts, such as the Chittagong Hill Tracts, are less densely populated due to challenging terrain and environmental vulnerability. India, with a population density of 488 persons is at third place among SAARC nations in 2024, is marked by stark contrasts with in and across the states. About half the population of India is concentrated over one-fourth of its land area. Thus the population pressure is fairly acute in the relatively favoured agricultural tracts (Singh, 1971, p. 20). The Northern Satluj-Gangetic-Brahmaputra Plains are among the most densely populated regions globally; while desert regions like Western Rajasthan, and the Himalayan and the North-Eastern states of Arunachal Pradesh, Mizoram, Sikkim, Nagaland, Manipur, Himachal Pradesh, Ladakh UT, and Meghalaya exhibit lower densities. The Peninsular Uplands have a moderate density, whereas the Coastal Plains have a relatively high density. The highest density in the country is found in the Lower and Middle Gangetic Plains. Rapid urbanization has led to significant grown in mega, metropolitan, and capital cities, which resulted in skewed pattern of density. Pakistan exhibits uneven population distribution, with Punjab being the most densely populated region due to its fertile land. In contrast, Balochistan, dominated by arid deserts and rugged terrains, has sparse populations. The rugged Himalayan terrain in Nepal and Bhutan limits arable fertile land, resulting in lower population densities. However, pocket of higher density exist in fertile valleys like the Kathmandu and Pokhara in Nepal. After Kathmandhu valley, the Tarai region is the most densely populated region in Nepal. Afghanistan's overall population density is relatively low, averaging 66 persons per square kilometre in 2024 and varying by region. Factors such as rugged terrain, harsh climate, limited resources, ongoing conflicts, political instability, and economic constraints collectively contribute to uneven and low population density across the country. Sri Lanka has a moderate population density, with most people residing in coastal regions and urban centres. The highest density is found in the Wet South-Western Coastal region. The South-Central Highlands, with tea and other plantations, exhibit moderate density. However, the terrain in this region is more mountainous-hilly, which limits population growth.

The Dry North-Central Plain and the Eastern Coastal regions are sparsely populated.

With spatial changes, temporal changes also occurred and observed across the South Asian countries. During the study period (2001-2024), the highest absolute change of 803 points registered by the small island country the Maldives and the lowest 5 points by Bhutan situated in Himalayan Mountains. At the world level this change was 13 points and in the South Asian region it was 111 points. Urbanization has accelerated in recent decades, with rural to urban migration contributing to overcrowding in South Asian cities. International migration, influenced by economics opportunities, climate change, and several other factors, has also impacted population density dynamics in this region.

CONCLUSION

Population density dynamics of South Asian countries is the result of interplay between socio-economic-cultural milieu, and physiographic settings and situations. The entire study region mainly can be categorize in three physiographic regions. Afghanistan, Bhutan, and Nepal are mountainous-hilly terrain land locked countries situated in the Himalayas. Hilly terrain, devoid of fertile plain land, high altitude and harsh environment played a vital role in shaping the density dynamics of Bhutan, Afghanistan, and Nepal with 21, 66, and 201 density respectively in 2024. On the other hand Bangladesh, India, Pakistan, and Sri Lanka physiographic ally represented by diverse relief features, such as hilly region, fertile river basin, and coastal delta. Barring Bangladesh (1333), India (488), Sri Lanka (368), and Pakistan (326) registered medium density in 2024. The Maldives recorded the highest density (1759) in 2024, owing to its the smallest area in South Asian countries. Political stability, security, demographic attributes, health and medical infrastructure directly or indirectly hone the human resources and their skills. In this backdrop Afghanistan is a war ravaged hilly country. Hence its demographic features facing challenges for sustainability. Dynamics of population density in South Asia needs sustainability, and resource management, natural as well as human.

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