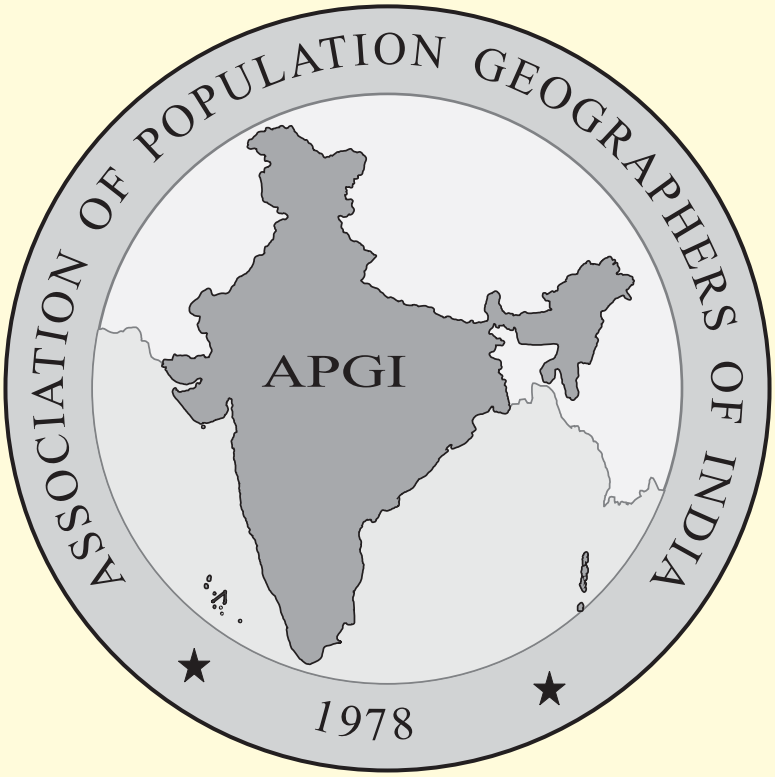
# POPULATION GEOGRAPHY

**A Journal of the**
**Association of Population Geographers of India**

**Volume 46** **Number 1** **June 2024**

A UGC-CARE Listed Biannual Refereed Journal

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# POPULATION GEOGRAPHY

## A Journal of the Association of Population Geographers of India

**Volume 46 Number 1 June 2024**



**Acknowledgement:** The Association of Population Geographers, India, is thankful to the ICSSR, New Delhi, for the grant to publish the journal *Population Geography*.

POPULATION GEOGRAPHY
ISSN 0256-5331 Volume 46(1) June 2024

## From the Editor's Desk

The posthumously published article by Professor Gopal Krishan in the Population Geography journal Geo-Reflections Series presents a thought-provoking question: What does geography have to do with happiness? And offers a unique perspective on happiness. The article is being published as a tribute to him as the former President of APGI, who significantly contributed to the academic landscape with his creative and innovative ideas. Navigating the complexities of defining and measuring happiness, the article challenges the notion of universal happiness. It focuses on the Geography of Happiness to conclude that sustained happiness depends on an individual's adaptability to their geographic location and the aesthetic arrangement of their life's elements.

This issue will feature nine research papers that have undergone a thorough review process. We deeply appreciate the reviewers' support in this endeavour.

One of the studies examines the changing global population growth patterns and their impact on society, economics, and the environment in 2050. The paper calls for a sustainable plan to secure our planet's future.

The other articles explore government welfare schemes, including an empirical study investigating people's awareness, benefits, and perceptions of schemes and their relation to sustainable development. Another article focuses on Janani Suraksha Yojana (JSY), a maternal care initiative incentivising institutional delivery. Both papers highlight the importance of examining usage patterns and perceptions of health programs for success.

The study found that women's migration to urban areas in India significantly reduces fertility rates, particularly in the southern districts. The influence of urbanisation on fertility rates has been increasing over the past two decades.

Women's economic contributions in domestic work are often undervalued and invisible, which limits their visibility in financial spaces. A paper on the north Indian state of Haryana aims to draw attention to this issue using household data from four rounds of NSSO surveys spanning over three decades.

Another article focuses on migration patterns by sex and residence in Uttar Pradesh and their correlation with Gross District Domestic Product (GDDP).

This study uses Census and National Family Health Survey data to analyse fertility and family planning practices in Odisha, India. Although the state has achieved a fertility rate below replacement level, there are still disparities in fertility and contraceptive use among rural-urban and inter-district areas.

Another study found that the number of women aged 60 and above in India is growing faster, and their workforce participation has increased. To improve their quality of life, elderly women need support, care, empathy, and appropriate resources from the government and families.

Migration from India to the Gulf has significant socioeconomic effects. Remittances from GCC nations benefit India, and most unskilled workers are from densely populated northern and eastern India, primarily Muslims. A micro-level study found that migration substantially impacted Muslim families and society. Migrant worker families in the Gulf were more prosperous than non-migrant worker households.

**Nina Singh**

POPULATION GEOGRAPHY
ISSN 0256-5331 Volume 46(1) June 2024

**A UGC-CARE Listed Biannual Refereed Journal**

# CONTENTS



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POPULATION GEOGRAPHY
ISSN 0256-5331
UGC-CARE Listed Volume 46(1) June 2024

# Global Trends of Population Dynamics Oncoming 2050

**Amrita Paul and Prithvish Nag**

**To cite this article:** Paul, A., & Nag, P. (2024). Global trends of population dynamics oncoming 2050. *Population Geography*, *46*(1), 1–26.

## Abstract

The study of population dynamics has evolved into a significant industry. Various organisations, agencies, universities, and individuals across sectors are increasingly involved in monitoring, forecasting, and planning around population trends. The 2020 World Population Data Sheet, a crucial resource in this field, projects a global population increase from 7.8 billion in 2020 to 9.9 billion by 2050. This reliable source also indicates a shift towards an ageing population worldwide, particularly in Europe. Other notable trends include a declining fertility rate, increased mortality rate (notably due to COVID-19 since late 2019), higher life expectancy, reduced immigration rates, changes in marriage patterns, and shifts in population distribution at regional, national, and international levels. These factors, along with women's empowerment and changes in the global economic order, are expected to significantly shape the mindset and lifestyle of future generations by 2050. This can be referred to as our demographic destiny.

Our planet is grappling with many consequences stemming from population dynamics, such as the greying of populations or the ageing of nations. No country is immune to this transformation. In many parts of the world, women, particularly those in the workforce, opt for smaller families and greater financial stability. Men live longer lives due to advancements in agriculture, industry, technology, healthcare, and media. Countries like Japan and China, where the proportion of elderly citizens is rapidly increasing, will be disproportionately affected by these population shifts. These changes bring about new government responsibilities and fundamentally alter various aspects of social life, such as family structures, labour force participation, and cultural norms. While a smaller population may resolve endemic issues in many countries, it can also pose new challenges for larger countries if the composition of the population needs to be adjusted.

***Keywords:*** greying population, depopulation, replacement level fertility, population stabilisation, normalised population decline, population projection, demographic destiny

## Introduction

The volume and quality of population is an asset. We all can admit that a country's greatest wealth is its 'people', as human capital is even more important than physical capital for increased production. Therefore, the study of population has become an industry. Universities, institutions, banks, insurance houses, disaster management agencies,

Article:
Received: 10.08.22 Reviewed: 21.06.23 Accepted:23.11.23

international funding organisations, foreign and defence establishments, groups of companies, and the like have been involved in population studies as a part of their larger strategies and goals. Disciplines like sociology, economics, political science, regional science, and demography have been directly interested in monitoring and forecasting different aspects of the population. As a result, population studies have become a multi-disciplinary thrust area. Keeping all these in mind, John I. Clarke (1997) rightly mentioned the future of population. Following the very relevant statement of Knowles & Wareing, population projection or population forecasting is the most important component for a nation's planning purposes. It shows how the human population statistics might change if the current composition continues. It forms a framework for a great deal of the subsequent work in devising, testing, evaluating and implementing the plans.

2000 is no more likely than any other year to be a significant threshold for population change, seen within the continuity of time. However, for many people, it has been a target for living, working, and forecasting, a focus for opportunities for change and a launch-pad for the future, so its significance must not be ruled out (Clarke, 2000). Predictions regarding population are generally more difficult than those of physical systems as the human system hardly follows laws and tends to transform very fast. Nevertheless, futurology must move forward for the planned growth of a nation, but one should be serious and cautious about the fogginess of the future. So, it has been recognised as *an impossible but unavoidable task*.

The *2020 World Population Data Sheet* indicates that the world population will increase from 7.8 billion in 2020 to 9.9 billion by 2050. This level represents an increase of more than 25 per cent from 2020. The global total fertility rate is 2.3 births per woman, although 91 countries and territories have registered fertility rates below replacement level (2.1 births per woman). In contrast to this high population growth and the related issues, the growth trend is approaching a growing population worldwide, especially in Europe. Moreover, lowering fertility rate, higher mortality rate due to particularly Covid 19 (since late 2019), ageing population, higher life expectancy, lower rate of immigration, new trend of Marriage pattern, redistribution and regrouping of population at regional, national and international levels, upliftment of women status and emerging world economic order, above all the very remarkably depopulation and shrinking nations are going to transform the future generations' mindset and life within 2050.

## Population Trends in Recent Times

It was November 24 2022, when India's government declared that the

country's fertility rate had dropped below the replacement rate (2.0 children per woman), which indicates an insufficiency of new births to cope with a steady population structure for the future, similar to many the richer nations (Brazil, Russia, China) are going to face. It is no surprise that planners and demographers are now explaining this falling fertility scenario as a '*demographic contagion'*. It has been pointed out that more babies were born in India in 2003 than any year before and after. Since then, the number of live births has been falling consistently yearly. The country witnessed another milestone in 2005. The fertility rate fell below three that year. By 2019, that rate had slipped to 2 – well below the world average. Roughly seven lakh fewer babies would have been born in 2021 than in 2003, *i.e.* about 1,900 fewer kids born every day.

> "All these indicators point in the same direction – Indian family size is shrinking faster than most think. It took only 14 years for the fertility rate to fall by 50 per cent (from 3 to 2) in India, whereas in Bangladesh – globally acclaimed for birth control – a similar fall took 17 years." (Website1*) This impasse is dominated by an outdated but continuing concept of population control and a rights-based agenda. Similar to China, India has been an example of draconian population control policies. There are plenty of cases, like Iran, that made contraceptives available to its public health services to reduce its population growth rate successfully. Bangladesh has been investing in community outreach services and the empowerment of women. Saudi Arabia permitted women to access contraception in the private sector without foisting any state policy. Families across the globe enable themselves to pursue their wishes and fundamental rights. The country director of the Indian Population Council has rightly mentioned that the recent *new population narrative asks that the state should not be the controller but the enabler (https://www.dawn.com, Website2*).*

US Census Bureau's *Population Projections 2017* has mentioned that the decade 2030 will be marked as a '*Transformative Decade'* and will emerge as a decade of important demographic momentum due to the heavily declining fertility rate**.** The US grew at a rate of 0.2 per cent from January 1, 2021, to 2022, while the world is growing at a rate of 0.9 per cent simultaneously. It is worth mentioning that this global growth rate is lower than the 0.96 per cent forecast, coming against the backdrop of the Covid pandemic. By 2030, the population will be older and fall into the +60 age group, which will expand the volume of the aged population. Here, similar terms such as '*greying of population'* or '*aging of nation'* have been used to address this issue.

News that the US population barely grew in 2021, together with ever-falling birth rates and the decline in immigration, raises the possibility that the nation will be shrinking. People tend not to want to live in shrinking places. If the US population starts to decline, it might lead to even less housing demand in stagnant metro areas and an even worse housing affordability crisis in

the smaller number of places that continue to attract new residents.

No country is immune to the consequences of this ageing demographic trend. Countries like Japan and China will be particularly affected by the ageing process since the latter has the highest proportion of elderly people compared to any other country. This demographic trend is altering people's lives, creating new responsibilities for the Japanese government, and transforming different aspects of social life. It is projected that in the future, ageing and slower growth rates

will characterise the populations of all major regions in the world.

## Lower Fertility and Lowering of Population

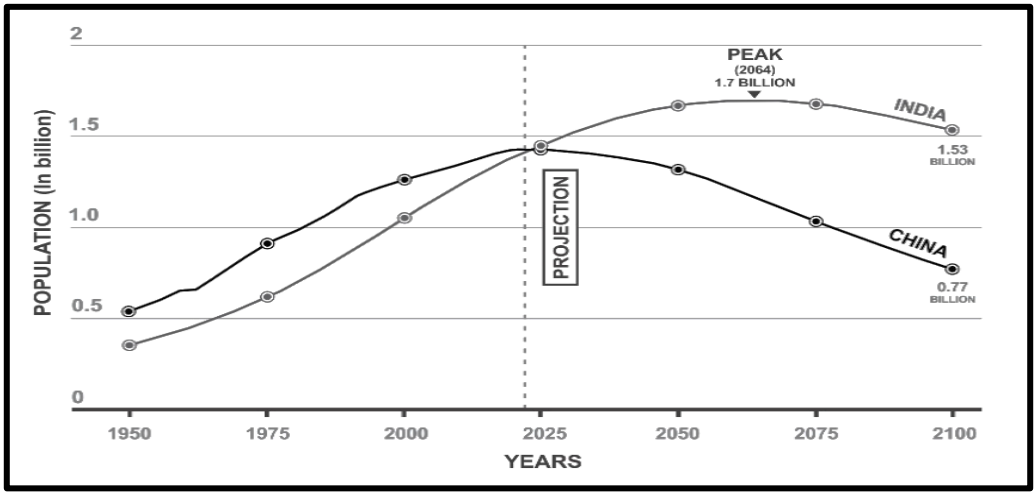
In the third week of January 2023, the Chinese government announced that the country has *entered an "era of negative population growth*." The last time China's population declined was in 1961, during a devastating four-year famine following a failed "*Great Leap Forward*" campaign.

> "The shrinking of the world's most populous country by as much as 8,50,000 in 2022 marks a watershed moment with lasting consequences for China and the world. Beijing announced on January 17 that births in China last year dropped by more than 10% to 9.56 million, with 10.41 million deaths. The 1.411 billion population will certainly be overtaken by India's this year." (Website3*)

Recently, young women in urban China have not been keen to discuss the prospects of having children. "It costs too much to give kids a decent life. The stuff they teach at school is propaganda, so I would want to send them to an international school or abroad. However, I cannot afford that," said a 26-year-old researcher who swears she will not have children (The Guardian, Verna Yu, January 20, 2023, Website4*). The latest data from the National Bureau of Statistics reveals that Chinese mothers gave birth to 10.62 million babies in 2021, less than 12 million in 2020 (11.5 % down). The national birth rate also fell to 7.52 births for every 1,000 people, again down from 8.52 in 2020 and the lowest rate since data became available. Remarkably, China's population level could fluctuate around the point of growth stagnation in the coming years before it starts to decline, analysts say, in light of new data showing that the mainland's overall population will increase by just 480,000 people in 2021. Its population is expected to grow in 2022 before approaching zero growth and eventually entering a stage of normalised decline. "In the next 10 to 20 years, China's natural population growth will not continue falling; it will fluctuate around zero and could see small drops, but there will not be rapid decreases," remarked a professor with the Population

**Figure 1**

*Future Population Scenario of China and* I*ndia*




Source: United Nations *The Guardian, Verna Yu, January 20, 2023.*

Development Studies Centre at Renmin
University. "The natural population increase was 2.04 million people in 2020 and 0.48 million in 2021," He further said that looking at the total national population of 1.4 billion people, we can say that the number of deaths offsets the number of births. Demographers have also supported the nation's three-child policy, which was rolled out last year, as it will be effective to

the extent of positively impacting population growth. Fig 1 shows how India will overtake China as the world's most populous country in 2023.

In recent years, the government has begun to offer incentives such as tax breaks, subsidies for childcare and longer parental leave while discouraging abortions. An academic even controversially suggested that social welfare and pensions should be linked to the number of children people have. However, these measures have failed to trigger a baby boom.

Population growth is a function of fertility and life expectancy. Another large population is that of India. It had about 138 crore people in 2020. Two recent studies estimate the country's population to peak at 1.5 – 1.6 billion between 2040 and 2048. After that, a rapid decline will lead to an end-of-the-country population of a billion+ status. The lowest estimate by a *Lancet* study is roughly half of today's population (Website5*). Like almost the whole world, India is passing through an unprecedented demographic shift and transformation related to a fertility decline and dramatic

expansion of the aged population from numerical and proportional perspectives. The citizens are enjoying a prolonged life, an

increased life expectancy, a higher standard of living, and medical advancement. No doubt it is a positive sign. However, in the long run, if it is not planned, the increased population of people aged 60+ could imply a high fiscal burden for the government.

Following a survey by the Pew Research Centre using data from the Census and the National Family Health Survey (NFHS), reports on India's religious composition say that population growth rates have declined for all of India's major religious groups. Still, the slowdown has been more pronounced among religious minorities, which outpaced Hindus in earlier decades (Website6*). Besides fertility rate and migration, the religious composition of the population can also change because of conversion. While conversion has been a negligible reason, fertility and migration have been mainly responsible for the changing trends.

Since the end of the Second World War (1945), the Hungarian population has experienced a maximum fertility decline in 2021. However, the country is hopeful that 2022 will show a more positive picture in this context. The proportion of the young population in Germany has fallen to an all-time low (since 1950), both proportionally and in absolute terms and has long been coping with a rapidly ageing population, according to the figures from the Federal Statistical Office. Further, in another European country, there are currently 5.47 million people living in Scotland. According to research by National Records of Scotland (NRS) based on data from the Office for National Statistics (ONS), its population looks likely to fall (5.39 million by 2045) after reaching a peak (slightly to 5.48m) in 2028.

Further, Croatia is an area that has experienced 10 per cent fewer people living within its territory than a decade ago, according to preliminary results of a census released on January 14 2022. The count lists the European Union country had 3.8 million in 2021, compared with 4.2 million in 2011, said Lidija Brkovic from the national statistics office (Euronews, 14/1/2022, Website7*). He also mentioned, "In the last ten years, the number of residents decreased by 396,000 people". For Croatia, this shortage of population reflects the *depopulation* problem.

South Korea's total population is expected to record its first decline in 2021. According to its statistics agency, it is a grim assessment of its demographic situations amid the country's chronically low birth rate, rapid ageing and a decline in incoming foreigners during the pandemic. The latest medium variant projection by Statistics Korea estimates that the total population has been estimated to have peaked at 51.84 million in 2020 before falling to an estimated 51.75 million (2021) and an estimated 37.7 million in 2070.

The country's total fertility rate – the average number of children a woman bears in her lifetime – hit a record low of 0.84 last year, much lower than the replacement level of 2.1 that would keep South Korea's population stable at 52 million.

The fertility rate and the number of new-borns are forecast to further decline over the next three and four years, which is feared to aggravate a major drop in the working-age population, a phenomenon known as a *demographic cliff***.** If this trend continues, the working-age population will reach 17.37 million in 2070, 46.1 per cent. Policymakers warned the country that it may face an "age quake" starting in 2030-40, an earthquake-like demographic shock from a fall in population, and rapid ageing if it does not promptly tackle the issue.

> *"Many young people are delaying or giving up on getting married or having babies due to economic difficulties and changes in social norms. The number of those getting married sharply fell due to the COVID-19 pandemic." (Business Standard, 20th July, 2023, Website8*)*

In 2014, Japan's population was estimated at 127 million, expected to shrink to 107 million, with a wholesome 16 per cent population decline by 2040. Furthermore, the population will squeeze 24 per cent by 2050 (97 million). If the demographic trend continues, this island country will face a total population decline of 50 per cent or more by 2100. Further, by 2030, all the children will be older and fall into the +60 age group, expanding the volume of the aged population so that 1 in every 5 Americans will be in the retirement age. This indicates that 20 per cent of the total population exceeds the defined margin of 7 per cent by the United Nations. Strikingly, by 2035, there will be 76.7 million under 18 people, with 78 million above 65 population.

The population growth of the United States dipped to its lowest in the past year since its founding, according to figures released on January 12 2022. The decline in the US birth rate has continued for a long time. The year 2020 saw the fewest babies born relative to the population of women between 15 and 44 of any year in American history. A recent *Pew Poll* found the fraction of non-parents between 18 and 49 saying they were "very likely" to have kids fell from 32 per cent in 2018 to 26 per cent in 2021, while the fraction saying they were "not too likely" or "not at all likely" increased from 37 per cent to 44 per cent. The narrative of having a higher birth rate for teen pregnancy and immigration from other countries in the US is now ending. Teen pregnancy has been falling steadily for decades, and immigrants are also declining. Not only for the US, it is important to note that fertility has fallen across the world, even in countries with ultra-generous welfare states for parents.

The US Census Bureau said in its report that the country's population grew by only 0.1 per cent, with an additional 3,92,665 overall numbers.

The estimate suggests that the nation's population increased from 331,449,281 to 331,893,745, a gain of 0.13 per cent since April 1, 2020, the Census Day. This decline in growth rate can be attributed to decreased net international migration, reduced fertility, and increased mortality due in part to the Covid-19 pandemic. With the impact of this pandemic, this combination has resulted in a historically slow pace of growth in the US and all over the globe.

> "Between 2020 and 2021, 33 states saw population increases and 17 states and the District of Columbia lost population, 11 of which had losses of over 10,000 people. This is a historically large number of states to lose population in a year," the Census Bureau said in a release. (United States Census Bureau, 21st Dec, 2021, Website9*)

According to Australia's federal government's latest population statement, in 2020-21, the fertility rate was 1.66 babies per woman, similar to the rate recorded in 2018-19. In 2019-20, the rate had fallen to 1.61 babies per woman. The temporary decline in births was most evident in the December 2020 quarter, when births fell by 3,000 to reach 71,000 births, the lowest quarterly result in 15 years, the report says. The report forecasted that births for 2021-22 will also be 1.66 babies per woman, but that is expected to decline to 1.65 by 2024-25 and 1.62 by 2030-31, reflecting a long-term trend toward having fewer children and having children later in life. The excerpt released by the government on New Year's Day shows Australia's median age is projected to increase from 38.2 years in 2020–21 to 42.8 years by 2060-61 (Lisa Cox, The Guardian, January 1 2023, *Website10**). Current scenarios indicate that ageing will continue to present a demographic challenge for Australia, with declining fertility rates and increasing life expectancies.

It is the reality that a smaller population will solve many of India's or other developing countries' endemic problems. Still, it can create new ones, too, if the composition of the population needs to be corrected. Compared to other countries with the same fertility, India's infant mortality rate is higher, and life expectancy is lower. That means the coming fall in population could turn into a collapse; India is also home to the highest number of underweight and stunted children. The peak of our demographic dividend is already behind us. The share of 15–34-year-olds in the population has been slowly sliding after peaking in 2011. This implies that the share of the dependent population (both young and old) will rise gradually. The prospect of India ageing before prospering to the levels of Western countries is real. It is this fear that has caused China to abandon its draconian single-child policy and encourage its youth to have more kids. It is claimed that considering its productivity, China is better placed than India.

Nevertheless, the projected collapse in China's productive population will hobble its economic

future. The country's imminent rise to the world's largest economy will last up to 10-15 years, after which the US will re-emerge at the top. The US's relative immigration friendliness and multiculturalism will help it replenish its productive population despite a low fertility rate (*Website11**). Hence, immigration and multiculturalism have important roles in economic revival as well.

Fear is that no U-turn can be formed in this context. It is not that people can be forced or incentives can be given to have more kids. If people are unwilling to get children internally, there is no external force to make them compelled to have more children. The experience of that 20+ countries that are shedding population is the proof. Though China adopted a two-child policy in 2014 and a three-child policy in 2021, the nation has yet to succeed in reversing the population policy. The reasons driving people to go for smaller or no families, such as the parents for one or a maximum of two children, remain the same in the face of policy persuasion.

## Greying Population: Scenario Across the World

The term '*greying*' of a population refers to the fact that the population is steadily becoming more dominated by older people, whereby the young (aged under 15) have declined from 40 to 50 per cent of the total population to less than 20 per cent. In recent years, total fertility rates have declined abnormally and unexpectedly to 1.2 to 1.3 children per woman in many European countries like Italy, Spain, Greece, etc. Sweden is a country where the ratio between the younger and older populations is 1:1, with average longevity rising towards eighty to eighty-five years. In other words, the median age of the population is going up. According to the Pew Research Centre survey:

> *"At a time when the global population of people ages 65 and older is expected to triple to 1.5 billion by mid-century, public opinion on whether the growing number of older people is a problem varies dramatically around the world."* (Website12*).

The coronavirus pandemic has been hammering the normal local population growth since 2020, resulting in the smallest increase in a decade of just 0.3 per cent, according to the latest official figures of the National Statistics Office. Data revealed that the European Union had the biggest drop in annual population growth and a significant increase in the local mortality rate of people over 75. The added population decline on the existing shrinking number of people, the lower figure of total fertility, the increasing number of aged populations, and their prolonged life are giving rise to such a serious future problem that the demographic issue of the growing population will turn into the economic one.

Population ageing can have multidimensional and long-term consequences on a country's existing and upcoming population. Globally, the young population (below 20

years) accounts for 33 per cent as of 2020, which was 44 per cent around the 1950s. United Nations datasheet shows the up-jumping of the median age of 24 to 31 in 1950 to 30 to 38 as in 2020 in the world context. Table 1 depicts the global population share by number and percentage according to age group in 2020. Europe has the largest old population, followed by the US, where almost 25 per cent of the total population is in the age category of 60 years and above, largely due to a steeply declining birth rate and increasing life expectancy. In 2020, remarkably, around 147 million (1.9%) and 0.6 million (0.01%) population are in the age group of 80-99 years and 100+ years, respectively, which are sizably higher than just 70 years ago. In 1950, 80-99 years, the population share was very small, like 0.05 per cent.

Japan, China, South Korea, and many other European countries are expected to have more people dependent on shrinking workforces, a potentially significant demographic challenge for national economic growth. The top ten countries currently carrying the largest share of the population of the 60+ age group are mostly from European Nations like Italy (23%), Portugal (22.3%), Germany (21.5%), Greece (21.9%), Bulgaria (21.2%), Croatia (20.8%), Malta (20.8%) etc. Japan is the world's oldest country, where people of the 65+ age group cover (28%) more than a quarter of the total population.

Throughout the demographic history, high fertility rates along with high mortality rates have been very typical and common. However, today, things are getting transformed. In most parts of the world, women, especially working women, are willing to have one or fewer children and earn more money. Men live prolonged lives mostly due to the agricultural-industrial-technical-medial-healthcare revolution. On average, a person lives for 72.6 years, and the birth rate has fallen to 2.5 children per woman. All these demographic trends and patterns have altered the demographic and socioeconomic scenario and will cause the *population to grey* for future individual perspectives for nations.

**Table 1**

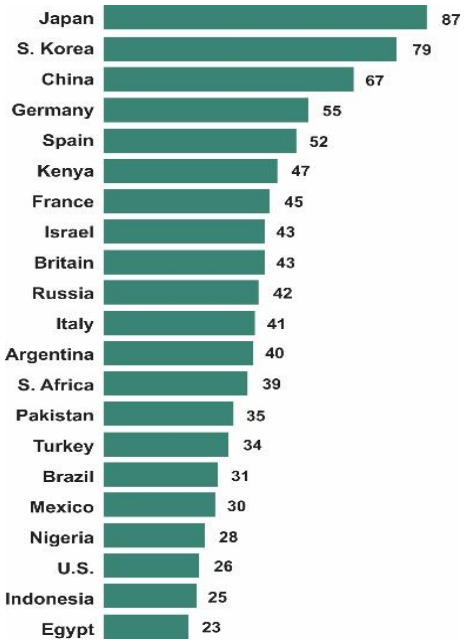
*Age-wise Population Share, World, 2020*

| Age group in years | Number of persons (2020) in billion | % of the global population |
|---|---|---|
| Less than 20 | 2.6 | 33.2 |
| 20-39 | 2.3 | 29.9 |
| 40-59 | 1.8 | 23.1 |
| 60-79 | 0.918 | 11.8 |
| 80-99 | 0.147 | 1.9 |
| 100+ | 0.0006 | 0.01 |

Source: Pew Research Centre

**Figure 2**

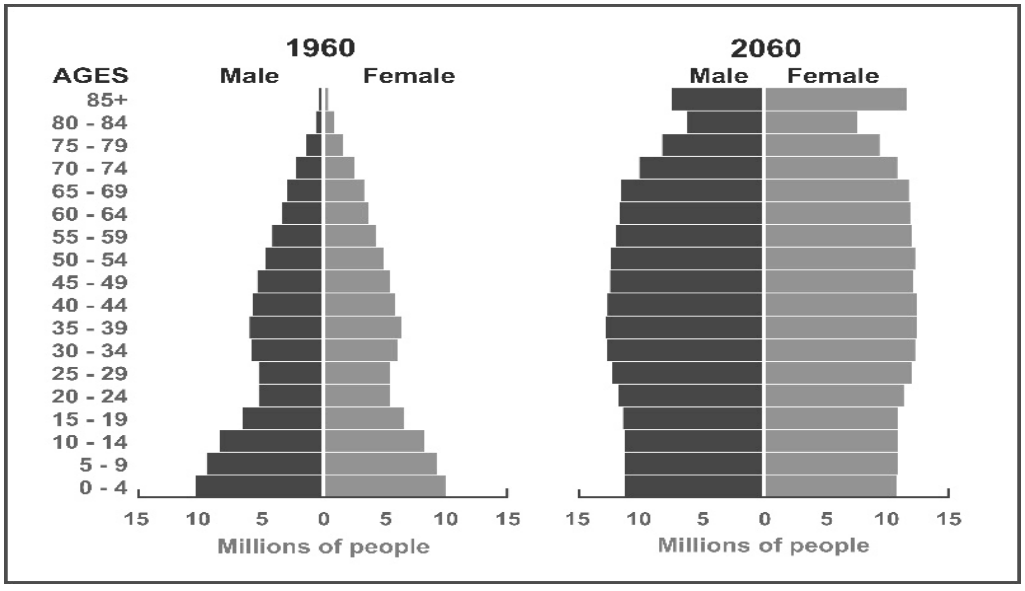
*Percentage of Saying 'The Growing Number of Older People is a Major Problem.'*




Note: The question asked was, "How much of a problem, if at all, is the growing number of older people in (survey country) ..." Responses of "Minor problem," "Not a problem," and "Do not know/Refused" are not shown.
Source: 2013 Pew Research Centre Global Attitudes Project survey.

**Figure 3**

*Changing Pattern of Age-Sex Pyramid, US (1960-2060)*




Source: Pew Research Centre

Data produced by the Pew Research Centre Global Attitudes Project survey declares that East Asian countries, like Japan and Korea, describe ageing as a major problem for their nations. Europeans also show a relatively higher concern about the greying population (Fig 2). However, Americans are least concerned, as only one-fourth of the population has expressed negative opinions regarding ageing. For the United States, the ageing population may lead to greater opportunities in the future global economy. Nevertheless, in countries outside East Asia and Europe, such as Indonesia and Egypt, the proportion of 60+-year-old people in the total population is relatively moderate and is expected to remain moderate. On the other hand, currently, Pakistan and Nigeria have a huge share of the child population and have been growing to be a part of the working population in the future. Thus, they stand to benefit from future demographic patterns.

China's once-a-decade census released in 2021 revealed that some 12 million babies were born in the previous year, the lowest fertility rate decline since the Great Famine occurred in 1961. Though the country has started allowing parents to have a second child since 2016, instead of obeying the one-child-population policy, according to the *National Bureau of Statistics*, the fertility rate in 2020 was 1.3 children per woman, failing to reverse China's falling birth rate.

> "China is at risk of growing old before it grows rich, becoming a greying society with degrading economic fundamentals that impede growth. Excess of 10 million deaths a year could become the norm for China as its ageing crisis worsens." (Website13*)

In the case of India, according to the National Statistical Office (NSO)'s *Elderly in India 2021 Report*, under the Ministry of Statistics and Programme Implementation (MOSPI), the elderly population (aged 60 and above) is projected to rise 41 per cent over the next decade which will be expected to outnumber children under age 10. It will touch 194 million people by 2031, from 138 million in 2021, indicating stress and folds on our foreheads. The decline in birth in India is another controlling factor for the growing population.

Following *the US Census Bureau's Population Projections 2017*, by 2030, all children will be older and fall into the +60 age group, expanding the volume of the aged population so that 1 in every 5 Americans will be of retirement age (Fig 3).

The ageing population issue has long been on the agenda in Germany - a country facing uncomfortable questions about the sustainability of its pay as one looks into the pension system and the rest of the social security system with fewer people working to support the older generation. Most recently, the federal government opted to increase the contributions to long-term care insurance for people without children because childless individuals have a

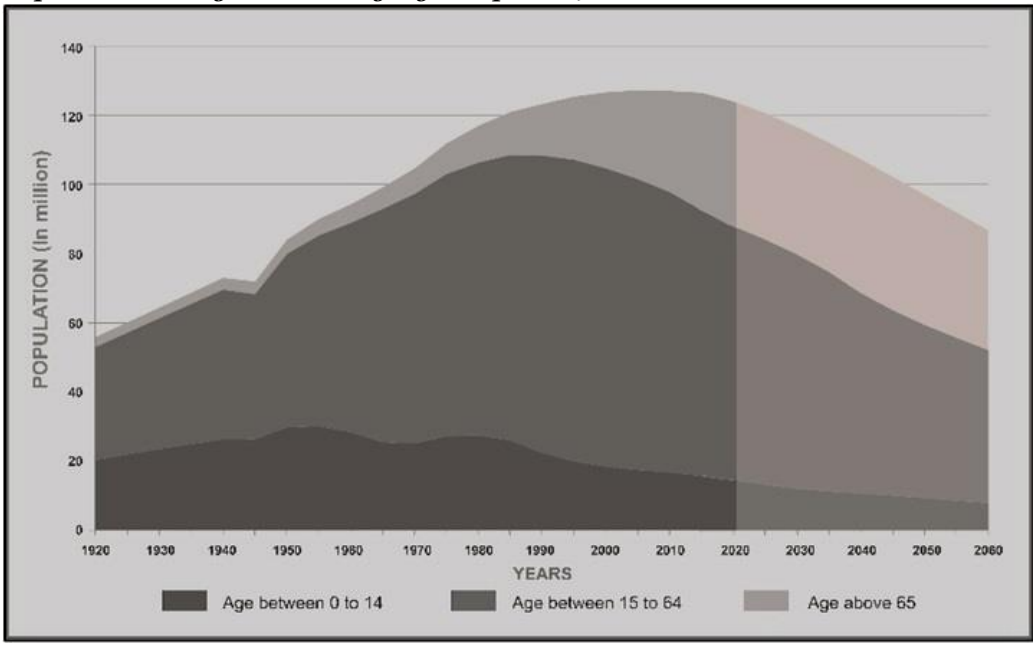
lower financial burden and will ultimately require more support from the state in old age, without any offspring to care for them.

Japan is expected to have more people dependent on shrinking workforces, a potentially significant demographic challenge for economic growth. In 2014, Japan's population was estimated at 127 million, expected to shrink to 107 million, with a healthy 16 per cent population decline by 2040. Furthermore, the population will be squeezed by 24 per cent by 2050 (97 million). If the demographic trend continues, this island country will face a total population decline of 50 per cent or more by 2100.

Statistics show that Japan's population started to decline in 2011. The decline in Japan's fertility rate has been attributed to several factors like changing lifestyles, late marriage or people not marrying at all, and the economic insecurity of the younger generation. According to former Japanese Prime Minister Shinzo Abe, "the existing elderly should continue working and participate in community activities, predicting the government plan to raise the optional age for retirement to 71 or older". Fig 4 depicts an overall scenario of ageing in Japan.

**Figure 4**

*Population Categorisation by Age, Japan (1920-2060)*




Source: Wikipedia

South Korea became an aged society in 2017, in which the percentage of those aged 65 or older exceeded 14 per cent. The country is widely expected to become a super-aged society in 2025 when the

percentage of the elderly will be in the top 20 per cent. Last year, every 100 working-age people had to support 39 people younger than 15 or over 65, and the number will likely triple to 117 in 2070. The figure was the lowest among the 38 member countries of the Organization for Economic Cooperation and Development (OECD) last year. However, it will be the highest among the OECD member states in 2070.

Both old and young people face a unique set of challenges and opportunities. Therefore, if we ignore the growing population for now, the ageing population can also have constructive impacts on society. More people are enjoying longer, healthier lives, and a younger generation is making the responsible ecological choice to have smaller families, which is to be celebrated. In today's world, it is said that one of the most effective ways we can help our planet is by choosing to have a smaller family.

> "*Having one child means that there is time for us as a couple and our children. We can give our children more time than we would if we had more children, and our bond often draws comments. We can afford more sustainable foods and fuels" (Website14*).*

Furthermore, elderly citizens volunteer more for the nation than other age groups. Research has shown a declining crime rate with the communities getting older. By 2050, the crime rate in Australia is expected to drop by 16 per cent as the country's population gets older. However, ageing in countries such as India and several other African countries mostly means the ageing of children in the workforce. That is a potentially favourable demographic trend for economic growth. Thus, the coming changes in world demography could alter the distribution of global economic power over the coming decades (United Nations, Pew Research Centre, Website 15*). Thus, the issues related to demographic destiny become relevant.

## Delayed Marriage: A Current Trend

In recent years, marriage patterns have changed. In light of the recent debate on the unsuitability of models of marriage patterns and family formation to a range of pre-modern historical populations, it is clear that the role played by marriage in shaping the family's life cycle is varied across time and place. It considers aspects of both female and male nuptiality and their demographic influences on the developmental life cycle of the family. A fuller understanding of the social and cultural history of the family requires an appreciation of the demographic dynamics of mortality and fertility – or birth, death and marriage – and the influence of these dynamics on family formation and development.

From a sociological perspective, a study of marriage is not only associated with fertility. It is further associated with childbearing, gender equality, and society. In other words, demographers have always been interested in nuptiality, mostly because of its possible implications for fertility. The issue of how marriage and nuptiality became so

significant should be discussed considering the following three aspects. *Firstly*, the relationship between age at marriage and age at first birth. *Secondly*, the relation between age at marriage and the children ever born to women in those age groups. *Thirdly*, there is evidence that a decline in the proportions of married couples over time has resulted in a decrease in the number of children ever born.

A recent global change in marriage and fertility practices such as cohabitation, out-of-wedlock childbearing, delayed marriages, divorce and remarriage have changed the institution of marriage as well as the concept embedded in marital status. Therefore, one's marital history can highlight mothers' and children's current and future behaviour. The entire research orbits around children's upbringing, as it is especially important to be aware of the marital history of their parents. Because more children are expected to experience the separation, divorce and remarriage of their parents and spend some time in a cohabitating or single-parent household, an examination of the marital history of the parents may prove vital in helping to explain children's current as well as future behaviour.

Because of the changing pattern in family formation, age at first marriage is becoming one of the most informative factors in the study of women's marital history. Globally, the outcome of the experiments is that the decline in the proportion of marriage by the age of 20 was one of the two proximate determinants that influenced the decrease in fertility. Although, in the era of modernisation, it is not directly related to fertility as it had been a few decades ago. Instead, age at first union can be the significant one. For example, the United States Census Bureau (US Census Bureau/ Lugaila, 1998) reported that in 1998, about 34.7 per cent of people aged between 25 and 34 years were never married, and 53.4 per cent of Blacks in that age group were never married. At the same time, nearly 40.3 per cent of children lived with unmarried mothers and mothers who had never been married. As a result, the increase in proportions remaining single has led to the rise in out-of-wedlock childbearing. More than 30 per cent of all births occur to unmarried women (US National Centre for Health Statistics, 1997). It was also estimated that 30 per cent of all non-marital births occur within cohabiting unions (Manning & Landale, 1996).

There is also a transparent relation between *nuptiality-fertility-girls' development*. Early marriage compromises girls' development, which often results in early pregnancy and social isolation. Child marriage also provides a vicious cycle of early marriage, lower level of education, high fertility and the evil poverty cycle. Most middle and North African countries have laws on the minimum age at marriage ranging from as low as 13 years or less. Several families in these countries have been taking undue advantage of

religious laws that support early marriage and arrange for their daughters to marry in religious wedding ceremonies, postponing the official registration until the bride reaches the legal age. These evil practices leave them with no legal basis to get an inheritance, alimony, or child support if the husband dies prematurely or abandons his underage bride.

The variation in family formation and *cohabitation* development has greatly impacted the marital status classification. The practice of '*living together'* without a legal marriage is widespread and is on the way to increasing worldwide. In some areas, it is a well-established practice; in other areas, it is fairly new. For example, in Bushbuckridge, a rural region of the Northern Province of South Africa, women are considered married when their male companions have paid the *labola* (traditional bride price), regardless of whether a religious or civil ceremony was observed (Garenne et al., 2000). Given the large number of these types of unions, creating a separate marital status for couples living together who are not legally married can only improve our understanding of a population's marital and family characteristics. Furthermore, important identifying information would be lost if combined with legally married couples.

Cohabitation is the term most frequently used in the United States. It specifies the sharing of a household by unmarried people with a marital relationship. The same type of union in Canada is called a common-law union (Wu, 1999, https://www.researchgate.net/).
Many parts of the United States have no legal registration or definition of cohabitation. Therefore, demographers have developed other methods to identify and measure cohabitation and its prevalence. The Census Bureau currently describes an '*unmarried partner'* as a *"person age 15 years and over, who is not related to the householder, who shares living quarters, and who has a close personal relationship with the householder"*. Before 1995, the Bureau identified any "*unrelated*" opposite-sex couple living with no other adults as "Persons of Opposite Sex Sharing Living Quarters*"*. Even the US Census Bureau still reports these numbers to show demographic trends.

Bureau data reveals that in 2005, nearly 4.85 million cohabiting couples were reported, more than ten times higher than in 1960, when there were only 4,39,000 such couples. Currently, in the United States, there are approximately 4.2 million opposite-sex cohabiting households and 1.7 million same-sex cohabiting households (US Census Bureau/ Saluter and Lugaila, 1998). Historically, cohabitation in the United States was most frequent among the lower-income groups. Currently, cohabitation crosses all income levels and is found in all "adult" age groups. Statistics Canada has also documented the number of Canadians in *common-law unions* (Wickens, 1997). In 1995, nearly 2

million Canadians, representing 14 per cent of all couples, lived in *common-law unions*. Quebec has the largest number and share of cohabiting couples, constituting 64 per cent of all couples under age 30.

Over the past few decades, the age of marriage has been rising in every region for both women and men. In many developed nations, we are approaching the point where more than half of marriages occur after age 30. In social science circles, this pattern of delaying marriage is typically viewed as progress and talked about positively. However, it results in some troubling trends in coupling patterns and family stability, challenging the assumption that delayed marriage is always considered a positive action. Perhaps most importantly, the increase in the age of marriage worldwide has been associated with a rising number of children being born outside of the bonds of marriage. Moreover, couples who are not married and have a child in their 20s are three times more likely to break up before their child's fifth birthday than are married couples.

Is delaying marriage a good thing for families, or does it have a potentially harmful side effect of other sweeping changes in life courses, such as young women increasing career orientation and young men's declining earning power? As delayed marriage and the resulting delayed childbearing tend to occur in families with high educational attainment and other clear socio-economically favourable societies, often, it is not sufficient to identify family advantages associated with delayed marriage and childbearing. There are several key arguments in favour of intentionally delaying marriage that are paradoxical. A paradox is a proposition that, despite apparently sound reasoning from acceptable premises, leads to a logically unacceptable or self-contradictory conclusion. These

> "*marriage-preparation paradoxes*" are like *turning a jar lid in the wrong direction: You may believe you are trying to loosen the lid to get what you want, but you are turning it the wrong way and making it tighter* (*Website16**).

They believe these actions will strengthen their future marriages. The *Book of Mormon* warns against this type of paradoxical logic, saying there will be those "that call evil good, and good evil, that put darkness for light, and light for darkness, that put bitter for sweet, and sweet for bitter" (Bible Study Tools, Tessa Emily Hall, March 24, 2023, *Website17**). Thus, due to such paradoxical logic, many young adults are intentionally delaying marriage and preparing for marriage in ways that produce the opposite of what they intend.

Globally, this question has been hotly debated whether this concept of delayed marriage meant that people had a greater say in who wanted to marry or not. There are many instances, particularly among the upper classes, in which there were complicated marriage strategies to cement family alliances, and young people were more or less forced to

marry whom their parents wished. Among the lower classes, neighbours and public authorities often helped determine whether a couple would marry— the neighbours by pressuring courting couples and officials by prohibiting unions between individuals regarded as too poor. However, historians who have focused on the middle classes assert that though couples may have received advice or even threats, they were largely free to marry whom they wished.

However, marital patterns vary according to the region where one stays, as well as their social status, class, caste, and religious affiliation (to a lesser extent). The most significant and dramatic difference is seen between the countries of north-western Europe, including the British Isles, Scandinavia, France, and Germany, and eastern and southern Europe. Historians and researchers have identified a unique marriage pattern in this continent, with couples waiting until their mid- or late twenties to marry, long beyond sexual maturity, and immediately setting up an independent household. The north-western European marriage pattern resulted largely from the idea that couples should be economically independent before marriage. Hence, both spouses spent long periods as servants or workers in other households—saving money and learning skills—or waited until their parents had died and the family property was distributed. This period of waiting has been so long. The economic requirements for marriage set so high that many people did not marry until they were in their thirties, and many never married.

**Selective Immigration**

The two-year lockdown and border closures during the spread of the COVID-19 pandemic have left businesses to fill half a million job vacancies in hospitality, childcare, aged care, health, education and IT sectors in Australia. According to the Victorian Chamber of Commerce and Industry Chief Executive Officer, many jobs are unfilled. The Prime Minister has designed a special *Migration Programme for 2022-23* by providing the path to permanency. The centre-left labour government will increase Australia's permanent immigration intake from 160 thousand to 195 thousand places in the federal budget for the 2022-23 financial year. This includes 6.8 thousand workers for the technology sector, 4.7 thousand people to fill health care roles, and 6.1 thousand workers with *critical infrastructure skills*. Permanent immigration visa allocations that were once evenly split between family and skilled immigrants will now prioritise workers (Nikkei Asia, Mitch Ryan, October 18, 2022, *Website18**).

According to the UN Population Division, in 2019, there were 35 million international migrants in the Gulf Cooperation Council (GCC) countries, Jordan and Lebanon, of whom 31 per cent were women. Earlier, in 2017, the Arabian states hosted an estimated number of 23 million migrant workers, with nine million (39%) women migrant

workers significantly from Asia, with a sizeable number also coming from Africa, especially Egypt, and increasingly from East Africa (Ethiopia, Kenya, Uganda) (International Labour Organisation, *Website19**). Recently published data from British National Statistics (ONS) shows that net migration in the UK rose to an estimated record of 504 thousand from June 2022. Despite some anti-immigration messages from different sectors, the workforce remains urgently needed.

Recently, India and Australia have signed an agreement on the migration and mobility of Indian students and professionals. According to the Indian Foreign Minister, this will enable us to meet the demands of such skilled persons. Similar agreements have been signed with Germany, France, Portugal, the United Kingdom, Denmark, and other countries (Times of India, January 3, 2023, Website20*). Like Canada, Germany, and other developed countries, Australia has also been competing globally to attract the world's best-talented, skilled immigrants, with the surge in demand exacerbated by fertility decline and an ageing population.

Germany has put the cornerstones in place to change the immigration system, make the country more attractive for skilled workers, and fill many vacancies in the labour market. It is trying to reform the existing immigration policy by introducing a so-called "*opportunity card*", which will entitle people to look for jobs in Germany based on a point system with language skills, professional experiences and connection to Germany among the criteria (The Economic Times, October 22, 2022, *Website21**). In April 2019, Japan implemented historic immigration reform, expanding visa programmes to allow more than 345 thousand new workers to immigrate over the subsequent five years. Not-so-skilled workers can stay in Japan for five years, and high-skilled workers can stay with their families for a lifetime.

India could soon be Germany's biggest and number 1 source of talent from outside the European Union. This country is welcoming immigrants or expert Indians as there are many demands. An article in the German news portal BR24 stated that Indian immigration numbers touched a new high of 23,100 in 2021. Further, BR24, quoting the German Economic Institute, mentions that the employees from India have been a 'great success for Germany'. In a 2021 survey, it was found that 57.6 per cent of Indians who were employed worked as specialists or experts. Only 28.3 per cent of German employees are so highly qualified. Many Indians from mathematics, computer science, natural sciences and technology have been filling the gaps, as Germans accept people of all ethnicities and cultures (Times of India, January 6, 2023, *Website22**).

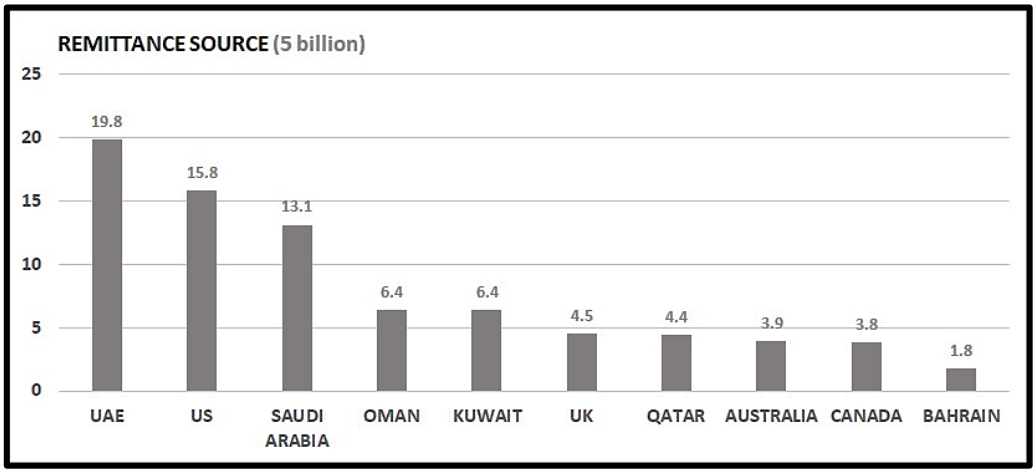
Another point is that Indians lead the world when settling abroad and are first in sending dollars home. With 18 million emigrants worldwide, India has the biggest diaspora. Mexico, in second place, has only 11.2

million people, followed by Russia and China, both having more than 10 million people living outside. Unlike Mexican emigrants, most of whom live in the US, Indians have spread far and wide, right from blue-collar workers in Arab countries to students in the industrialised world (*Website23**). The year 2019 brought COVID-19 and the Ukraine war, but India's emigration was not severely affected. By that time, about 0.6 million Indians had migrated to study abroad, and the largest chunk had gone to Canada, followed by the US, Australia, and the UK. In 2021, India received $89 billion as personal remittances from its non-resident population. A significant share of the money came from ECR countries, although they make up about 15 per cent of the emigration for work (Fig 5).

As a whole, workers who earn lower wages in their country of origin or who may expect to earn higher wages in another country for the same set of skills will be more likely to migrate (Borjas, 1999; Grogger & Hans, 2011; Torado, 1969).

**Figure 5**

*Remittance Source (5 billion), 2021*




Source: Parliament (Times of India, January 6, 2023)

Therefore, it is apparent that most migrants can be categorised as *working-age economic migrants* who are *middle-class, middle-income aspirational youths, especially white-collar job seekers* aged between 15 and 25. However, migration dynamics are highly complex and include several interdependencies. This declining and shifting world reflects some possible scenarios for international migration and the overall redistribution of population, though they are hypothetical. The responses from governments all over the world vary a great deal. Countries like Bangladesh and India feel that the levels of both immigration and emigration are not very significant and quite acceptable. Both governments are interested in the

prospects of labour migration to the oil-rich Middle East. Pakistan and Sri Lanka experience relatively high levels of emigration but are not concerned that Sri Lanka is somewhat apprehensive about the "*brain drain*". Some governments issue "*no objection*" certificates before going abroad, perhaps to mitigate the adverse effects of the excessive outflow of highly skilled personnel.

Does India need a population control law or drastic measures such as the two-child norm proposed by Uttar Pradesh and Assam? Should we follow China's one-child population policy? The poor community has almost reached two children. If the poor had not taken the concept of family planning seriously, fertility would not have come down, not only in India but throughout the world. If the poor are already thinking about fertility control, it means we have achieved a maximum. Thus, with the shrinking workforce, we should refrain from having any policy talking about fertility control in India at least. Rather, consider the quality of family planning services and the enhancement of education, skill, and production amongst the existing workforce, which is in a very pathetic condition.

Conventionally, women have been associated with pregnancy, childbearing, abortion, family planning and sterilisation. Women are followed in all steps. Now, we have to follow these issues differently. *The* whole world is chasing fertility control. Most strikingly, women are taken care of only during reproductive purposes. When the babies are delivered, everybody tends to leave the programme, ignoring certain more serious issues related to women's health as well as child health.

Further, what are we doing to manage menopause? Isn't it a part of fertility or even infertility? Isn't it a part of abortion? We must focus more on these issues as well. Reproductive and Child Health, or RCH, should be followed from menarche and menopause, the very origin of the reproductive process in women's bodies.

Above all, it is not the era to offer incentives to couples all over, including India. People are addicted to the two-child family. Perhaps we need help finding a couple who are getting married this time and willing to have more than two children; let us forget about two; they will not have more than one child. For example, in Kerala, almost 20 to 30 per cent of couples have stopped with one child, even with one daughter, although there exists no one-child norm. Is this scenario celebrated today, and do we not even have TFR to two?

## Emerging Population Issues

Roughly, there has been a marked association between continued enforcement of rigid gender norms and lower fertility. Several countries like South Korea and Japan have very strongly severe social sanctions against single mothers and some of the lowest birth rates in the world, at an estimated 1.4 and 0.9 children per woman, respectively. Germany used to have a very patriarchal welfare

state and paid for it in the form of a low birth rate, too, though it seems to have made some progress in this area recently. By contrast, Sweden and France have kept their fertility rate comparatively high (1.7 & 1.8) by embracing gender equality and generous welfare benefits — especially for single parents, as it is harder to raise a child solely (Ryan Cooper, National Correspondent, November 29, 2021, *Website24**).

The immediate task for the world is to save more and more children at birth and ensure that they grow into healthy and educated adults. Considering India aims to become a $5 trillion economy by 2025, even if this happens, the estimated per-capita GDP rank would still be around 135 out of 190 economies. The harsh reality is that, among the Asian economies, India's per-capita GDP is lower than some of the neighbouring countries. It must transform from an emerging to a developed economy, or it may be in a middle-income trap. Therefore, a nation needs to raise incomes, which requires job creation. Especially for the countries where, on the one hand, "growth is jobless", and on the other hand, there is a lack of structural change with the share of the workforce in agriculture increasing. This does not bode well for the country's demographic dividend. With the sympathetically unbalanced wealth distribution, the top one per cent of people in India hold 33 per cent, and the top 10 per cent holds 64.6 per cent of the country's wealth (World Inequality Report, 2022). Income needs to be inclusive, or else India will grow rich without Indians getting rich. Furthermore, with a median age of 28.3 (considering 15-29 years as youth) and a potential decline of the working-age population, the median age may rise to 30.2 by 2026 and 34.5 by 2036. Such a trend will affect the economy and the society.

The 'East-Asian miracle' was based on demographic dividend. Almost all East-Asian countries' investment policies in education, public health, productive employment and structural transformation contributed towards higher economic growth. China's GDP growth between the early 1990s and 2000s was mostly in double digits or close to it. However, the demographic dividend of China has now started petering out. While India's growth rate is catching up with the economic slowdown in China, reaching double-digits will require sound macroeconomic fundamentals and reaping the demographic dividend to the fullest. India must ensure human development. Nevertheless, with 131 HDI rank, the demography cannot prosper.

Another major issue is depopulation in one form or another. Fertility, mortality, out-migration, selective migration, ageing, and their combinations have contributed to this process, which has become almost endemic. Localities, villages, cities, regions and nations suffer from depopulation. Ninety small cities and counties on the verge of extinction due to remarkable population decline have been designated as "*depopulation areas*". Governments

plan to provide intensive administrative and financial support to help the concerned areas escape their extinction crisis. South Korea has been struggling with a steady decline in childbirths and the overcrowded capital region, which have left many non-capital regions struggling to overcome depopulation.

Interestingly, the designation of depopulation areas came after the *Special Act on Balanced National Development* was revised late last year, and its enforcement decree was amended in June (The Korea Times, October 18, 2021, *Website25**). The designation of depopulation areas is a new starting point for the government's efforts to solve the problem of population decline. With this process becoming rampant, governments and planning authorities will be forced to take similar measures. Nonetheless, how will different governments define the depopulated areas? Will the reduction of population be the only criterion? A depopulated nucleus may become a *depopulated region* over time, derailing social and economic setup.

## Conclusion

By 2050, the world population will be widely different. In East Asia and South and East Europe, the population will decrease. In contrast, in Africa, the population will have grown immensely. These three regions will experience the greatest population change from a social and economic perspective. Population decline will weaken the construction industries in Europe and East Asia. With fewer consumers, business in general will also have decreased. Likewise, with fewer commuters, public transport will be more expensive. Having fewer kids, schools will have a lesser number of students. Already, in some countries, schools are being converted to old-age homes. Furthermore, social security programmes will need more money with more older people and fewer young people to support them. Lastly, with fewer people producing and consuming goods, Europe and East Asia will have slow or negative economic growth.

Considering the above scenario, there is also a positive side. Young people will have more job opportunities, and there will be decreased environmental degradation. On the other hand, African population growth will have different connotations. With more people producing and consuming products, the continent will experience rapid economic growth. Businesses will also have more demand and, hence, will be able to expand.

On the other hand, with more young people, there will be more social problems. Unfortunately, there will be more unemployment and fewer job opportunities for the young. Future diseases, especially climate change, will also be a serious threat, affecting crop yields. Lastly, African environmental impacts will be worsened. All the projections are being made based on current trends and models.

Future events will change the world population to a large extent, which one cannot entirely foresee; for example, the coronavirus has decreased short-term population growth worldwide. However, for most of the part, the projections were

accurate. We need to rethink and replan production and consumption, recycle wastes to a reusable one, switch to clean energy and innovative technology, and improve education, which ultimately can help to reduce the unsustainable growth of population along with an imbalanced man-land ratio and bring a long-term benefit to every country in the world. All of us can play a role in safeguarding the planet's future.

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POPULATION GEOGRAPHY
ISSN 0256-5331
UGC-CARE Listed Volume 46(1) June 2024

# Awareness about Government Schemes and Sustainable Development: A Study of Aligarh District, Uttar Pradesh

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**To cite this article:** Sharma, A., & Rana, T. S. (2024). Awareness about government schemes and sustainable development: A study of Aligarh district, Uttar Pradesh. *Population Geography*, *46*(1), 27–44.

## Abstract

This research paper presents a comprehensive synthesis of the awareness and benefits of various government schemes in the Aligarh District. It employs a rigorous methodology of surveying four hundred households through stratified random sampling to collect this information. These 400 households were chosen based on 2011 census data. The findings reveal that government schemes are reaching all district people directly or indirectly. However, a significant number of people denied receiving any benefits from the government. Notably, the awareness of government schemes is found to be lowest among rural females and highest among urban males. This research paper also delves into intriguing aspects of people's perceptions of government schemes and their relation to sustainable development, providing valuable insights for policymakers and researchers. These insights are crucial for policymakers and researchers in understanding the effectiveness of government schemes and their impact on sustainable development.

***Keywords****:* government schemes, sustainable development, awareness, benefits, utilisation

## Introduction

The Aligarh district has been a beneficiary of a diverse range of government schemes and plans, both from the Government of India and the state. These include the Lohiya Gramin Aawas Yojana, Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), Horticulture Scheme, Uttar Pradesh

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Article:
Received: 04.07.23 Reviewed: 17.09.23 Accepted: 25.03.24

New & Renewable Energy Development Agency (UPNEDA) Scheme, Universal Education Scheme, Sugarcane Development Department Scheme, Kamdhenu dairy scheme, and Uttar Pradesh poultry development plan. The impact of these schemes on the lives of the people in the district has been significant, underscoring their importance and effectiveness.

Several other central government schemes are also operational in the state, all aimed at the welfare of the country's citizens. The research question at the heart of this study was the level of awareness of these schemes and how much they benefit the people.

## Literature Review

Srinivasulu K. (1996) analysed the impact of the 1985 Textile Policy on the handloom sector. He found that NTP (New Textile Policy) aims to increase the productivity and efficiency of mills and power looms to meet national and international market demand. Due to the implementation of NTP, artisan communities engaged in handloom weaving were afraid of unemployment. Despite their numerical strength, they could not protest and resist, failed to be heard, and their limited organisation failed to threaten the electoral prospects of the governing elite.

Batschari (2002) studied the three Community projects in rural *KwaZulu-Natal* in South Africa in partnership with Development Education at the German Development Service (DED) and found that HIV/AIDS is one of the biggest challenges to sustainable development, not only for the communities but also for all stakeholders involved in development work since the local persons who people of Development Education trained at the German Development Service (DED) died due to HIV/AIDS.

In another such study, Davies and Wismer (2007, 415) found that the Hainan government has not yet managed social welfare, environmental, and economic issues, demonstrating the difficulty of implementing sustainable forestry and balancing it with long-term goals. Including Li communities in forestry-related decision-making could reduce tensions between local communities and forestry management and improve the sustainability of the government's forestry practices.

Chhabra and Sharma (2010**)** consider the NREGA a landmark in the economic history of independent India, which provides legal employment rights to rural citizens. Basu (2011) examines that technological changes and productivity increases in Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) programs tend to make labourers better off compared to a direct wage paid at the relief programs. Public works play a positive role as income insurance due to seasonality in the agricultural labour market.

Kumar et al. (2011, p. 255) appreciate several government and non-government agencies that have launched watershed development projects to tackle the challenges of soil conservation, improve land productivity, and economically uplift the rural poor so that they can use natural resources efficiently. Participatory community-driven institutions of integrated watershed management are considered vital for the sustainability of natural resources.

It is important (Garg & Agarwal, 2017) that policymakers consider women entrepreneurs as the new engine for economic growth and rising stars for the growing economy that brings prosperity to the nation. They are rising as successful entrepreneurs around the world.

## Objectives of Study

The study's objectives were to find the level of awareness among different groups in Aligarh District about various social development schemes implemented by the State and Central Government of India.

## Methodology and Database

Both primary and secondary data sources were utilised to achieve the research objective. The finalisation of the sample size for primary data collection has been done based on the 2011 census data of the total population of Aligarh District. At a 5% confidence level, 400 samples/persons have been interviewed. The interview was conducted using a structured questionnaire. These 400 samples/persons were further divided according to the proportion of the rural, urban, male, and female population in the total population of Aligarh district in the 2011 census.

Samples were selected through stratified random sampling and covered the Aligarh district's rural and urban areas. Since society consists of various economic classes, religions, rural-urban populations, genders, etc., in stratified random sampling, the population is divided into several groups/layers and sub-groups/layers that are individually more homogeneous than the total population of the study area. Subsequently, samples from

**Table 1**

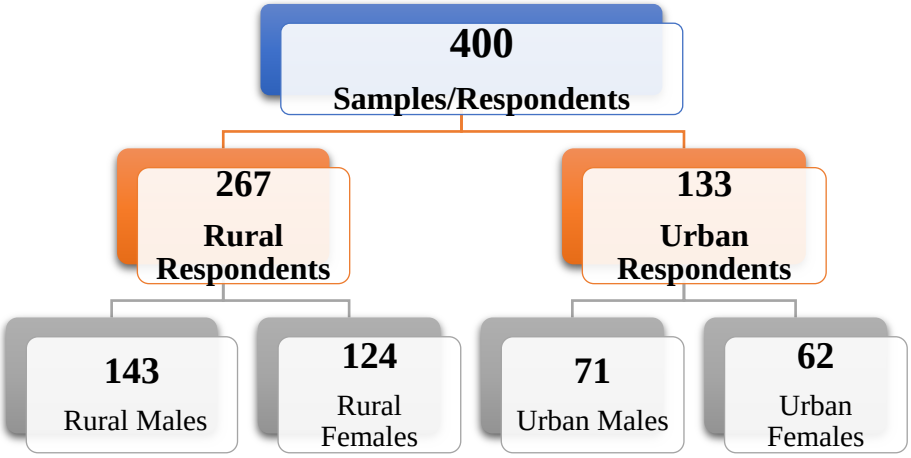
*Aligarh District: Total Population, 2011 Census*

| Features | Persons | | Males | | Females | |
|---|---|---|---|---|---|---|
| | Number | Per cent | Number | Per cent | Number | Per cent |
| Rural | 24,56,698 | 66.87 | 13,08,923 | 67.06 | 11,47,775 | 66.66 |
| Urban | 12,17,191 | 33.13 | 6,43,073 | 32.94 | 5,74,118 | 33.34 |
| Total | 36,73,889 | 100 | 19,51,996 | 100 | 17,21,893 | 100 |

Source: http://www.censusindia.gov.in/pca/default.aspx

**Figure 1**

*Flow Chart Representing the Division of Samples*




each stratum was selected according to the study's objectives. Table 1 shows the rural, urban, male, and female population and their percentage of the corresponding total population of the Aligarh district.

Based on the above proportion of the population, 400 sample sizes are divided into strata of rural males, rural females, urban males, and urban females. Out of 400 sampled households, 267 are rural, and 133 are urban. Of 267 rural households, 143 are rural male households, and 124 are rural female households. Similarly, out of 133 urban households, 71 are urban male households, and 62 are urban female households (Fig. 1).

After finalising the sample size and its stratification, a well-structured questionnaire was prepared to interview the respondents. This questionnaire contains basic information about the respondents, such as their name, age, marital status, occupation, family type, and family size, as well as objective-specific questions like level of awareness about various government schemes. Are they or their family benefited from any government schemes? Care has been given to interview only one person from a family/household because the question is about the benefit to the whole family from government schemes. One person from one household is interviewed during the field survey to reduce the overlapping benefits from individual to family. As per the census definition, a household is usually a group of people who live together and take meals from a common kitchen. Persons in a household may be related or unrelated or a mix of both. However, if a group of unrelated persons live in a census house but do not take their meals from a common kitchen, they are treated as a separate household for each person. The important link in finding a household

is a common kitchen/cooking (District Census Handbook Aligarh, Series- 10, Part XII-B, 2011, iii). From the flow chart, one can easily understand the overall division for surveyed households.

## Discussion, Analysis, and Findings

In the inquiry about awareness, four aspects were covered during the field survey.

1. Awareness about government schemes.

2. Information sources through which respondents learned about various government schemes in the Aligarh district.

3. Whether the respondent availed any benefit from government scheme/s and

4. Whether the family members of the respondents benefited from government scheme/s.

### Awareness

In the field survey, it has been found that there is a different level of awareness among different groups of people. Table 2 shows the primary data about awareness regarding government schemes. For this purpose, respondents were divided into three categories. 'Yes' for full awareness about various government schemes and their eligibility criteria for drawing the benefits. These respondents try to know the provisions of different schemes by reading or listening to different sources of information.

Next is 'partially', which means respondents have some knowledge about different government schemes via listening from different sources and do not make an effort to know the full eligibility criteria of schemes for drawing benefits. Moreover, 'no' means respondents have no knowledge about schemes, nor do they make any effort to know about welfare schemes.

Primary data reveals that the level of awareness is lowest among the rural female respondents, 11.29 per cent. The highest awareness was recorded among urban male respondents, 39.44 per cent. The rural male respondents accounted for 25.17 per cent, and urban female respondents accounted for 30.65 per cent.

However, respondents reported some awareness of various schemes. Still, many people are unaware of schemes launched from time to time by either central governments or Uttar Pradesh governments. Most people come from the non-aware category in urban and rural areas. From Figure 1, primary data can be visualised. It has been found that 59.15 per cent of urban male respondents, 73.43 per cent of rural male respondents, 67.74 per cent of urban female respondents and 85.48 per cent of rural female respondents do not take any interest/knowledge about various government schemes the governments launched from time to time. Very few respondents are partially aware, i.e., 1.41 per cent among urban male respondents, 1.4 per cent among rural male respondents, 1.61 per cent among urban female respondents, and 3.23 per cent among rural female respondents. Here, it is

**Table 2**

*Respondents Aware of Various Government Developmental Schemes in Aligarh District*

| Features | Male | | | | Female | | | |
|---|---|---|---|---|---|---|---|---|
| | Urban Male | | Rural Male | | Urban Female | | Rural Female | |
| | Number | % | Number | % | Number | % | Number | % |
| Yes | 28 | 39.44 | 36 | 25.17 | 19 | 30.65 | 14 | 11.29 |
| No | 42 | 59.15 | 105 | 73.43 | 42 | 67.74 | 106 | 85.48 |
| Partially | 01 | 1.41 | 02 | 1.4 | 01 | 1.61 | 04 | 3.23 |
| Total | 71 | 100 | 143 | 100 | 62 | 100 | 124 | 100 |
| Features | Total Urban | | Total Rural | | Total Male | | Total Female | |
| | Number | % | Number | % | Number | % | Number | % |
| Yes | 47 | 35.34 | 50 | 18.72 | 64 | 29.91 | 33 | 17.74 |
| No | 84 | 63.16 | 211 | 79.03 | 147 | 68.69 | 148 | 79.57 |
| Partially | 02 | 1.5 | 06 | 2.25 | 03 | 1.4 | 05 | 2.69 |

Source: Primary data collected with the help of questionnaire & field survey, 2013-16

interesting that these 3.23 per cent of rural female respondents are keen to acquire knowledge about the scheme. However, they do not find any reliable source of knowledge. Rural areas have less connectivity with government offices. The electricity supply is also not regular in rural areas of the district, and because of that, they cannot watch the news on television.

Another hurdle is illiteracy, which acts as a limitation in reading newspapers and other written documents. The level of awareness is low among illiterate people. 85.48 per cent of rural female respondents reported being unaware of government schemes. Likewise, the occupation of an individual governs the chances of getting aware. Confining their mobility within the four walls of households or in limited areas decreases the chances of awareness. 82.52 per cent of rural male respondents reported being educated/literate, but their lower literacy and less mobility make them unaware of welfare schemes (73.43 per cent). 67.74 per cent of urban female respondents also reported unawareness, though their literacy was 91.94 per cent. The reason was that most of them were homemakers and had less mobility.

However, the condition of women has improved in the recent past. Women's active participation in different professions increased after the 20th century. The political and democratic condition of women in India and the world also improved in the 20th century. The advent of the twentieth century has witnessed formal changes in the civic status of women. In 1900, New Zealand was the only country in the world where women enjoyed franchise rights. By 1945, when the United Nations was formed, nearly half of its 51 founding members granted franchise rights to women. A large majority of newly emergent states, too, accorded equal franchise rights to women. In 1966, according to a United Nations survey, 114 members out of a total of 125

members constitutionally guaranteed franchise rights to women (Sharma, 1996). By getting voting rights to choose their leaders, women become politically active. Simultaneously, the legislation also started making plans and policies for the development of women.

In India, women's participation in political activities at the grassroots level was very low at the time of independence. Plans, policies, and schemes for women rarely got the attention of political leaders and planning officers. There is considerable debate on the genesis of the women's component of the community development program. There is some evidence that policymakers deliberately avoided committing themselves to women's work (Mehra, 1983). In 1984, when the pilot development project Etawah was started, Albert Meyer, then planning adviser to the Uttar Pradesh government, felt that "the need for working with women in the project area is great, but it has been proved most difficult because the social situation of women in Uttar Pradesh is such that policymakers generally wish to avoid committing themselves to programs of women's work and are often hostile to women's welfare. Working village males also hold the same views, but more strongly for similar reasons. Officers at the supervisory level in the planning department have not yet evolved targets or systematic programs of work with women. Therefore, efforts to reach rural women have been uneven, sporadic, and fluctuating" (Meyer, 1958). The Planning Commission Deputy Chairman admitted that "when we began the women's program, we did not have a single woman in our community projects administration. We completely forgot that it is impossible to strike roots with any program unless women come into the picture. This was a later realisation. Even when the realisation came, we paid sympathies, perhaps because there was terrific pressure on one side of food production and the other from the provision of amenities. Our organisation had very little time to devote to evolve a program for women, which by its very nature would have required much more sustained and much better efforts." He hoped that with the help of voluntary organisations, the vast reservoir of non-official women's power, which is lying virgin, could be utilised for women's programs (Krishnamachari, 1957).

## Source of Information for Government Schemes

Although a very small number of respondents reported their awareness of government schemes, the study delves deeper into the source of information for government schemes. In the survey, it has been found that different groups have different sources of information. Table 3 lists all data sources that respondents reported during the field survey. This Table contains the total number of various sources of information reported by respondents. In this table, the respondents who responded 'not aware' or responded

with 'partial awareness' but did not disclose or refer to their source of awareness were not included.

Respondents from rural areas primarily depend on their neighbouring persons for information regarding welfare scheme/s. In contrast, respondents from urban areas acquire information from independent sources like newspapers, television, radio, and the internet. The information from people like the *pradhan* of the village, husband, *Anganwadi* workers, *samiti* (committee) members, husband, daughter, officers at block development office (BDO), officers at *Vikash Bhawan/Rojgar* office, etc, outnumbered the electronic sources of information like newspaper, television, radio, and internet.

Rural respondents were more dependent on their relatives, *Pradhan*, neighbouring people, and village people rather than other independent sources of information. The main reason is illiteracy and less mobility. Illiteracy prevents them from completing all necessary paperwork to avail themselves of the benefits of the scheme/s. Sometimes, they do not even have basic documents of their identity. Less mobility from outside the village or in government offices decreased the chances of knowledge. Therefore, they relied more on the literate persons from their relation, *Pradhan*, neighbouring houses, or villagers.

Further, the primary data in Table 3 illustrates that television and newspapers are sources of information for government schemes, which is the highest among urban male respondents. Among rural male respondents' newspaper reading is the highest as a data source. Other sources of information, such as television and the Internet, are restricted because of the need for a regular electricity supply. Many urban females also reported reading Hindi newspapers as a source of information. The literacy rate among urban females was high; therefore, they could read newspapers. Some urban female respondents read English newspapers.

The situation of rural females is different. Rural female respondents are dependent on people for information regarding various government schemes. This dependency is caused by high illiteracy among rural females. Because of illiteracy, they cannot read newspapers, and the paucity of electricity supply prevents them from watching television and listening to the radio.

## Utilisation of Government Scheme/s

After examining the level of awareness about different state and central government welfare schemes, the following paragraphs describe the number of people who had availed themselves of benefits from government schemes until the field survey.

## Benefits Availed from Government Schemes at the Individual Level

The field survey found that people need to make more effort to learn

about new government schemes and changes made in existing schemes that benefit them. Table 4 and Figure 2 highlight the number of respondents who reported the benefits of government schemes. In the table, most respondents fall in the category of 'yes'. They benefited from government schemes.

**Table 3**

*Total Number of Respondents Reported Source of Information for Their Awareness About Government Schemes*

| Source of Information | Male | | Female | |
|---|---|---|---|---|
| | Urban Male | Rural Male | Urban Female | Rural Female |
| Newspaper | 04 | 09 | 05 | 02 |
| Television | 04 | 01 | 03 | -- |
| Radio | *-- | -- | -- | -- |
| People/Neighbors | 05 | 03 | 03 | 04 |
| Pradhan | -- | 05 | -- | 01 |
| Husband | -- | -- | 02 | 01 |
| Anganwadi | -- | -- | -- | 02 |
| Block Development Officer (BDO) | -- | 04 | -- | -- |
| *Samiti* (committee) members | -- | 01 | -- | 01 |
| Daughter & Neighbors | -- | -- | -- | 01 |
| Newspaper & Husband | -- | -- | -- | 01 |
| People & Newspaper | 03 | 02 | 01 | 02 |
| People & Television | -- | -- | 02 | 01 |
| Television & Radio | 01 | -- | -- | -- |
| Television & Newspaper | 06 | 03 | 02 | 01 |
| Pradhan & People | -- | 01 | -- | -- |
| Television, Newspaper & BDO | 01 | 02 | -- | -- |
| Television, Newspaper & People | 01 | 01 | 02 | 01 |
| Television, Newspaper & Pradhan | -- | 01 | -- | -- |
| Television, Newspaper & Internet | -- | 01 | -- | -- |
| Office/Vikash Bhawan/Rojgar office | 04 | -- | -- | -- |

Source: Primary data collected with the help of questionnaire & field survey, 2013-16
*No respondent falls in this category for the corresponding column.

In the percentage calculation, 83.1 per cent of urban male respondents and 93.01 per cent of rural male respondents availed of the government schemes' benefits until the field survey.

Similarly, most female respondents also availed of the benefits from government welfare schemes. In the primary survey, 70.97 per cent of urban female respondents and 87.1 per cent of rural female respondents reported having availed benefits of government schemes. A few respondents are not taking any support from welfare schemes, i.e., 16.9 per cent of urban male respondents, 6.99 per cent of rural male respondents, 29.03 per cent of urban female respondents, and 12.9 per cent of rural female respondents (Table 4).

Here, it is evident that though most people are unaware of different government welfare schemes, most benefit from scheme/s. Many government schemes need to be updated. They started even before India gained independence. Therefore, everyone in India benefits, though they might not know about these government-provided facilities. For example, public distribution system (PDS), construction of infrastructure facilities, etc. As a result, directly or indirectly, citizens of the country are benefited from them. Some government schemes, such as the Mid-Day Meal Scheme, are available for all group members. Another reason is when they see people getting some benefits from scheme/s around them, they start requesting them to do the paperwork for them, too, so they can also get benefits from the scheme/s.

The evolution of the public distribution of grains in India originated in the 'rationing' system introduced by the British during World War II. The rationing system and its successor, the public distribution system (PDS), have played an important role in attaining higher levels of household food security and eliminating the threats of famine in the country.

**Table 4**

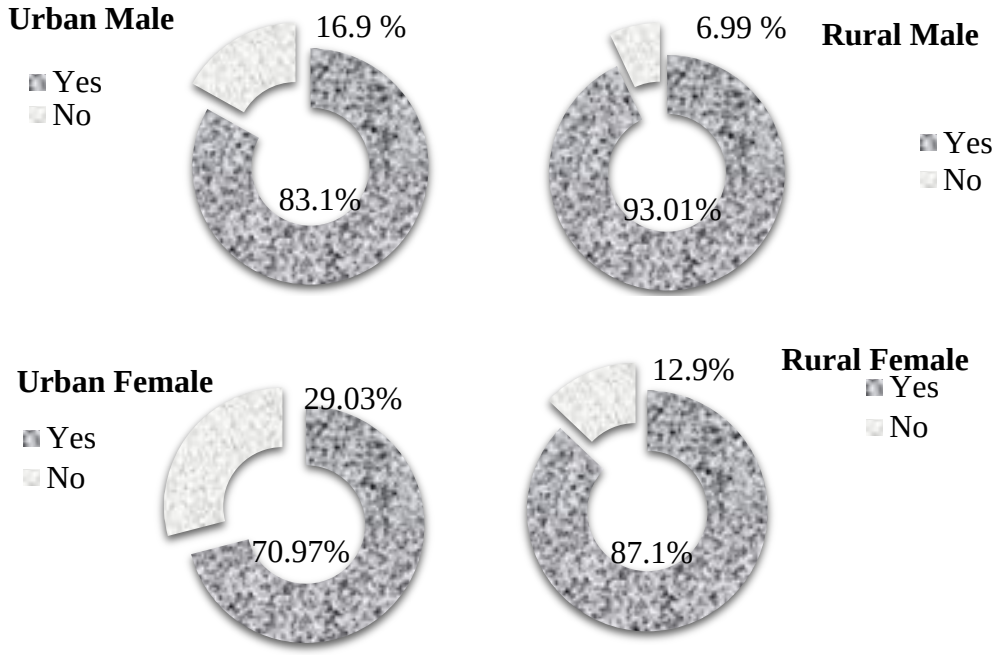
*Total Number and Percentage of Respondents Who Availed Benefits from Government Schemes in Aligarh District*

| Features | Male | | | | Female | | | |
|---|---|---|---|---|---|---|---|---|
| | Urban Male | | Rural Male | | Urban Female | | Rural Female | |
| | Number | % | Number | % | Number | % | Number | % |
| Yes | 59 | 83.1 | 133 | 93.01 | 44 | 70.97 | 108 | 87.1 |
| No | 12 | 16.9 | 10 | 06.99 | 18 | 29.03 | 16 | 12.9 |
| Total | 71 | 100 | 143 | 100 | 62 | 100 | 124 | 100 |
| Yes | 103 | 77.44 | 241 | 90.26 | 192 | 89.72 | 152 | 81.72 |
| No | 30 | 22.56 | 26 | 09.74 | 22 | 10.28 | 34 | 18.28 |

Source: Primary data collected with the help of questionnaire & field survey, 2013-16

**Figure 2**

*Percentage of Respondents Who Availed Benefits from Government Schemes*




Source: Primary data collected with the help of questionnaire & field survey, 2013-16

The Department of Food under the Government of India was created in 1942, which helped in food matters, getting the serious attention of the government. Like many other countries, India abolished the rationing system when the War ended. This was in 1943. However, on attaining Independence, India was forced to reintroduce it in 1950 in the face of renewed inflationary pressures in the economy immediately after independence, "which were accentuated by the already prevailing high global prices of food grains at the end of the War, which was around four times higher than the pre-war prices" (Bhatia, 1985). Public distribution of food grains was retained as a deliberate social policy by India when it embarked on the path of planned economic development in 1951. It was, in fact, an important component of the policy of growth with justice (http://www.fao.org/docrep/x0172e/x0172e06.htm, 2016). These old schemes are modified from time to time. Current public distribution systems have been changed to targeted public distribution systems, Antoydaya Anna Yojana, Mid-day Meal Scheme, Annapurna Yojana, and National Food Security Act, 2013.

The Mid-Day Meal Scheme was launched on August 15, 1995, by the Ministry of Human Resource Development to enhance enrolment, retention, and attendance and

simultaneously improve nutritional levels among students in primary schools, initially in 2,408 blocks in the country. It was extended to all the blocks in 1997-98. The scheme presently covers students of Class I-VII of Government and Government schools and Education Guarantee Scheme/ Alternative and Innovative Education Centers (EGS/AIE). (New Media Wing, India 2016 A (Reference Annual, 2016).

A targeted public distribution system has been launched to ensure the availability of a minimum quantity of food grains at a subsidised rate to families living below the poverty line. The Government launched the Targeted Public Distribution System (TPDS) in June 1997. It was intended to benefit about six crore poor families in the country for whom 72 lakh tonnes of food grains were earmarked annually at 10 kg per family per month. The allocation was increased from 10 kg to 20 kg from April 1, 2000. This was increased from 20 to 25 kg per family per month from July 2001. From April 1, 2002, this allocation has been further increased from 25 to 35 kg per family per month. (New Media Wing, India 2016 A (Reference Annual, 2016).

*Antyodaya Anna Yojana* was launched to make the Targeted Public Distribution System more focused and targeted toward the poorest section of the population. The '*Antyodaya Anna Yojana*' (AAY) was launched in December 2000 for one crore poor families. Targeted Public Distribution System (TPDS) and provided them with food grains at a highly subsidised rate of 2/- rupee per kg for wheat and 3/- rupee per kg for rice. (New Media Wing, India 2016 A (Reference Annual, 2016).

The Ministry of Rural Development launched the Annapurna Scheme in 2000-01. Indigent senior citizens 65 years of age or above who are not getting a pension under the National Old Age Pension Scheme (NOAPS) are provided 10 kilograms of food grains per person per month free of cost under the scheme (New Media Wing, India 2016 A Reference Annual, 2016).

National Food Security Act of 2013 provides food and nutritional security in the human life cycle approach by ensuring access to adequate quality food at affordable prices for people to live a life with dignity. The eligible persons will be entitled to receive 5 kg of food grains per person per month at subsidised prices of 3, 2, and 1 rupee per kg for rice, wheat, and coarse grains, respectively. (New Media Wing, India 2016 A (Reference Annual, 2016). Besides these food security schemes, many other infrastructure-related schemes benefit the population. One of them is Pradhan Mantri Gran Sadak Yojana, which has directly benefited people at the grassroots level in the district.

To improve rural connectivity, the government launched the Pradhan Mantri Gram Sadak Yojana (PMGSY) in December 2000 as a centrally sponsored scheme to assist the states. However, rural roads are on the state

list as per the constitution. Pradhan Mantri Gram Sadak Yojana (PMGSY) is to provide connectivity through all All-Weather Roads (Census, 2001). (New Media Wing, India 2016 A (Reference Annual, 2016).

All these government schemes provide government help to individuals and the whole family, district/s, and state/s. Therefore, all citizens of the country are availing of benefits directly or indirectly.

**Benefits to Family Members from Government Schemes**

While enquiring whether benefits have reached the respondents' family members, primary data reveals that most family members have benefited from government schemes. Table 5 shows the total number of respondents who accounted for the fact that their family members have benefited from the schemes.

Figure 3 shows the percentage of respondents for the same. According to Figure 3, 81.69 per cent of households of urban male respondents, 91.61 per cent of households of rural male respondents, 70.97 per cent of households of urban female respondents, and 87.1 per cent of households of rural female respondents already availed of benefits from government schemes. A smaller number of respondents who have not benefited from any government scheme had been found. Otherwise, every respondent, directly or indirectly, got some benefits. According to primary data, only 18.31 per cent of households of urban male respondents, 8.39 per cent of households of rural male respondents, 29.03 per cent of households of urban female respondents, and 12.9 per cent of households of rural female respondents in the category of non-benefited people. Here, ‘yes’ means people who benefited from schemes run by the state or central government, and ‘no’ means people who did not benefit from schemes.

The percentage of non-benefited persons is higher in urban areas than in rural areas of the district. The reason is that a maximum number of government schemes are launched for marginalised groups like scheduled castes, scheduled tribes, poor who live below the poverty line, old aged, etc. The percentage of these groups of people is higher in rural areas than in urban areas. In the district's rural areas, families benefit from three central government schemes, i.e., Integrated Child Development Services, Kisan Credit Card, and the Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA). The benefits of these three schemes are easily detectable in the district.

The Integrated Child Development Services (ICDS) Scheme is one of the government's flagship programs and represents one of the world’s largest and unique programs for early childhood development. The program addresses the health, nutrition, and development needs of young children and pregnant and nursing mothers. (New Media Wing, India 2016 A (Reference Annual, 2016).

**Table 5**

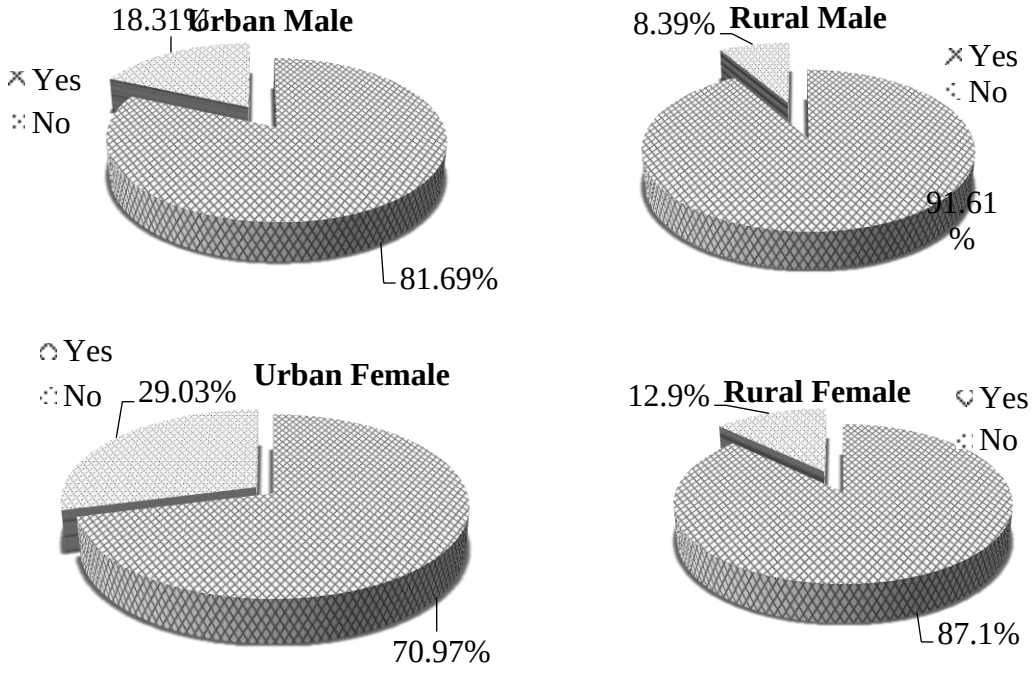
*Total Number and Percentage of Respondents Whose Families Availed Benefits from Government Schemes in Aligarh District*

| Features | Male | | | | Female | | | |
|---|---|---|---|---|---|---|---|---|
| | Urban Male | | Rural Male | | Urban Female | | Rural Female | |
| | Number | % | Number | % | Number | % | Number | % |
| Yes | 58 | 81.69 | 131 | 91.61 | 44 | 70.97 | 108 | 87.1 |
| No | 13 | 18.31 | 12 | 8.39 | 18 | 29.03 | 16 | 12.9 |
| Total | 71 | 100 | 143 | 100 | 62 | 100 | 124 | 100 |
| Features | Total Urban | | Total Rural | | Total Male | | Total Female | |
| | Number | % | Number | % | Number | % | Number | % |
| Yes | 102 | 76.69 | 239 | 89.51 | 189 | 88.32 | 152 | 81.72 |
| No | 31 | 23.31 | 28 | 10.49 | 25 | 11.68 | 34 | 18.28 |

Source: Primary data collected with the help of questionnaire & field survey, 2013-16

**Figure 3**

*Percentage of Households Availed Benefits from Government Schemes in Aligarh District*




Source: Primary data collected with the help of questionnaire & field survey, 2013-16

**Table 6**

*Total Number of Respondents Who Availed of Various Government Schemes*

| Characteristics | Males | | Females | |
|---|---|---|---|---|
| | Urban | Rural | Urban | Rural |
| Above Poverty Line (APL) Ration card | 41 | 88 | 31 | 72 |
| Below Poverty Line (BPL) Ration card | 03 | 07 | 02 | 13 |
| Scholarships | *-- | -- | 02 | 01 |
| Senior citizen pension | 01 | 01 | 01 | -- |
| Differently- abled pension | -- | 01 | 01 | -- |
| Antoyodaya & Scholarship | -- | 01 | -- | -- |
| APL ration card & Scholarships | 06 | 05 | 07 | 09 |
| APL ration card subsidies on fertilisers | -- | 02 | -- | -- |
| APL ration card Kishan credit card (KCC) | -- | 21 | 01 | 07 |
| APL ration card Aaganwadi benefits | -- | 01 | -- | 02 |
| BPL ration card & scholarships/free education | 01 | 01 | -- | 03 |
| BPL ration card and KCC | -- | 01 | -- | -- |
| APL ration card, KCC, scholarships | -- | 04 | -- | 01 |
| Janani Surksha yojana | -- | 01 | -- | -- |
| Subsidies for Haj/Pilgrimage | 02 | -- | -- | -- |

Source: Primary data collected with the help of questionnaire & field survey, 2013-16
*No respondent falls in this category for the corresponding column.

The Indira Gandhi Matritva Sahyog Yojana (IGMSY) is a maternity benefit scheme offered by the government of India. This scheme was launched in 2010. Ministry of Women and Child Development is an implementing agency. This scheme transfers money to pregnant and lactating women 19 or older only for the first two live births. It also provides partial wage compensation to women for wage loss during child delivery and subsequent childcare. It is for enabling conditions for safe delivery and good nutrition and feeding practices. The scheme was brought under the National Food Security Act 2013 during 2013 (Hindu, 2015).

To ensure that all eligible farmers are provided hassle-free and timely credit for their agricultural operation, the Kisan Credit Card (KCC) Scheme was introduced in 1998-99. Marginal farmers, sharecroppers, oral lessees, and tenant farmers can be covered under the scheme. The main objectives of the scheme are to meet the short-term credit requirements for cultivation of crops. The State Governments have been advised to launch an intensive branch/village-

level campaign to provide Kisan Credit Cards to all the eligible and willing farmers in a time-bound manner. KCCs have now been converted into Smart Cards cum Debit Cards to facilitate their operation through ATMs (Government of India, 2016).

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is a rights-based wage employment program implemented in rural areas of the country. This program aims to enhance livelihood security by providing up to one hundred days of guaranteed wage employment in a financial year to every rural household whose adult members volunteer to do unskilled manual work. (New Media Wing, India 2016 A (Reference Annual, 2016).

Apart from these schemes, above poverty line (APL) ration cards, help in house repair, fee concession, irrigation schemes, scholarships for girl children, subsidies on LPG, Haj subsidies for Muslims, SCC loans for shops, cooperatives for farms have also benefited people of Aligarh district.

## Conclusion

In the concluding remark, it can be said that there is a sharp difference in the level of awareness among different groups of people and the zeal for enhancing the knowledge of various welfare schemes launched by the government of India and the government of the State from time to time. Ironically, people in dire need of government support for their development are least interested in knowing eligibility criteria and other related information. Meanwhile, people from urban areas are interested in updating their knowledge, though they know they do not fall in the category of eligible people for that scheme. Rural female respondents reported the worst condition. The interest in awareness was lowest among them. The overall condition summed up in Table 7 shows that people with low literacy have low awareness, but they are the ones who need high government help through government schemes. Subsequently, they will benefit highly because people who are literate and aware do not fall in the eligibility criteria of various schemes. Most of them come under the category of general and above the poverty line. Another interesting fact was that people were in denial about whether they benefited from any scheme. Most people immediately reply, ***'kachu bhi naay mil raha sarkar se'*** (not getting any benefit from the government). This shows they are highly dissatisfied with the amount/level of help the government provides. These supports of government schemes are not making a satisfactory contribution to their development. The level of government support can sustain them for faster growth.

**Table 7**

*People with Awareness and Benefits Availed from Government Schemes*

| Literacy | Awareness | Need of government's help | Benefits availed |
|---|---|---|---|
| Low | Low | High | High |
| High | High | Low | Low |

**Acknowledgement:** I am grateful to the University Grant Commission and the

Department of Geography, Delhi School of Economics, for funding this research.

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POPULATION GEOGRAPHY
ISSN 0256-5331
UGC-CARE Listed Volume 46(1) June 2024

# Increasing Urban-Rural Ratios of Women in the Reproductive Age Group and the Impact on Fertility Transition: A District-Wise Analysis

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**To cite this article:** Dash, A. A., & Nagdeve, D. A. (2024). Increasing urban-rural ratios of women in the reproductive age group and the impact on fertility transition: A district-wise analysis. *Population Geography*, *46*(1), 45-56.

## Abstract

The present paper attempts to study the contribution of female urbanisation to fertility decline, trends, and patterns of total fertility rate, as well as to understand the regional effect of urbanisation on total fertility rate by spatial analysis at the district level. Data from secondary sources was used, and changes and trends were analysed using scatter plots, choropleth maps, decomposition analysis, and spatial analysis. The analysis revealed that female urbanisation is increasing in India and playing an important role in fertility decline, although it is not universal. It also shows that female urbanisation does not contribute much to fertility decline at the country level. The choropleth maps show a clear north-south divide, showing rapid urbanisation and a decline in fertility in southern districts. The significance maps show that the effect of urbanisation on fertility has increased over 20 years.

***Keywords:*** decomposition, spatial analysis, female urbanisation, fertility, transition

## Introduction

Urbanisation is the most significant phenomenon of the 20th century, and India's urban population constitutes a sizeable proportion of the world's urban population (Jayaswal, 2015). Urbanisation refers to the gradual increase in the proportion of people living in urban areas (United Nations, 2009). According to the Census of India 2011, the state government grants municipal status – corporation, municipal council, notified town area committee or Nagar Panchayat, etc. to a settlement. In the census definition of urban areas, such settlements are statutory or municipal towns. Secondly, if a settlement does not have an urban civic status but satisfies demographic and economic criteria, which are:

i. A minimum population of 5000.

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Article:
Received: 10.06.23 Reviewed: 07.01.24 Accepted:01.02.24

ii. At least 75 per cent of the male main working population engaged in non-agricultural activities.
iii. A population density of at least 400 persons per square km.

Managing urbanisation is important to nurturing growth; neglecting cities—even in countries with low urbanisation levels—can impose high costs. In India, the percentage of urban population to the total population in Census 2011 was 31.16 per cent.

The three major components of population change are fertility, mortality, and migration, of which fertility plays a significant role. There was a decline in the Total Fertility Rate (TFR) in India from 2005-06 to 2015-16, i.e., from 2.7 to 2.2, respectively (International Institute for Population Sciences [IIPS] and Macro International, 2008; IIPS, 2018). Libenstein, in his cost-benefit analysis of children, proposed that the fertility decision of a couple is based on the balance between the utility and disutility of an additional child. Becker emphasised the demand and supply concept of children based on economic conditions. In urban areas, the cost of raising a child is much more than raising a child in a rural area; hence, urban fertility is lesser than rural fertility. Jaffe stated that fertility rates are generally higher in rural areas than in cities.

The impact of urbanisation on the fertility of India in the 1960s had been framed by a narrative about the facilities, i.e. a shift in occupational structure by increasing non - non-agricultural occupations, increases the rates of literacy, and rural-urban migration and effects improvements in the level of living, which further lowers fertility (Paulus, 1966). The researchers show considerable diversity across countries regarding urban-rural differences in age-specific fertility rates and the pace and character of fertility change by taking urban and rural areas as separate entities (Shapiro & Tambashe, 2001).

In a special research paper on 'Urbanisation and the fertility transition in Ghana', the researcher found that cumulative lifetime fertility declines with urban experiences. Each 10-year increase in age is associated with an additional 1.5 children. Urban ward migration may lower fertility. Adaptation to and socialisation in an urban environment significantly correlates with fertility decline (White et al., 2005). Similarly, in the 2008 paper, 'Urbanisation and fertility: An event-history analysis of coastal Ghana', he explained that the effect of urbanisation is strong and consistent with the adaptation mechanism (White et al., 2008).

In his paper, the researcher shows that urban residents have lower fertility odds than rural residents. Rural to urban migrants have lower odds of giving birth than rural stayers. Women with three children are predicted to have a probability of mobility that is 33 per cent lower than women with no children and 20 per cent below those with one child. It is revealed that secondary education reduces fertility

in rural areas more so than in urban areas; therefore, the most "fertility-effective" education strategy would be to target secondary education investments towards rural areas. Facilitating more rapid urbanisation could reduce fertility, especially migration from isolated areas where infrastructure investments are less cost-effective (Tadesse & Headey, 2010). Guo showed that rural fertility behaviour accounted for 72 per cent of the decline in national TFR due to the one-child policy compared to the modest contribution of urbanisation (22%) to the decline of China's TFR between 1982 and 2008 by doing the decomposition analysis. Urbanisation will be the main factor in fertility decline from 2010 to 2030. The trends of national, urban, and rural fertility may not be in the same direction when we consider the role of urbanisation (Guo, 2012). One of the studies indicates a clear and significant decline in fertility with migration to urban areas. Urban norms, opportunity costs, access to family planning services, higher education, and broad social changes reflected in the cohort's clear impact on fertility all support lower fertility in urban areas (Tadesse & Headey, 2010).

Researchers showed in his paper that education and income variables explain 26 per cent of variations in the rural-urban differential in fertility (Tumbe, 2016). A cohort study by Lerch showed that average fertility dropped to near replacement levels only 40 years after the national transition onset in the three continents (Lerch, 2017). The contribution of migration is dominant at early stages but declines in importance as the transitions proceed. In contrast, the contribution of natural increase grows at first and declines at later stages, and the contribution of reclassification rises throughout the transitions (Jiang & Neill, 2018). Post-transitional regional fertility in Romania suggested that for the regions with the highest degree of urbanisation and lowest fertility rates, a slight increase in the fertility rate is observed (Jemna & David, 2018). Another paper on fertility decline in urban and rural areas of developing countries supports the hypothesis of an inverted U-shaped trend in the fertility ratio by residence. The results reveal a fast and continuous decline in urban fertility once it starts in all developing regions. This confirms the importance of the universal process of fast structural and ideational change in societies to transform reproductive behaviours. (Lerch, 2018; Lerch, 2019)).

The available evidence shows an association between increasing urbanisation and declining fertility. Therefore, it is important to study fertility changes in the context of changing urbanisation patterns in India. Urbanisation promotes women's empowerment regarding the choice of contraception and the reduction of fertility in urban areas. The cost of an additional child increases in urban areas due to the cost of childbearing and rearing. Very few studies focused on the

contribution of urbanisation to fertility transition, and no study has used recent data, especially in India. This paper is an attempt to understand the regional variation and changes of urbanisation affecting fertility with the following research objectives:

1. To estimate the contribution of urbanisation in the TFR decline of India from 1971 to 2011.
2. To analyse the trends and patterns of TFR and urbanisation at the district level from 1991 to 2011.
3. To understand the regional effect of urbanisation on TFR by spatial analysis at the district level from 1991 to 2011.

## Materials and Methods

The data for the country-level proportion of urban females of reproductive ages were taken from the 1971 Census, 1981 Census, 1991 Census, 2001 Census, and 2011 Census. The country-level TFR was taken from the SRS compendium for the respective years. The level of urbanisation was calculated at the district level from the 1991 Census and 2011 Census. The district-level TFR estimate is obtained from the research paper "Fertility Transition in the Districts of India, 1991-2011" (Mohanty et al., 2019), which uses the Reverse Survival Method of fertility estimation.

The following dependent and independent variables were used to analyse the trends, patterns, and distribution of TFR and urbanisation at the district level from 1991 to 2011.

Dependent variable: The study focuses on fertility transition, and the dependent variable is the Total Fertility Rate (TFR).

Independent variable: The level of the ratio of the female urban population is considered as the independent variable in all the objectives. In the first objective, the ratio of female urban population was calculated from Census data from 1991 and 2011.

Using GeoDa, scatter plots were generated for the district level, the independent variable being the percentage of the ratio of female urban population and the dependent variable being the TFR for the respective districts. Separate scatter plots were generated for 1991 and 2011.

Using ArcGIS, separate choropleth maps were created for district-level TFR for both 1991 and 2011. Similarly, separate choropleth maps were created for a district-level percentage of urbanisation for both 1991 and 2011. The percentage of urbanisation was calculated by taking urban females of the 15-49 age group and the total females of the 15-49 age group of the respective districts. Due to the division of several districts after 1991, the same estimated value is used for the divided districts (equal to the estimated value for the parent district).

The following choropleth maps were generated:

i. District-level percentage of the ratio of the female urban population in India, 1991

ii. District-level percentage of the ratio of female urban population in India, 2011
iii. District-level Total Fertility Rate in India, 1991
iv. District-level Total Fertility Rate in India, 2011

1. The following dependent and independent variables were used in the analysis to estimate the contribution of urbanisation in the TFR decline of India from 1971 to 2011

Dependent variable: The second objective's dependent variable is the Total Fertility Rate (TFR). The country-level TFR estimates are taken from the SRS compendium.

Independent variable: The level of the female urban population ratio is considered the independent variable. Rural and urban females of age groups 15-49 were taken from Census 1971 to 2011 and used to estimate the decomposition of fertility.

2. A decomposition approach was used to determine urbanisation's effect on fertility change. (Guo, Z. et al.; 2012). The analysis decomposes $TFR_{15\text{-}49}$ into three components, i.e., the effect of changes in urban fertility: It denotes the contribution of female urbanisation on TFR from changes in age-specific urban fertility.

i. Effect of changes in rural fertility: It denotes the contribution of the ratio of female urban population on TFR from changes in age-specific rural fertility.
ii. Effect of changes in the ratio of female urban population on TFR: It denotes the contribution of the ratio of female urban population on TFR from changes in the age-specific proportion of urban females within the total female population at reproductive age.

The decomposition is based on the following assumption:

i. Rural fertility is always higher than urban fertility in any age group.
ii. All components have no changes during the period taken.

3. The following dependent and independent variables were used in the analysis to understand the regional effect of urbanisation on TFR by spatial analysis at the district level from 1991 to 2011

Dependent variable: The study focuses on fertility transition, and the dependent variable is the Total Fertility Rate (TFR).

Independent variable: The level of the female urban population ratio is considered the independent variable in all the objectives. In the first objective, the ratio of the female urban population was calculated using census data from 1991 and 2011.

GeoDa software was used to generate bivariate LISA cluster maps, showing the regression between the level of urbanisation and TFR on a regional basis. LISA cluster maps were generated for:

i. Effect of urbanisation on TFR for 1991

ii. Effect of urbanisation on TFR for 2011

## Discussion and Results

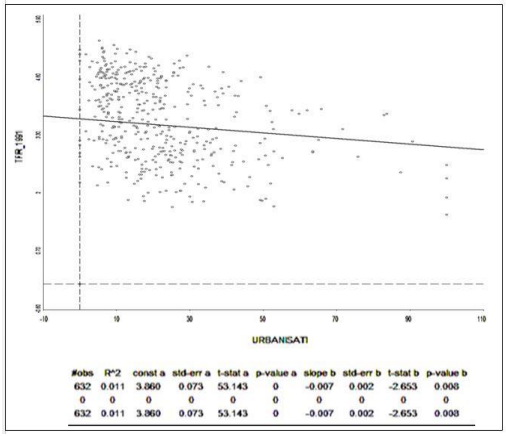
### Distribution of Total Fertility Rate According to the Ratio of Female Urban Population in India

The scatter plot for the percentage of the ratio of female urban population and total fertility rate in India for the year 1991 is presented in Graph 1. Each dot represents a district. Each point's horizontal position indicates the level of the ratio of the female urban population (in percentage), and the vertical position indicates the total fertility rate (TFR) of the district. From the plot, a moderate negative correlation can be seen between the percentage of the ratio of the female urban population and TFR. As the percentage of the ratio of female urban population increases, TFR decreases. The plot does not have any outliers. The trend line shows the mathematically best fit of the data.

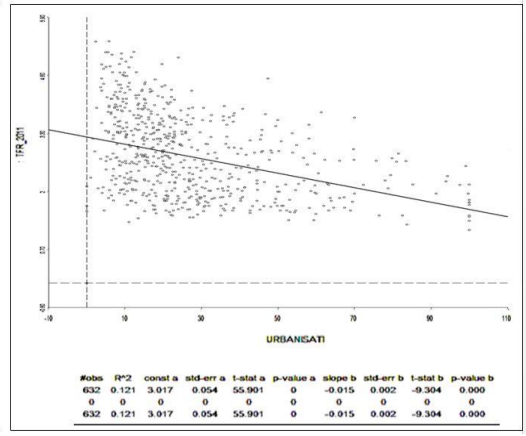
**Graphs 1 and 2**

*Scatter Plot for the Percentage Ratio of Female Urban Population to Total Fertility Rate in India, 1991 and 2011*

**Graph 1: 1991**




**Graph 2: 2011**




Graph 2 depicts the scatter plot for the percentage ratio of the female urban population to TFR in India for 2011. A moderate negative correlation can be seen between the percentage ratio of the female urban population and TFR. As the percentage ratio of the female urban population decreases, TFR decreases. The correlation between the two variables seems stronger than that of 1991.

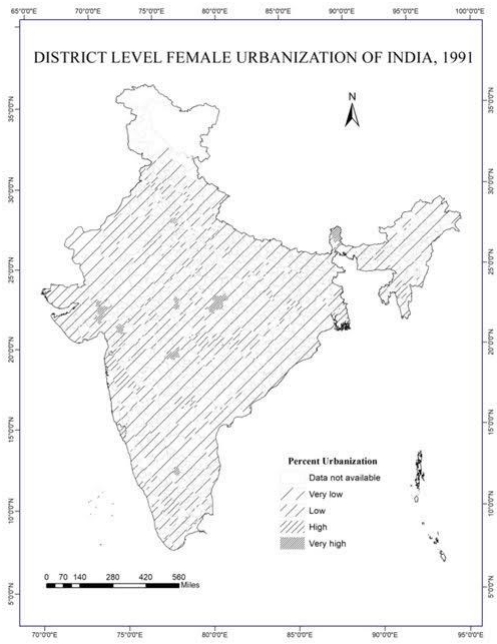
The plot does not have any outliers. The trend line shows the mathematically best fit of the data. It is more inclined in the 2011 graph than in 1991.

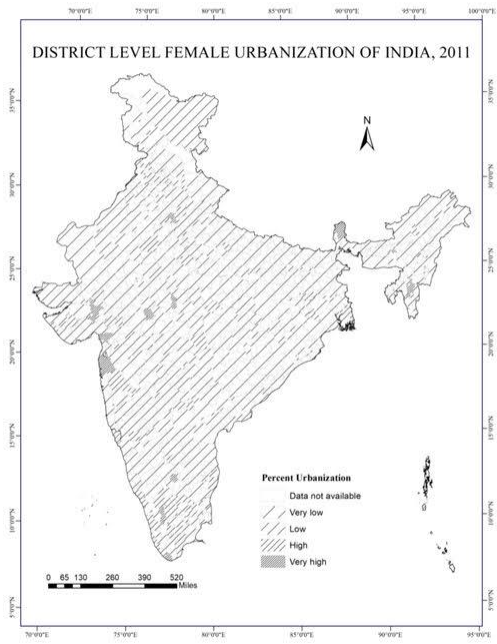
### Trends and Patterns of District-Level Total Fertility Rate in India

Figures 1 and 2 show the trends and patterns of India's total fertility rate at the district level from 1991 to 2011.

In the maps, dark red denotes high TFR with the range 2.4 and above (Highest – Latehar and Purbi Singhbum districts with 5.69 TFR in 1991 and Khagaria with TFR 5 in 2011). Medium TFR is denoted by a dark pink colour with a range of 1.8 to 2.4 TFR. The light pink colour represents low TFR with a range of less than 1.8 TFR (Lowest –Kolkata with 1.62 TFR in 1991 and 1.1 TFR in 2011). The white colour shows the unavailability of data (Jammu and Kashmir, Assam and UTs in 1991). By comparing both maps, it is seen that, in 20 years, the TFR has declined largely in South India.

**Figures 1 and 2**
*Total fertility rate by districts in India, 1991 and 2011*




It has declined moderately in some parts of Central India. TFR is still very high in North India. The 2011 map shows a clear north-south divide.

## Trends and Patterns of the Ratio of Female Urban Population in the Districts of India

The trends and patterns of the female urban population ratio in India's districts from 1991 to 2011 are shown in Figures 3 and 4. The percentage of the ratio of female urban population in the maps has been denoted in four categories with the following range:

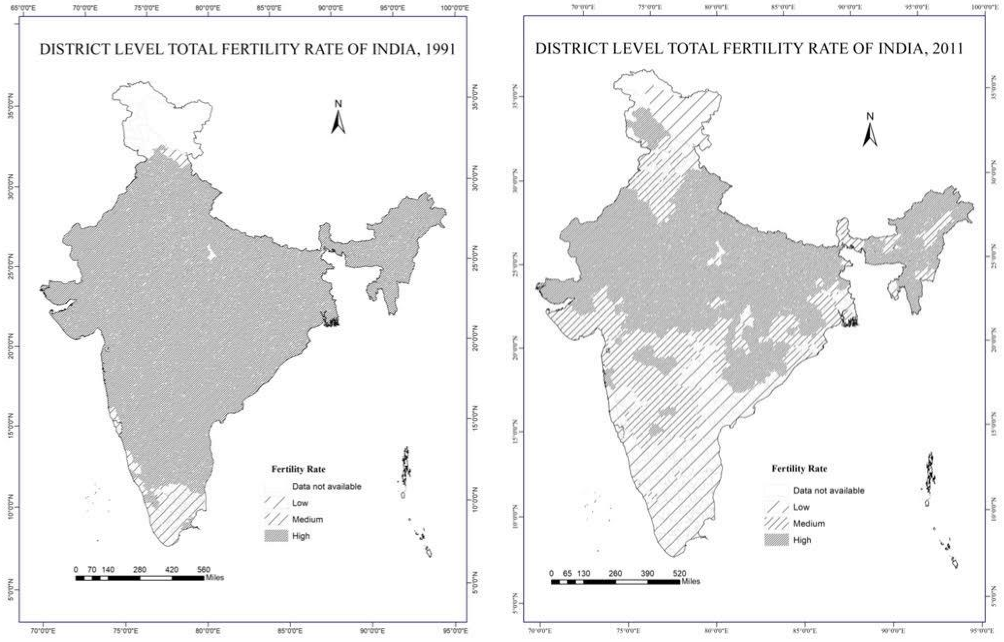
i. Very Low: 0 to 25 per cent (Lowest – West Sikkim with 1.75 per cent in 1991 and Baksa with 1 per cent in 2011)
ii. Low: 25 to 50 percent
iii. High: 50 to 75 percent
iv. Very High: 75 to 100 per cent (Highest – Hyderabad, Mumbai City, Suburban Mumbai, Washim, Chennai and Kolkata with 100 per

cent in 1991 and 2011 along with Central and East Delhi, Mahe, and Yanam in 2011)

The white colour shows the unavailability of data. Comparing both maps reveals that urbanisation has increased largely in 20 years. Western India has experienced more urbanisation than Eastern India. The rural population still dominates the Northeastern states. A clear north-south divide is visible on the 2011 map, where North India has a low urban population compared to South India.

**Figures 3 and 4**

*The Ratio of Female Urban Population in the Districts of India, 1991 and 2011*




## The Contribution of the Ratio of Female Urban Population on the Total Fertility Rate in India

The decomposition of the changes in TFR in India from 1971 to 2011 is given in Table 1. The results show a 2.8-point decline in India's TFR between 1971 and 2011. The change in rural fertility behaviour contributed to 2.7 points of this decline. The change in urban fertility behaviour contributed to 2.2 points of this decrease. The change in urbanisation resulted in a 0.13-point increase in national TFR, which accounted for 4.71 per cent of the total increase in TFR from 1971 to 2011. The change in rural fertility behaviour accounted for the largest amount, 96.42 per cent, of the decline in TFR during this period. From 1971 to 1981, 1981 to 1991, and 2001 to 2011, the changes in rural and urban fertility behaviour led to a reduction in national TFR. Changes in rural fertility behaviour, urban

fertility behaviour, and urbanisation levels contributed to the reduction in national TFR from 3.6 in 1991 to 3.1 in 2001. From 1971 to 2011, the TFR has declined from 5.2 to 3.1. It is evident from the decomposition analysis that urbanisation does not contribute little to fertility at the country level. Apart from 1991-2001, all other decades saw an increase in fertility due to increased urbanisation. Other factors are more prominent in lowering fertility.

**Table 1**

*Decomposition of the Changes in TFR in India, 1971 to 2011*

| Period | TFR per 1000 women | | | Absolute change per 1000 | | | |
|---|---|---|---|---|---|---|---|
| | Start | End | Change | Rural | Urban | Urbanisation | Other |
| 1971-1981 | 5200 | 4500 | -700 | -600 | -800 | 43 | -657 |
| 1981-1991 | 4500 | 3600 | -900 | -900 | -600 | 24 | -576 |
| 1991-2001 | 3600 | 3100 | -500 | -500 | -400 | -171 | -571 |
| 2001-2011 | 3100 | 2400 | -700 | -700 | -400 | 236 | -164 |
| 1971-2011 | 5200 | 2400 | -2800 | -2700 | -2200 | 132 | -2068 |

## Cluster Effect of the Ratio of Female Urban Population on Total Fertility Rate in the Districts of India

Figures 5 and 6 show the cluster effect of the ratio of female urban population on the total fertility rate in the districts of India for 1991 and 2011. The 1991 map also shows that 369 districts of India are insignificant, i.e., urbanisation does not affect TFR. In the cluster map 1991, 45 districts of India have a high-high relation, denoted in red. This means that TFR is high even with high urbanisation. Light blue denotes a Low-High relation, which means the TFR is high, and there is a low level of urbanisation. One hundred eighteen districts are in this category, all in North India. The pink colour denotes the High-Low relation, which means the TFR is low and urbanisation is high. There are 30 districts in the category, of which most are concentrated in the southern extreme of India.

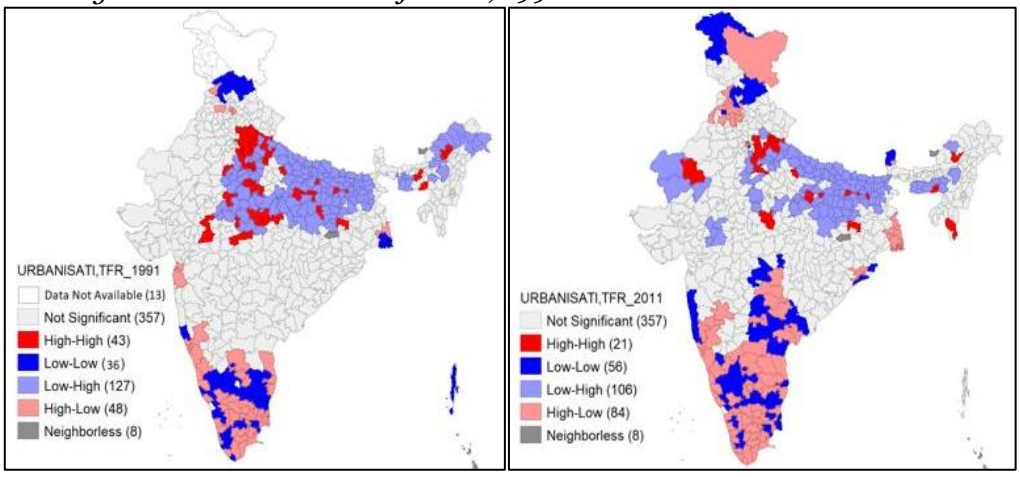
The map of 2011 shows that 353 districts of India are insignificant, i.e., urbanisation does not affect TFR. In the cluster map 2011, 20 districts of India have a high-high relation, denoted in red. This means TFR is in highly urbanised areas. Light blue denotes a low-high relation, which means the TFR is high and the level of urbanisation is low. One hundred nine districts are in this category, all in North India. The pink colour denotes the High-Low relation, which means the TFR is low and urbanisation is high. There are 83 districts in the category, of which the majority are concentrated in the southern extremities of India. The dark blue colour denotes a Low-Low

relation, which means the level of urbanisation and TFR are low. It includes 59 districts in India. A clear north and south divide shows urbanisation's impact on TFR. The cluster maps show that the red-coloured districts (High – High relation) are a matter of deep concern as the TFR is still high even after a high level of urbanisation. The blue-coloured districts (Low relation) are also a matter of concern as the female urban population and TFR ratio are low.

The ratio of female urban population increased in India during the study period, and the ratio plays an important role in fertility decline, although it is not universal. The available evidence shows an association between increasing urbanisation and declining fertility. The decomposition analysis shows that urbanisation only contributes a little to fertility at the country level. The choropleth maps indicate a clear north-south divide, showing rapid urbanisation and a decline in fertility in southern districts. The significance maps show that the effect of urbanisation on fertility has increased over the period.

**Figures 5 and 6**

*Cluster Map of the Effect of the Ratio of Female Urban Population on Total Fertility Rate in the Districts of India, 1991 and 2011*




## Conclusion

More studies should focus on the contribution of urbanisation towards fertility decline. The limitation of the study is that the 1991 Census was not conducted in Jammu and Kashmir. Therefore, the value taken is zero. Due to the division of several districts after 1991, the estimated value is the same for both the divided districts (equal to the estimated value for the parent district). A primary survey is required for some particular districts to study human behaviour, which goes against demographic transition theory. Some primary studies may be undertaken in particular districts of high–high and low–low relations to

study the behaviour of people, which leads to the rejection of the Demographic Transition Theory.

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POPULATION GEOGRAPHY
ISSN 0256-5331
UGC-CARE Listed Volume 46(1) June 2024

# Gender and Domestic Duties: Socio-Economic and Temporal Contexts of Work Invisibility in Haryana, India

**Rajeshwari[1] and Himanshi**

**To cite this article:** Rajeshwari & Himanshi. (2024). Gender and domestic duties: Socio-economic and temporal contexts of work invisibility in Haryana, India. *Population Geography*, *46*(1), 57–72.

**Abstract**
The invisibility of domestic work exists worldwide and is kept outside the production boundary. Domestic work is highly gendered, disproportionately performed by women and limits their visibility in economic spaces. Since it is nationally unaccounted and traditionally undervalued, its misrecognition is deeply rooted in the perception and behaviour of individuals and societies. This perception, though, has been challenged by many feminists, and their contribution resulted in challenging traditional gender roles and androcentric writings. However, gender-blind theories and practices in research make women's economic contributions invisible. This paper attempts to understand and draw attention to women's role in social production and statistical invisibility in financial space. The paper seeks to explain the social and temporal contexts of the invisibility of women's work in the patriarchal set-up of the north Indian state of Haryana. The socio-economic contexts of gender roles have been explored to explain the intra-household dynamics with the help of household data from four rounds of NSSO relating to four time periods (1993-94, 2004-05,2011-12 and 2017-18) spanning over three decades.

***Keywords*:** domestic duties, invisible work, patriarchy, gender roles, economic space

## Introduction

Women perform two types of work, which brings wages and is generally performed beyond the home and the other, which may not get direct wages and is majorly performed within the house's boundary. In the neo-liberal paradigm of the Indian economy and view of increasing levels of education and falling fertility, the public imagination is that women's participation in economic space

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Article:
Received: 18.09.23 Reviewed: 15.12.23 Accepted:11.02.24

would increase with substantial alteration in gender roles and gender inequality. Paradoxically, the empirical evidence suggests that women's visibility in economic space has declined. Indian women's work participation rate (WWPR)- an indicator of participation in financial space, has reduced substantially (28.6 per cent in 1993-94 to 16.5 per cent in 2017-18). Their engagement in domestic activities, regarding time use and household tasks, shows traditional gender roles and large gender disparity (TUS, 2020).

WWPR is not considered a good indicator of women's participation in economic space, and rightly so, because it only finds women's market or 'productive' contribution. Many researchers have raised the idea that women's work remains largely invisible or inadequately captured because of how 'work' gets defined (Dixon, 1982; Raju, 2010). This is contested by the argument that the productive work of women is not just market-oriented but rather the whole range of social production activities, which forms the basis of production activities and often remain unpaid, uncounted, undervalued and socially unrecognised due to unequal power relations, particularly in a patriarchal social system (Boserup, 1970; Mies, 1982; Oberhauser, 1997 Palriwal & Neetha 2010). Though the Census of India and the National Sample Surveys have made efforts to recognise women's work (by asking probing questions that seek to establish women's involvement in economic activity), 'work' is still defined to include only participation in the household farm or enterprise, and does not include housework, childcare, care of the sick and old, and related activities associated with social reproduction. Consequently, a sizeable proportion of women (45 per cent, as per GOI, 2019) in the working age- group are not counted as 'workers' even though such women are devoting most of their time to performing activities which sustain the economy and economic production.

*What is domestic work or duty, and why is it not counted in GDP*: 'Domestic duties' are those activities performed within a household for one's consumption and which do not generate direct income – non-SNA[1] These include all tasks related to the feeding, cleaning, nurturance, care work and daily maintenance of adults and children in the household. It must be mentioned here that the definition of 'work' in India broadly matches the internationally accepted definition, yet there are certain distinctions. While the UN System of National Accounts (SNA) considers activities like own account processing of primary products as 'economic activities' (though unpaid), the Indian System of National Accounts (INSA) excludes these from the ambit of production or economic activities. However, NSSO and the UN system exclude unpaid domestic work from economic activity. In the case of India, when all processing of primary products by women at home (for own or household consumption) is kept outside the ambit of production, then

the majority of their work is rendered invisible and of no economic significance (for detail, see NSSO, 2014; and GOI, 2012). Domestic work is highly gendered, and patriarchal norms dictate that women perform work within the home domain. McKinsey Global report (2015) reveals that while women spent 265 minutes in unpaid domestic work, men devoted just 83 minutes. The report documents that India has the largest gender disparity in time spent on unpaid household work. In India, women spent around 297 minutes, while men spent only 13 minutes in unpaid household work (TUS, 2020). This unequal distribution of household responsibilities is linked to discriminatory social institutions and a deep-seated connection between gender roles and how people spend their time. These responsibilities limit their access to new skills and opportunities for paid work, keeping them economically dependent and socially in a subordinate position. These factors' structure and restructure gender inequality in terms of their invisibility in economic space and the conditions in which they work, and the implications thereof do not get desirable attention. The full spectrum of their activities must be comprehended to contest entrenched gender inequality, gender stereotypes and their invisible contribution to the economy.

The undervaluation of women's work *per se* is familiar. The indifference of geographers to research women's sufferings, invisibility, and subordination and to explore causes of women's secondary status has been raised way back in the early 1980s. (Monk and Hanson, 1982). Eventually, feminist geographers have constantly amplified the concerns in voicing the role of women in development - not alone as a focus on women but with a gendered perspective and by scripting the gender, space, development and work linkages (Townsend, 1991; Momsen, 1993; Hanson & Pratt, 1995; Raju, 2011; Datta, 2011). The present paper, therefore, needs to be viewed in this long tradition as a modest attempt to understand and draw attention to many contradictions regarding the participation of women in economic space. Women's engagement in domestic activities provides an interesting site to explore the subtle link between their being crucial contributors to the national economy and yet being statistically invisible in economic space. With twofold objectives, the study seeks to explain the social and temporal contexts of their domination in economic development and how their work has been rendered invisible in the patriarchal set-up of the north Indian state of Haryana.

Based on household data from three decades (1993-94 to 2017-18), the intersectionality of gender relations with other social and economic hierarchy structures, such as caste, education and income, have been explored. It also discusses how gender inequalities in economic space are maintained and by what means these have changed with time. The

study is organised into five sections. Following the introduction, the second section deals with the gender construct in the study region. Section three briefly describes women's activity status in India from 1993-94 to 2017-18. Section four discusses the gender roles in the study region. Since women are not a homogenous group and gender identities are constructed by the intersection of caste, age, class, ethnicity and other attributes, the section also includes socio-economic contexts of gender roles based on household data for four time periods (1993-94, 2004-05, 2011-12 and 2017-18). In section five, the authors explain the intra-household dynamics of gender roles.

**Gender Construct in the Study Region**

Gender is a social construct; in all societies, the common denominator of gender is female subordination. Therefore, the nature of their subordination and the basis of the structures that make for their subordination are quite substantive and relevant. The regional differences in gendered lives or regional 'gender shape' (a concept advanced by Datta, 2011) within the overarching system of patriarchy have been explored by many feminist researchers in the Indian context (Chakravarti, 1993, 2018; Chowdhry, 1993; 1994; 2019; Agarwal, 1997, 2008; Geetha, 2007; Palriwala and Neetha, 2010; Raju, 2010; Raju and Jatrana, 2016; Datta, 2021; Ghosh, 2016;). The commonalities and differences in women's lives signify the regional dimensions of kinship and local gender roles. The manifestation of son preference, male-female literacy and education levels gaps, the degree to which women can access public spaces, participation in decision making and productive work suggests that gender relations must be located within hierarchical relations of dominations at macro and micro level analysis.

Within this framework, we would like to discuss the prevailing feminine gender roles in our study region-Haryana, one of India's economically developed states. The social set-up in the region represents the 'classic patriarchy' where "the patrilineage appropriates both women's labour and progeny and renders their work and contribution to production invisible' (Kandiyoti, 1988; as quoted by Datta, 2021, p.3). Regarding gender roles in the region, peculiar contradictory gender relations exist where one finds women in the high public gaze, working alongside men in all agricultural operations, yet lacking substantive economic worth and value. The existing gender norms in the region have historical contexts in the division of labour and system of farming, which suggests subsistence to capital-intensive cultivation discouraged women's involvement in agriculture and consequently resulted in women's subordination (Boserup, 1970). This proposition has been tested in many societies. Findings reveal that today's descendants of societies traditionally practising plough agriculture have less equal gender norms (Alesina et al., 2013). To understand the gender

relations and culture of the study region, we quote from 'Veiled women: shifting gender equations': "...its specific geo-economic needs carved out a special productive and reproductive role for women...determined and controlled by customs and attitudes of the dominant peasant caste groups, invariably landowning classes, which succeeded in imposing a fairly homogenised peasant culture and a hegemonic patriarchal ideology...". The dominant popular culture of the region is described as 'peasant culture' which is closely associated with dominant caste and class, yet dispersed among different social groups. The "peasant culture" simultaneously dominant and popular, with layers of subaltern cultures within its hegemonic fold...also distinctly different from the high caste Brahmanical culture ...does not work to the exclusion of other cultural strands and encompasses both the ritually higher as well as submerged lower classes." (Chowdhry, 1994, p.14). The dominant cultural norms did not consider female family labour working in the fields (own fields), lowering family prestige. However, working for others is considered to bring about a lowering of status. It is a fact that in the early phases of the green revolution in the state (the late 70s and early 80s), the demand for all kinds of labour increased irrespective of the size of the landholding and to maximise the output and to avoid the high labour cost, family women continued to work in almost all agricultural operations except ploughing (a cultural taboo), cutting across caste and class division of landowners in the state. The high participation of women in agriculture work and the 'white revolution' in animal husbandry are the dominant cultural work ethics for women in the region. The strong cultural and ideological hold has conditioned them to internalise it so that women accept the burden as a 'moral duty' (Chowdhry, 1993). Research shows that livestock care is shared in many societies, with men looking after the larger animals and women the smaller ones. However, in our study region, women carry out a full range of livestock work, from collecting fodder to milking and dung work, which is culturally gendered. Despite all, their devaluation is manifested in a distorted sex ratio (missing females and declining female-male ratio) and the large male-female gap in literacy and levels of education, health outcome indicators of BMI and anaemia (access to food and nutrition), increasing crime against women and also with restricted choices in decision making frequently manifested in honour killings in case of inter-caste marriages (Rajeshwari, 2014). A patriarchal index based on 11 indicators in four domains-domination of men over women, domination of the older generation over the younger generation, patrilocality, and son preference also reveals Haryana with the highest level of patriarchy among all Indian states (Singh et al., 2021).

However, the region is economically vibrant, with a GDP growth of 7 to 8 per cent per annum during the pre-COVID-19 period (Economic Survey, 2019). In infrastructure, it is comparable with any European nation. One may presume that with economic development and the increasing material base, gender inequality reduces- as economic development is not just about technology and markets, and fundamentally, it is about human relations. Ester Boserup has raised the effect of development on women's subordinate position, emphasising that gender is a basic factor in the division of labour across countries. Economic development has affected men and women differently. The penetration of capital into the subsistence economy hurt women in the way of loosening their rights to land resources. The introduction of modern technology and cash crops benefitted men rather than women by creating a production gap, increasing women's dependent status and workload. (Boserup, 1970). Capital accumulation may weaken traditional patriarchal control over women and introduce new structures. Women's bargaining power may change due to intra-household gender dynamics as there is a link between extra household and intra-household bargaining power, and women may not be passive recipients of forces acting upon their lives but deploy their agency in a variety of ways (Agarwal, 1997, 2008; Datta, 2021). We need to remember that agency also does not exist in a vacuum, and forces of modernity and institutions of democratic polity at times become subservient to the predominant sociocultural values of the traditional institutions (Sinha et al., 2021).

## Gender Roles – All India Scenario

The activity status of Indian women has changed during the past 25 years. Their work participation, both in principal and subsidiary status[2] (similar to main and marginal workers of the Indian Census), has declined (GOI,2019). For low and declining WWPR, several reasons are attributed, such as increased enrolment in education, income effect, social restrictions, maternity penalty, low employment opportunities, low opportunity cost and methodological issues, all of which continue to remain open for scrutiny (Kingdon & Unni, 2001; Kanan & Raveendran, 2009; Antonopoulos & Hirway, 2010; Chowdhury, 2011; Kapsos et al, 2014; Chatterjee et al., 2015; Ghosh, 2016; Fletcher et al., 2017; Deshpande & Kabeer, 2019). The missing link is that many women are engaged in domestic duties (44.22 per cent), which remain 'invisible' due to their categorisation as non-SNA. While it is true that there has been a substantial rise of women attending educational institutions (about 7 per cent points) from 1993-94 to 2017-18, the practical commitment to girls' education does not seem very strong, as TUS of 2019 reveals the same gendered division of labour. Not only this, but the care work has also increased their domestic burden

disproportionately in recent decades due to low opportunity costs (Parliwala, 2019). This is further manifested in the significant increase in the number of women in exclusive domestic duties (by 14 per cent points). This increase suggests the naturalisation of gender norms, which have historical and spatial contexts.

## Gender Roles (Women in Domestic Activities) in Study Region (1993-94 to 2017-18)

Like the picture of India, in Haryana, a large proportion of women (46 per cent) are engaged in domestic duties (Table 1). Boserup's proposition of social relations acquired by a particular mode of production in developing gender identities (Boserup, 1970) has been empirically tested across countries, districts, and ethnicities within districts. The findings suggest that societies characterised by plough agriculture and the resulting gender-based division of labour developed specific gender identities that believed the natural place for women was within the home. These cultural beliefs persisted even if the economy moved out of agriculture, affecting the participation of women in activities performed outside the home, such as market employment (Alesina et al., 2013). In the case of Haryana, it is intriguing to find that unequal gender roles are not only persisting but increasing and are manifested in shrinking workforce participation rates and rising involvement in domestic duties/activities (Table 1). The masculinisation of spaces in rural Haryana, which overwhelmingly strengthens the patriarchy, is the best explanation (see Chowdhry, 2019). Another reason may be related to state policies in the wake of economic liberalisation, which squeezed various types of government expenditure. A typical example is cutbacks in per capita health expenditure, and the increase in user charges for such services typically reduced the utilisation of such facilities by the poor and elderly (Rajeshwari & Himanshi, 2021), which increased the burden of caring for the sick and consequently women in 'domestic activities.'

**Table 1**

WWPR and Women in Domestic Activities in Haryana (1993-94 to 2017-18)

| | Rural | | | Urban | | | Total (R+U) | |
|---|---|---|---|---|---|---|---|---|
| | Per cent | | | | | | | |
| Years | Women workers | Exclusive domestic duties (i) | Domestic & allied duties (ii) | Women workers | Exclusive domestic duties (i) | Domestic & allied duties (ii) | Women workers | Domestic activities (i+ii) |
| 1993–94 | 27.4 | 4.85 | 24.13 | 15.3 | 16.80 | 23.70 | 24.1 | 31.87 |
| 2004–05 | 31.7 | 10.04 | 15.22 | 26.9 | 26.85 | 16.43 | 26.9 | 29.93 |
| 2011–12 | 16.2 | 16.84 | 28.64 | 13.9 | 34.63 | 15.61 | 14.1 | 46.97 |
| 2017–18 | 9.60 | 27.12 | 17.81 | 9.50 | 40.11 | 8.04 | 9.50 | 46.03 |

Source: Calculated from unit-level data of NSSO (1993-94, 2004-05, 2011-12, & 2017-18), MOSPI, New Delhi.

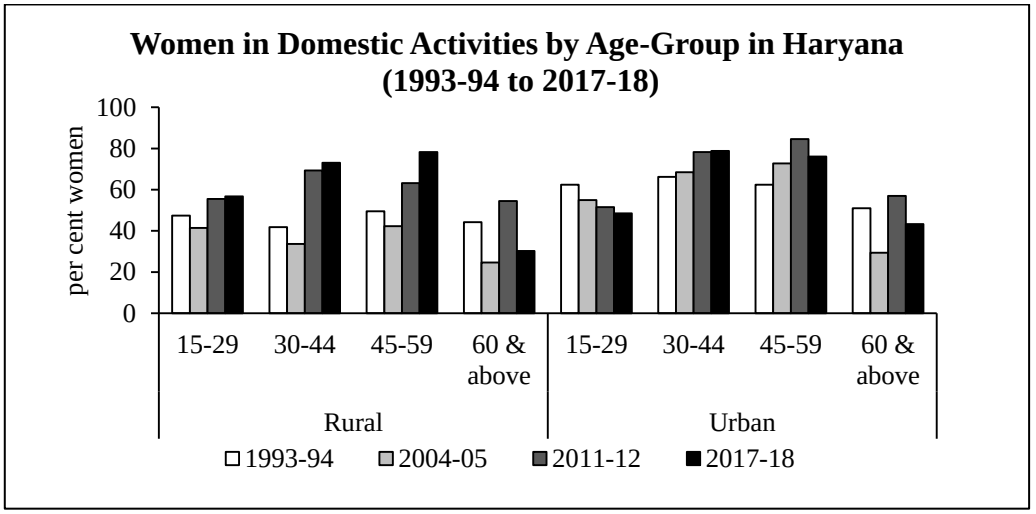
## Socio-economic contexts and women in domestic activities - insights from household data

Feminist theory also reminds us that women are not a monolithic category**;** rather, gender identities are constructed by intersection of age, caste, class and many other attributes. Hence, in this section, socio-spatial and economic contexts of women who devote most of their time to domestic activities (exclusive domestic duties and domestic and allied duties) have been discussed with household data from four time periods (1993-94, 2004-05, 2011-12 and 2017-18). Spatial context relates to rural-urban differentials, while social contexts refer to age group, caste affiliation and educational characteristics of women. The economic class variation is presented through monthly per capita consumer expenditure (MPCE) - a proxy of household income. Though the authors know that intra-household entitlements vary, MPCE variations indicate gender role variation across economic classes.

The first dimension is the age group. Patriarchal norms shape and reshape Women's spatial mobility, resulting in varying opportunities. The superiority of older family members is institutionalised relative to younger ones. Under 'classical patriarchy', married women are subordinate to more senior women, especially mothers-in-law (Kandiyoti, 1988). The low engagement of aged women (60) in domestic duties in rural and urban Haryana testify to this pattern where older women exert authority over younger ones. Hence, the younger ones are majorly involved in domestic activities (Fig. 1). The continuous increase of women in household activities, particularly from 2011-12 to 2017-18, suggests that the region's social environment and cultural practices for gender roles have not changed. Rather, the burden of domestic activities has almost doubled in the prime working ages in rural areas.

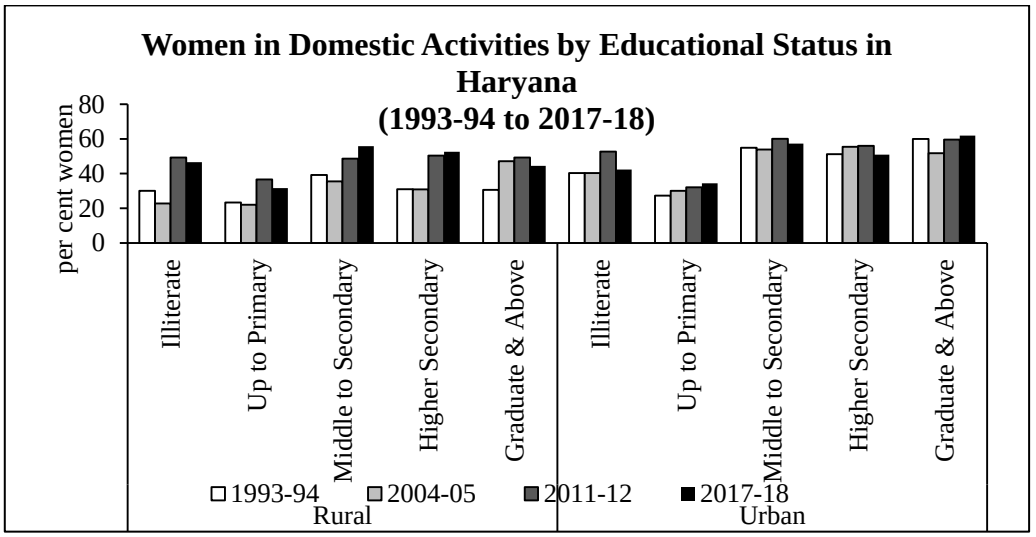
The second dimension is education levels, and the data shows that women's engagement in domestic activities is least among those educated up to primary levels in both rural and urban areas as compared to better-educated women (Fig. 2). Boserups' work expressed considerable hope that education and training of women would enable them to prosper by attaining more equitable participation in development (quoted from (Kelly, 1981, p. 270). Unfortunately, three decades of experience failed to validate this optimism in the case of Haryana largely due to three links: (i) the fact that gender division of labour tends to reduce the perceived benefit of women's education. (ii) patrilocal exogamy and (iii) dowry and hypergamous marriage undermine the economic value of girls' education.

**Figure 1**




Source: Calculated from unit-level data of NSSO (1993-94, 2004-05, 2011-12, & 2017-18) MOSPI, New Delhi

**Figure 2**




Source: Calculated from unit-level data of NSSO (1993-94, 2004-05, 2011-12, & 2017-18), MOSPI, New Delhi

The social identity is strongly influenced by sociological explanations of women's labour market behaviour (Chakravarti,1993; Agarwal, 1997; Deshpande, 2007). The survival of caste continues to structure production, property and labour, especially in rural India. Women from upper castes in India lived in domestic isolation, while lower-caste women typically engaged in livelihood and income-generating activities. Since social groups correspond significantly with income/wealth groups, it has been reported that in India, women from

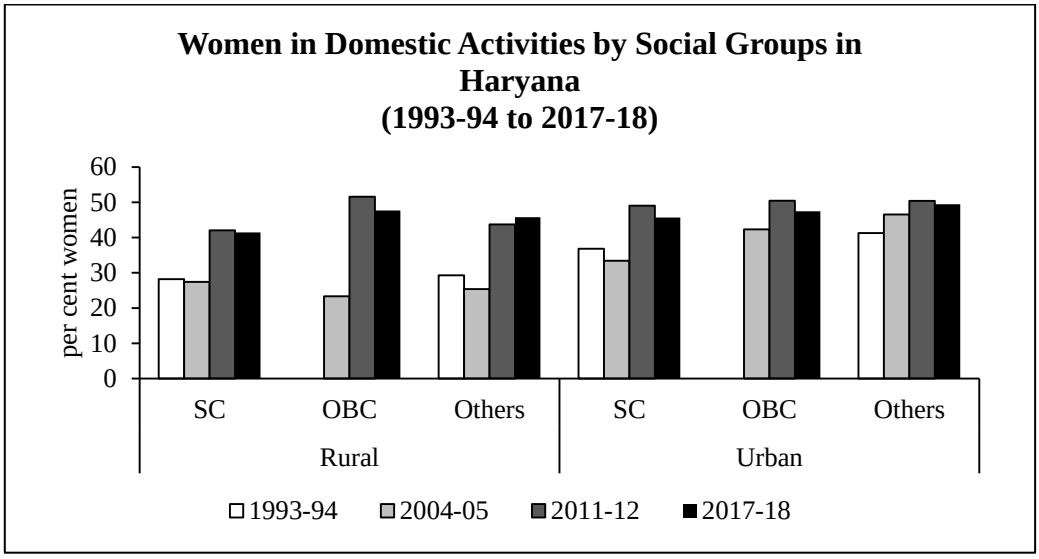
the lowest-ranked social group, particularly Scheduled Tribes (STs) and Scheduled Castes (SCs), have the highest work participation rates among all social groups (Desai, 2017; Deshpande & Kabeer, 2019). The observations made by Boserup in the 1970s about caste still exist in the patriarchal heartland of India. However, in the case of the study region, since the dominant culture of the region is 'peasant culture' distinctly different from 'Brahmanical culture' but with an overarching patriarchal set-up, one does not find many variations across social groups (Fig. 3). This is a pointer to the fact the social norms and practices which tie the honour and status of household with their ability to keep female family members within the home, leading to strict controls over women's mobility in the public domain is applied to all women cutting across social groups in both rural and urban areas in Haryana. The engagement has increased in three decades, but this is similar for women of all social groups.

The fourth dimension is wealth and gender roles. Poverty is a major factor behind women's economic activity, and women from poor households report the highest WWPR. Studies have revealed that in north India, as household per capita income rises, an 'income' effect comes into play, resulting in the withdrawal of women from the labour force (Kapsos et al., 2014; Srivastava & Srivastava, 2010). In the case of the present study, a low proportion of women in household activities among the lowest fractile (20 per cent MPCE group) reflects class inequality as high-income class women can hire poor women to do the household jobs. This pattern exists in both rural and urban areas, which indicates that domestic arrangements are the outcome of both micro-level family circumstances and larger cultural practices (Fig. 4).

## Domestic activities - compulsion or an option

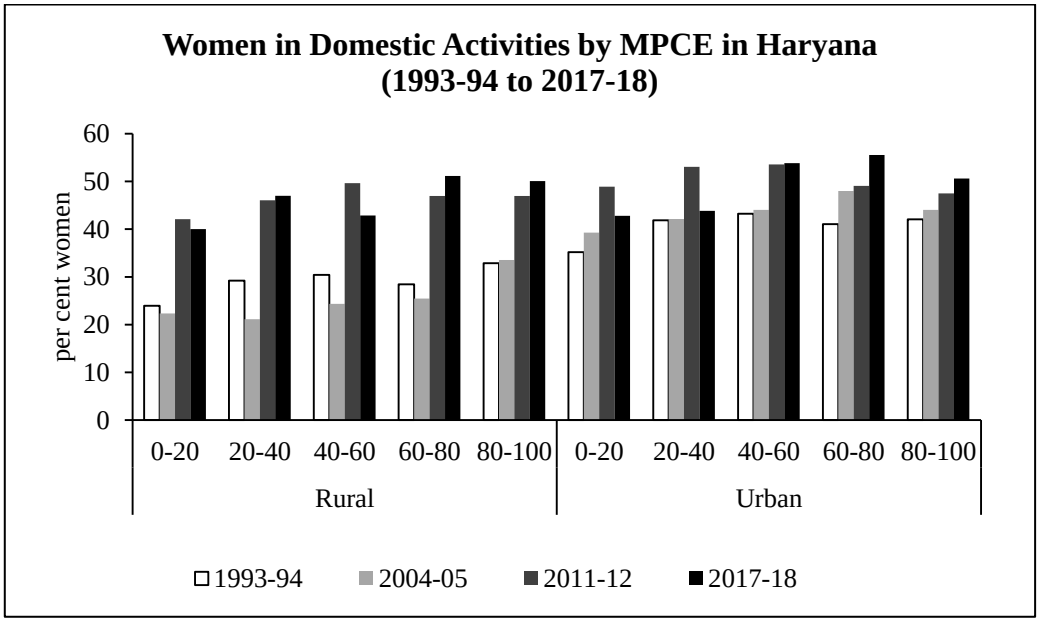
The reasons for women's engagement in domestic activities provide crucial insights into patriarchal power dynamics and intra-household gender relations. Domestic activities are not optional for women in Haryana but rather a gender role performance (Table 2). It is bewildering to find that gender roles have not changed much even after two decades, as 49.6 per cent of women during 2011-12 (47 per cent rural and 54 per cent urban) had no one to share 'their' traditional workload. Further, in 2011-12, another 18 per cent of rural and 20 per cent of urban women could not hire the services of others for ‘their’ work due to financial constraints, while this proportion was only 2 per cent during 1993-94. It implies that even with rising per capita income in the region, women have less control over resources and decision-making and are on a fast track to pauperisation. The social compliance showed remarkable fluctuations in urban Haryana, which indicates fluctuating women's bargains in the context of nature and specificities of social norms.

**Figure 3**




Source: Calculated from unit-level data of NSSO (1993-94, 2004-05, 2011-12, & 2017-18), MOSPI, New Delhi.

**Figure 4**




Source: Calculated from unit-level data of NSSO (1993-94, 2004-05, 2011-12, & 2017-18), MOSPI, New Delhi

**Table 2**

*Reasons for Spending Most of the Time on Domestic Duties by Women in Haryana (1993-94 to 2011-12)*

| Years | Rural | | | |
|---|---|---|---|---|
| | No other member to carry out the domestic duty | Cannot afford hired help | For social and religious constraints | Others |
| 1993-94 | 50.20 | 1.76 | 24.55 | 23.49 |
| 2004-05 | 39.14 | 5.40 | 41.26 | 14.20 |
| 2011-12 | 47.60 | 18.17 | 19.27 | 14.96 |
| | Urban | | | |
| 1993-94 | 62.79 | 1.29 | 20.61 | 15.31 |
| 2004-05 | 36.05 | 3.47 | 49.86 | 10.61 |
| 2011-12 | 54.25 | 20.70 | 11.67 | 13.38 |
| | Total | | | |
| 1993-94 | 53.37 | 1.64 | 23.56 | 21.43 |
| 2004-05 | 38.25 | 4.85 | 43.74 | 13.16 |
| 2011-12 | 49.47 | 18.88 | 17.14 | 14.51 |

Source: Calculated from unit-level data of NSSO (1993-94, 2004-05 & 2011-12), MOSPI, New Delhi.

## Conclusion

The study indicates that gender roles do not change automatically with the region's economic development. Despite being in high public gaze in Haryana (working with males in fields and doing all livestock work), women remain statistically invisible in economic space. Despite economic and material gains, the region's patriarchal set-up has mostly stayed the same for women. The nature of the patriarchal structure has adjusted itself where it frees women for education but, at the same time, does not give any respite to the gendered division of labour. The masculinisation of space in rural Haryana (Chowdhry, 2019) gender socialisation, which condones gender hierarchies and devalues women and their work, is a significant reason for continuing unequal gender roles. The outcome of the structuring of gendered personalities and gender socialisation has been that women internalise the work performed in the domain of the household as their 'moral duty'. The low engagement of the bottom 20 per cent income group women in domestic activities also reflects class inequality wherein top-income group women can hire poor women for such work. It suggests and supports the earlier findings that gender roles are the outcome of both micro-level family circumstances and macro-level cultural and structural forces. The increasing engagement of women in domestic activities validates the argument that capitalist rationalism and sociocultural norms reinforce each other. The classification of reasons clearly shows

women's low intra-household bargaining power and the persistence of traditional gender relations. The everyday patriarchies are complex, gendered social norms crisscrossed, and no relaxation is offered to better-educated women. Since both domestic and working environments shape gender relations and employment, the state should develop a crucial element in determining social hierarchies and equal opportunity policies to correct this entrenched gender inequality. Though the law is also not gender neutral, the authors agree with Walby (1999) that state employment policies may hugely impact women's lives in the struggle for equal gender roles.

**Acknowledgement**

The authors acknowledge Prof. Janet Momsen and Prof. Anindita Datta for their comments on the paper.

**Disclosure Statement**

No potential conflict of interest was reported by the author(s).

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## Endnotes

[1] United Nations Statistical Division classified all human activities into (i) economic production, (ii) general production and (iii) non-economic production boundary. Economic production is market production known as SNA activities, while non-market or general production activities are called **'extended SNA'**. Non-economic production activities are non-SNA, also known as 'personal development' activities. In 2012, exclusive Domestic activities and domestic and allied activities were classified as extended SNA activities. In **TUS, 2020**, all domestic duties and domestic and allied duties are classified as non-SNA activities instead of extended SNA, meaning thereby that both (exclusive domestic and domestic and allied) are not assigned any economic significance; rather are uneconomic and non-productive, similar to personal development activities.

[2] The principal and subsidiary status of NSSO is similar to that of the main and marginal workers of the Indian Census. Main workers work more than six months a year, while marginal workers work less than six months.

POPULATION GEOGRAPHY
ISSN 0256-5331
UGC-CARE Listed Volume 46(1) June 2024

# Regional Pattern of In-migration in Uttar Pradesh: A Comparative Analysis

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**To cite this article:** Ojha, A., Alam, S., & Prakash, S. (2024). Regional pattern of in-migration in Uttar Pradesh: A comparative analysis. *Population Geography*, *46*(1), 73–89.

## Abstract

A plethora of literature exists on different aspects of migration, such as patterns, trends, causes and consequences at various geographical scales. In Uttar Pradesh, research studies on migration are conducted at both the state and district levels. However, the state varies in terms of physical and human characteristics, which makes the phenomenon of migration strongly influenced by the specificity of regions, including their economic performances. Given this, the present paper deals with the region-wise migration within the state. This paper uses a specific methodology to explore the linkage between regional male migration patterns and regional Gross District Domestic Product (GDDP). It also compares different regions of the state based on male and female migration. The paper indicates a fairly strong correlation between male migration and GDDP. However, no such correlation can be seen in the case of females. The study also shows a higher proportion of male migration in the western region of the state and female migration in the Eastern region.

***Keywords:*** in-migration, out-migration, regional, male migration, female migration, gross district domestic product

## Introduction

Numerous studies have been conducted on migration and the patterns within India using the decennial population census data (Lusome, 2006; Bhagat, 2008; Viswanathan, 2015; Bhagat, 2020; Singh, 2022; Tripathy, 2022). There has been some state-specific research as well, focusing on Uttar Pradesh. The study of migration in Uttar Pradesh is focused more on out-migration (Ahmad, 2014; Narayan, 2016; Sarkar, 2020), and a few have delved into the dynamics of inter-

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Article:
Received: 20.09.23 Reviewed: 26.11.23 Accepted:13.03.24

district movement within the state (Singh, 2021). Singh (2021) believes that the state's in-migrating districts were relatively more economically developed than those experiencing out-migration. Furthermore, economic development has been fairly rapid lately within the in-migrating districts.

With a population of 199 million citizens, as recorded in the 2011 census, Uttar Pradesh is the most populous state in India. The state makes up roughly one-sixth of the country's total population. Moreover, with 828 people per square kilometre, it is amongst the most densely populated states in the country. The state has a long history of out-migration of people in search of employment opportunities, educational pursuits, and marriage (Singh et al., 2021, p.121).

Within India's migration literature, migration from Uttar Pradesh is a widely recognised and well-documented phenomenon (Ahmad, 2014; Narayan, 2016; Sarkar, 2020; Singh, 2021). Like migration patterns observed in other states of India, inter-district migration, primarily for marriage purposes and in response to the inter-district variations in economic opportunities in Uttar Pradesh, is well understood. Migration for marriage purposes is dominated by short-distance movement (i.e., among the nearest-neighbouring districts. On the other hand, people move from rural to urban areas and from underdeveloped to developed districts within the state, driven by economic motives.

In this paper, an attempt has been made to analyse the pattern of in-migration and out-migration to/from Uttar Pradesh. The analysis is based on district-level data but has been done at the regional level. Based on the state's heterogeneity in physical, socio-economic and infrastructural resources, Uttar Pradesh is divided into four distinct regions: Bundelkhand region, Eastern region, Western region and Central region. The paper analyses the pattern and trends of intra-state migration into these regions, using the census data of both 2001 and 2011.

**Data and Methodology**

This study is wholly based on secondary data. The census data from two decades, i.e., 2001 and 2011 and district-wise Gross District Domestic Product (GDDP) data of Uttar Pradesh of 2010-11, have been used to investigate if there exists any relationship between GDDP and male in-migration to the district. The rationale for considering male in-migration is that it is mostly driven by economic reasons (i.e., work migration). Though a correlation analysis was run on the female in-migration, no specific discernible trend emerged from this analysis. On the other hand, the total in-migration, when correlated with the Gross District Domestic Product (GDDP), exhibits a cyclic pattern. This paper has also attempted to map regional differences in inward migration by the males and females using census data, as this could give a better insight into the migration

trends. SPSS and EXCEL were used to analyse the data.

**Uttar Pradesh to/from Major Destinations**

Uttar Pradesh is the most populous state in India, located in the north-central part of the country. Geographically, the state is bounded by nine states, namely: Rajasthan to the west, Bihar to the east, Madhya Pradesh to the south, Uttarakhand to the north, Haryana, Himachal Pradesh, Delhi to the northwest, Jharkhand and Chhattisgarh in the southeast and also shares an international border with Nepal in the north. However, the in-migration data to the state of Uttar Pradesh indicates that the highest levels of migration come from Bihar, Madhya Pradesh, the National Capital Territory (NCT) of Delhi and Uttarakhand. The major in-migrants from Bihar and Madhya Pradesh are females, and the primary reason for this migration is marriage. On the other hand, male migration from these states is predominantly driven by employment opportunities. In the case of in-migration from the National Capital Territory (NCT) of Delhi and Uttarakhand to Uttar Pradesh, male migration is often associated with household movements, possibly related to family reasons or changes in residence.

On the other hand, females migrating from these regions to Uttar Pradesh typically do so for marriage purposes. These observations highlight the gender-specific and purpose-driven nature of migration within these regions. The migration data from the Census 2001 and 2011, as given in Table 1, indicates that the major states where people migrated to Uttar Pradesh remained the same in both census years. However, there has been an increase in the number of migrants from these states over the decade. Furthermore, in 2011, West Bengal replaced Haryana in terms of its position among the major source states for migration to Uttar Pradesh.

The major out-migration destinations from Uttar Pradesh are the National Capital Territory (NCT) of Delhi, Maharashtra, Haryana, Madhya Pradesh, Gujarat and Uttarakhand. The purpose of migration to the NCT of Delhi for females is movement with household, while males migrate for work. However, there is also a significant number of females migrating for work. Maharashtra receives a substantial influx of migrants from Uttar Pradesh, with Haryana and Gujarat also attracting a noteworthy number of people. In the case of long-distance out-migration, males usually out-migrate for work, while females tend to migrate with their households. Madhya Pradesh also turned out to be one of the desirable destinations for migration, with males migrating for work and females for marriage.

As per Table 2, the major migration destinations remain the same in both census years, though there are few changes in their relative positions. The ranking of Haryana

and Gujarat has improved over the decade, whereas Madhya Pradesh, Uttarakhand, and Punjab have experienced a significant decline in their ranking.

**Table 1**

*Major States from where People Migrated to Uttar Pradesh as per Census 2001 and 2011*

| 2001 | | | | 2011 | | | |
|---|---|---|---|---|---|---|---|
| Place of last residence | Total Migrants | Male Migrants | Female Migrants | Place of last residence | Total Migrants | Male Migrants | Female Migrants |
| Bihar | 621010 | 197410 | 423600 | Bihar | 1072739 | 293268 | 779471 |
| Madhya Pradesh | 463175 | 61100 | 402075 | Madhya Pradesh | 668537 | 81678 | 586859 |
| Delhi | 301690 | 110188 | 191502 | NCT of Delhi | 566210 | 228629 | 337581 |
| Uttaranchal[1] | 271989 | 80252 | 191737 | Uttarakhand | 393540 | 97329 | 296211 |
| Rajasthan | 192369 | 33406 | 158963 | Rajasthan | 284056 | 50896 | 233160 |
| Haryana | 165918 | 32748 | 133170 | West Bengal | 234042 | 55777 | 178265 |
| West Bengal | 144411 | 42312 | 102099 | Haryana | 230740 | 46188 | 184552 |

Source: Census 2001 and 2011

**Table 2**

*Major States Where People From Uttar Pradesh Migrated to as per Census 2001 and 2011*

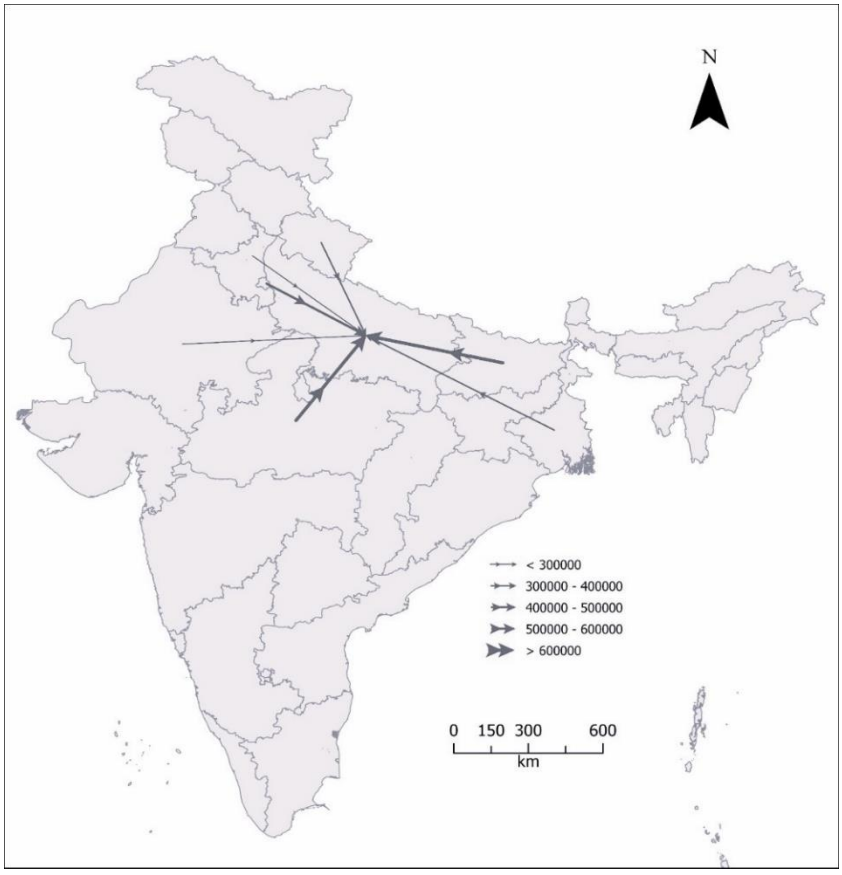
| 2011 | | | | 2001 | | | |
|---|---|---|---|---|---|---|---|
| Places Migrated to | Total Migrants | Male Migrants | Female Migrants | Places migrated to | Total Migrants | Male Migrants | Female Migrants |
| NCT Delhi | 2854297 | 1516023 | 1338274 | NCT Delhi | 2296367 | 1298961 | 997406 |
| Maharashtra | 2754706 | 1759250 | 995456 | Maharashtra | 2072193 | 1425826 | 646367 |
| Haryana | 1113535 | 486470 | 627065 | Madhya Pradesh | 849232 | 260376 | 588856 |
| Madhya Pradesh | 1090881 | 314143 | 776738 | Haryana | 811374 | 379450 | 431924 |
| Gujarat | 929411 | 600482 | 328929 | Uttarakhand | 582405 | 251112 | 331293 |
| Uttarakhand | 890663 | 369386 | 521277 | Punjab | 460858 | 283548 | 177310 |
| Punjab | 649557 | 357976 | 291581 | Gujarat | 447325 | 300499 | 146826 |

Source: Census 2001 and 2011

[1] Uttarakhand and Uttaranchal are the names of the same state. From January 2007, Uttaranchal was referred to as Uttarakhand.

**Figure 1**

*Major Source States of In-Migration to Uttar Pradesh*




Source: Compiled by Author

**Gross District Domestic Product and Migration**

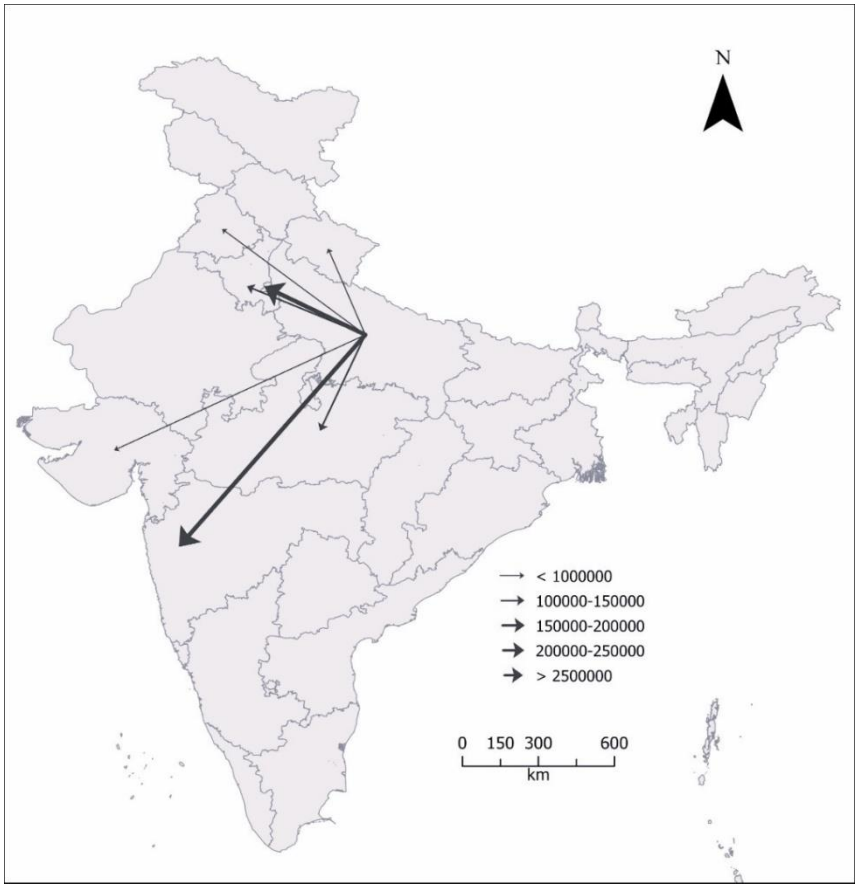
The Gross district domestic product (GDDP) data of Uttar Pradesh (2011-12) and census migration data of 2011 were used to calculate the correlation between GDDP and the migration volume in the state.

The data shows that the western region of Uttar Pradesh has a larger share of the Gross District Domestic Product (GDP). This region is home to major industrial cities, including Noida, Ghaziabad, Aligarh, and Agra, which have played pivotal roles in driving the state's economic activity and industrial growth. Furthermore, this economic dynamism has attracted labour migration to the western region, particularly Ghaziabad and Gautam Buddha Nagar, which have accommodated the highest number of in-migrants in Western Uttar Pradesh. This migration has contributed to the higher GDDP and overall development of the western part of Uttar Pradesh. One key factor behind this migration is the proximity of these districts to Delhi, which offers

employment opportunities and access to the national capital's amenities despite the relatively lower living costs in these Uttar Pradesh districts. This unique combination allows migrants to maintain a connection to Delhi while enjoying a more affordable standard of living in Ghaziabad and Gautam Buddha Nagar.

**Figure 2**

*Major Destination for Out-Migration from Uttar Pradesh*




Source: Compiled by Author

**Gross District Domestic Product VS Total Male Migration**

A correlation test was done to determine if there exists any relationship between in-migration and Gross District Domestic Product (GDDP). The initial test, encompassing total in-migration, yielded insignificant results. However, when the test was specifically applied to male in-migration data and GDDP data, the following outcomes were observed:

**Table 3**

*Correlation between GDDP and Male In-Migration Data of Bundelkhand, Eastern, Western and Central Regions of Uttar Pradesh*

| Correlations | | | |
|---|---|---|---|
| | | Bundelkhand U.P. Male Migration | Bundelkhand U.P. Gross District Domestic Product |
| Bundelkhand U.P. Male Migration | Pearson Correlation | 1 | .973** |
| | Sig. (2-tailed) | | 0 |
| | N | 7 | 7 |
| Bundelkhand U.P. Gross District Domestic Product | Pearson Correlation | .973** | 1 |
| | Sig. (2-tailed) | 0 | |
| | N | 7 | 7 |
| | | Eastern U.P. Male Migration | Eastern U.P. Gross District Domestic Product |
| Eastern U.P. Male Migration | Pearson Correlation | 1 | .922** |
| | Sig. (2-tailed) | | 0 |
| | N | 28 | 28 |
| Eastern U.P. Gross District Domestic Product | Pearson Correlation | .922** | 1 |
| | Sig. (2-tailed) | 0 | |
| | | Western U.P. Male Migration | Western U.P. Gross District Domestic Product |
| Western U.P. Male Migration | Pearson Correlation | 1 | .521* |
| | Sig. (2-tailed) | | 0.011 |
| | N | 23 | 23 |
| Western U.P. Gross District Domestic Product | Pearson Correlation | .521* | 1 |
| | Sig. (2-tailed) | 0.011 | |
| | N | 23 | 23 |
| | | Central U.P. Male Migration | Central U.P. Gross District Domestic Product |
| Central U.P. Male Migration | Pearson Correlation | 1 | .965** |
| | Sig. (2-tailed) | | 0 |
| | N | 13 | 13 |
| Central U.P. Gross District Domestic Product | Pearson Correlation | .965** | 1 |
| | Sig. (2-tailed) | 0 | |
| | N | 13 | 13 |

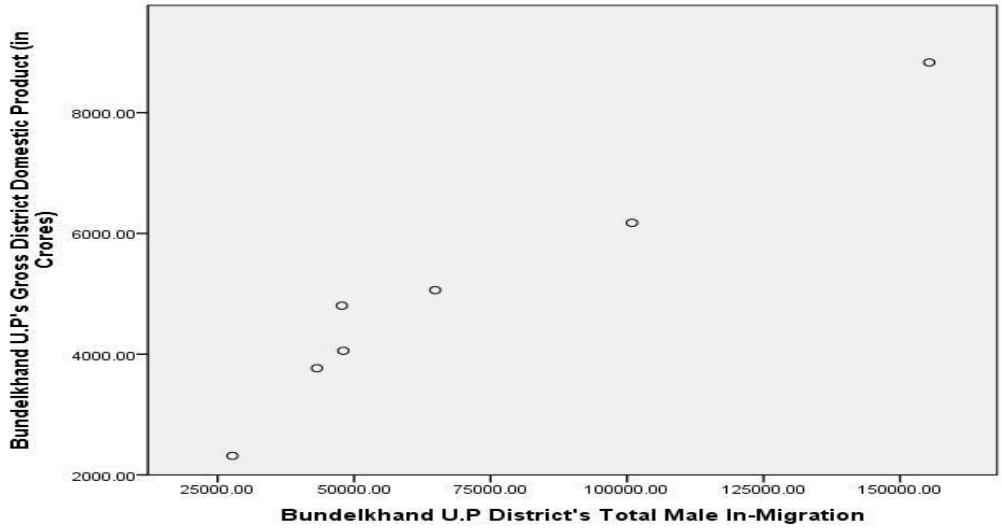
**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Census 2011 and Directorate of Economics & Statistics: Government of Uttar Pradesh

**Figure 3**

*Scatter Plot of Total Male Migration vs GDDP (in crores) of the Bundelkhand region of U.P.*




Source: Census 2011 and Directorate of Economics & Statistics: Government of Uttar Pradesh

As per Table-3 and Figure-3, it is visible that the correlation between GDDP and total male migration is 0.973, which is positive and close to 1. This signifies a strong positive relationship between the two variables, implying that they move in the same direction. In other words, when male migration increases, there is a corresponding increase in GDDP, or vice-versa, highlighting a significant connection between these two factors. Table 3 and Figure 4 show a relationship between the variables, which is

fairly strong and positive.

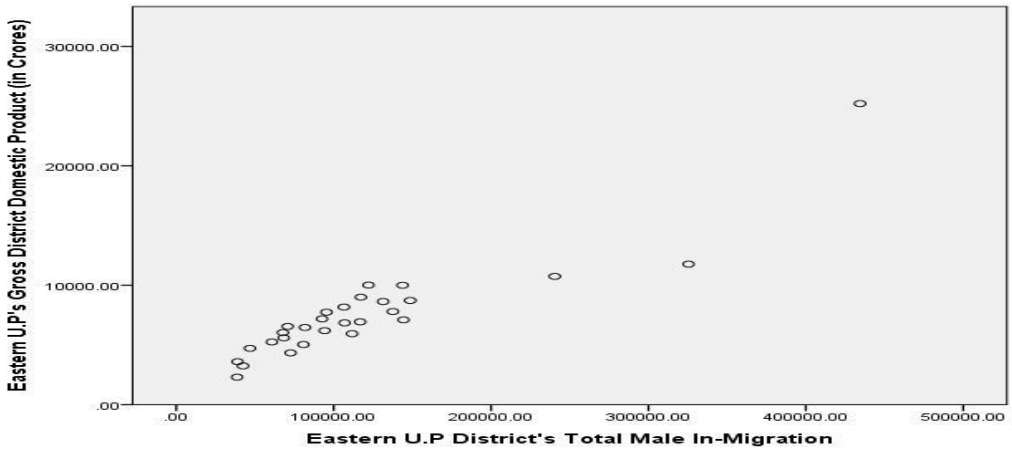
With the increase in the value of one variable, there is also an increase in the value of another variable. This means a relationship exists between the GDDP of the eastern region and the total male migration to the eastern region, though it cannot be predicted what causes what. However, the eastern region shows a positive correlation between the variables. However, the value of the correlation coefficient is lower than the Bundelkhand region of U.P, which means there is a lesser change in one variable due to a change in another variable in the eastern region than that of the Bundelkhand region.

Though the gross district domestic product is high in the western region of Uttar Pradesh, male in-migration is also highest due to more industrialised cities here. However, the correlation between the total male in-migration and GDDP is lowest (i.e., 0.521) as per Table 3 and Figure 5. This means that the two variables are moderately correlated. An increase or decrease in variables will not lead to a very high increase or decrease in another variable. Thus, in

the western region, it is not certain that an increase or decrease in total male migration will lead to an equal increase or decrease in gross district domestic product and vice-versa.

**Figure 4**

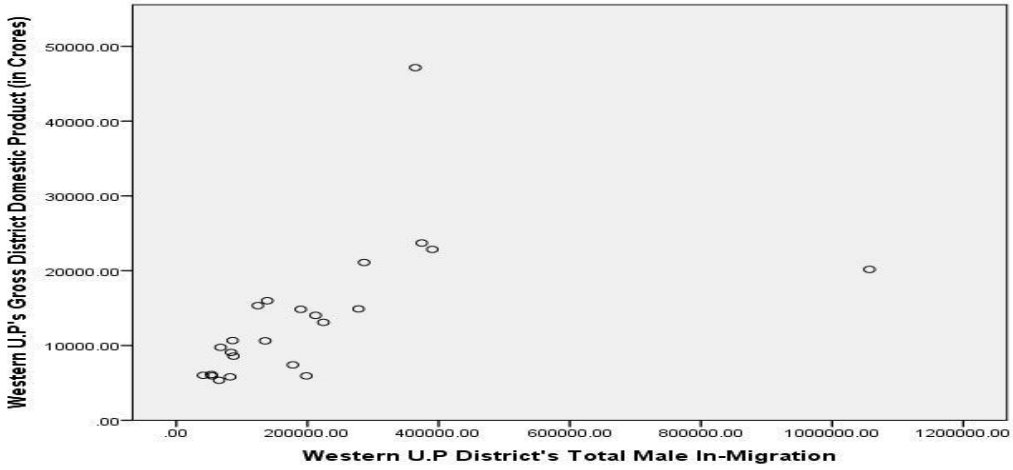
*Scatter Plot of Total Male Migration vs GDDP (in crores) of the Eastern Region of U.P.*




Source: Census 2011 and Directorate of Economics & Statistics: Government of Uttar Pradesh.

**Figure 5**

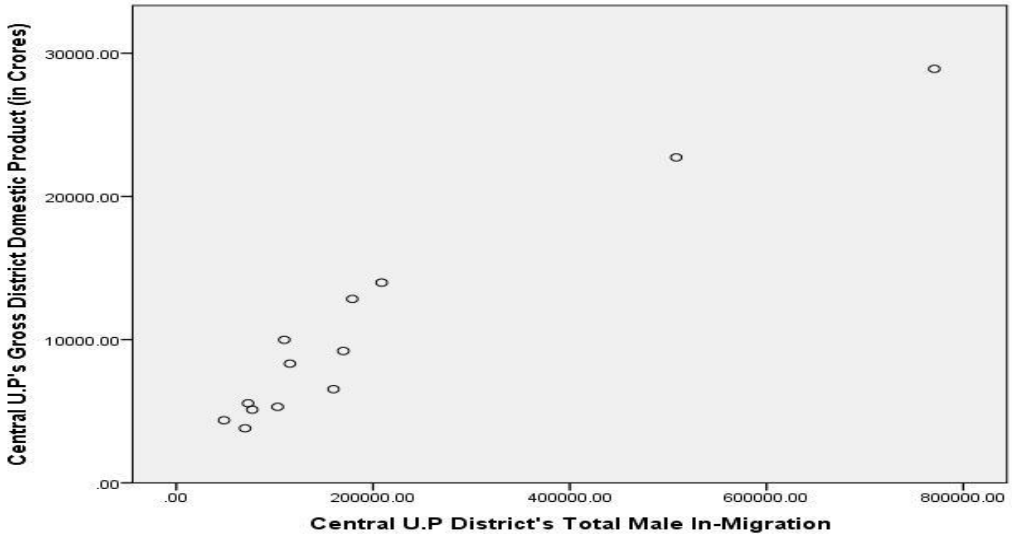
*Scatter Plot of Total Male Migration vs GDDP (in crores) of the Western Region of U.P.*




Source: Census 2011 and Directorate of Economics & Statistics: Government of Uttar Pradesh

**Figure 6**

*Scatter Plot of Total Male Migration vs GDDP (in crores) of the Central Region of U.P.*




Source: Census 2011 and Directorate of Economics & Statistics: Government of Uttar Pradesh

Table 3 and Figure 6 show a high and positive correlation between the two variables, i.e., the gross district domestic product and total male migration. This means the two variables have a strong association and are linearly related. The central region of Uttar Pradesh has a high correlation between total male migration and GDDP.

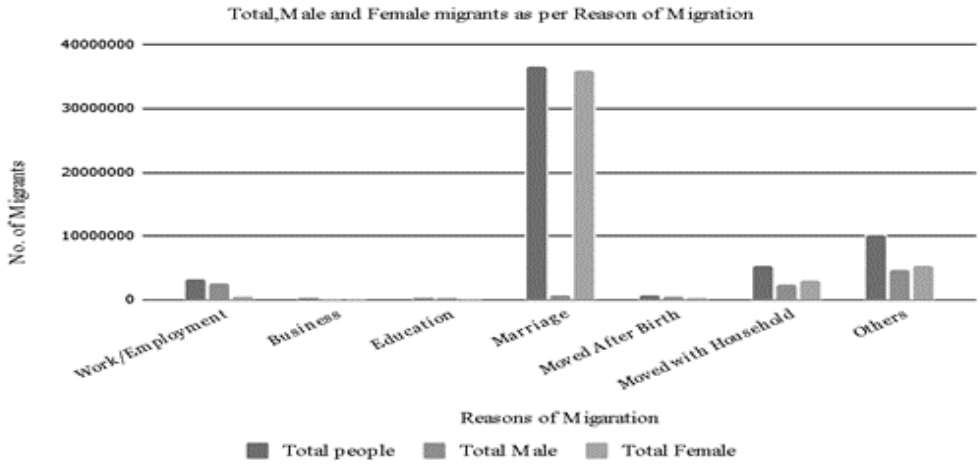
## Male, Female and Total Migration

In Figure 7, based on the Census data 2011, we can see that the maximum migration occurs due to marriage, followed by other reasons—moving within households and searching for employment. For other reasons, male migration to Uttar Pradesh permanently shifts with households and employment. On the other hand, female migration is largely for marriage purposes.

The region-wise data of male and female migration, presented in Figure 8, reveals an interesting pattern. In the western U.P., there are more male migrants, while in the eastern U.P., female migration is dominant. Bundelkhand is the least attractive region for male and female migrants due to its economic backwardness. The central region of the state is moderately attractive.

**Figure 7**

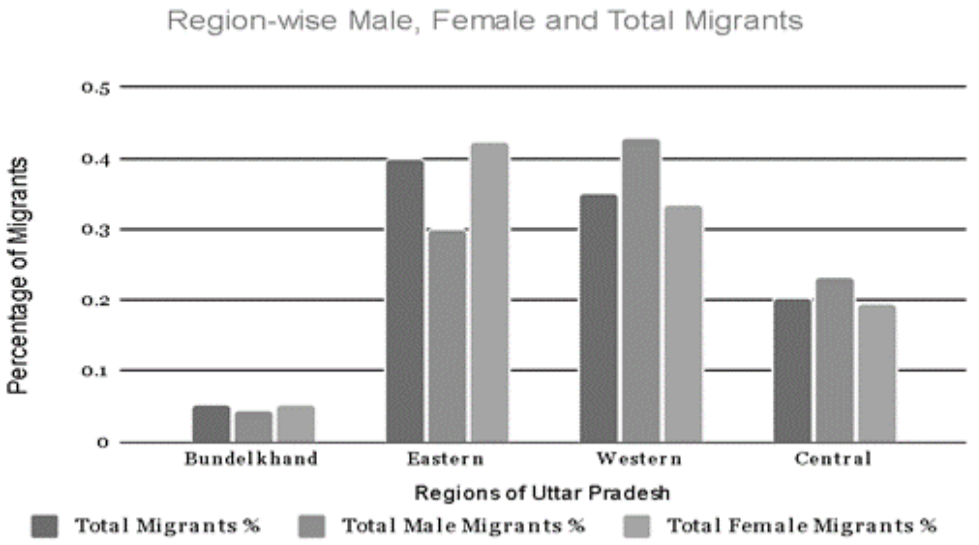
*Frequency of Total Male and Female Migrants Based on Reasons for Migration*




Source: Compiled by Author

**Figure 8**

*Region-Wise Comparative Data of the Total Person, Male and Female Migrants*




Source: Compiled by Author

**Comparison of District/Zone-Wise Migration Data based on Census Data 2001 and 2011**

The overall percentage of in-migration to Bundelkhand was 5.40% in 2001 and decreased to 5.05% in 2011. During both censuses, Jhansi received the most migrants among all the districts of the Bundelkhand region, while Mahoba received the fewest.

Eastern Uttar Pradesh region has gained the most migrants, though the percentage has decreased from 41.45% of the total migrants in 2001 to 39.77% in 2011. Allahabad (Prayagraj) received the most migrants of all the districts in both the male and female categories. However, Kaushambi and Shrawasti are the least migrant-receiving districts.

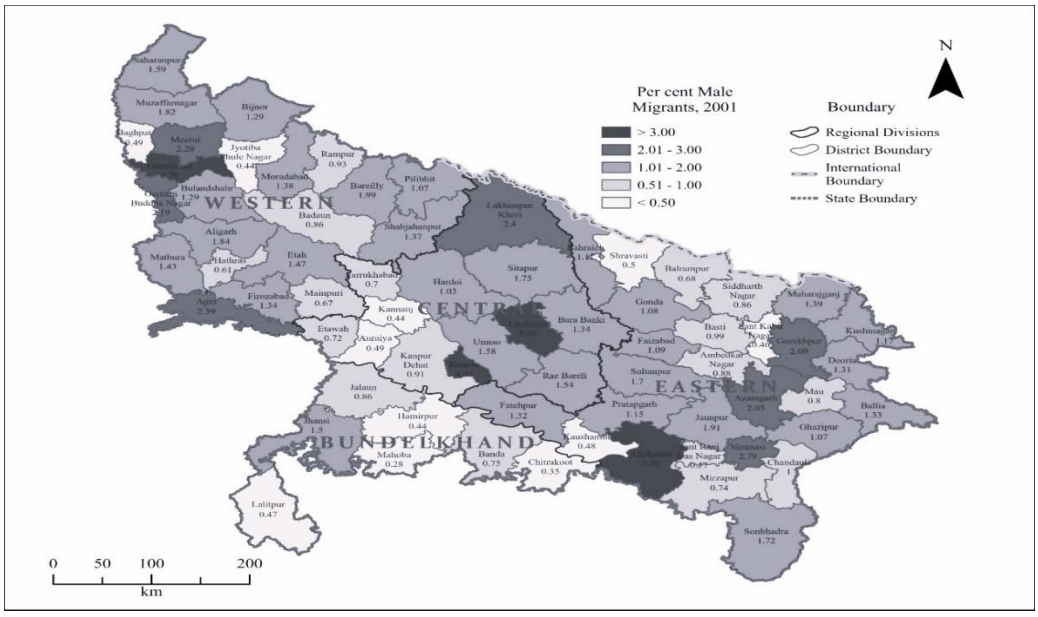
The Western region of Uttar Pradesh, considered the most developed part of the state, attracted 32.66% of total migrants in 2001, rising to 35.54% in 2011. However, in contrast to the eastern U.P., the proportion of male migrants is higher. In 2011, the percentage of male migrants drawn to the western region was larger than any other region. Throughout both decades, Ghaziabad district remained the most appealing destination for migrants. Afterwards, Baghpat and Kanshiram Nagar remained the Western region's least migrant-attracting districts.

During both census years, Central Uttar Pradesh had around 20% of the total migrants. Lucknow emerged as the most migrant-friendly district among the central districts, with the largest number of male migrants overall. Kanpur Nagar also attracted a higher proportion of male migrants. Sitapur, on the other hand, had the highest number of female recipients. Auraiya and Kannauj were the least migrant-receiving districts in Central Uttar Pradesh.

According to Figures 9 (a), 9 (b), 10 (a), and 10 (b) in 2011, the overall number of in-migrants to Bundelkhand, Eastern and Central Uttar Pradesh was lower than in 2001. During the same period, in-migration to Uttar Pradesh's western region grew. Looking at the gender-based pattern of in-migration, we can find that 42.63% of males opted to travel to the state's western area. Conversely, females travelled to the state's eastern area at a rate of 42.18%.

**Figure 9(a)**

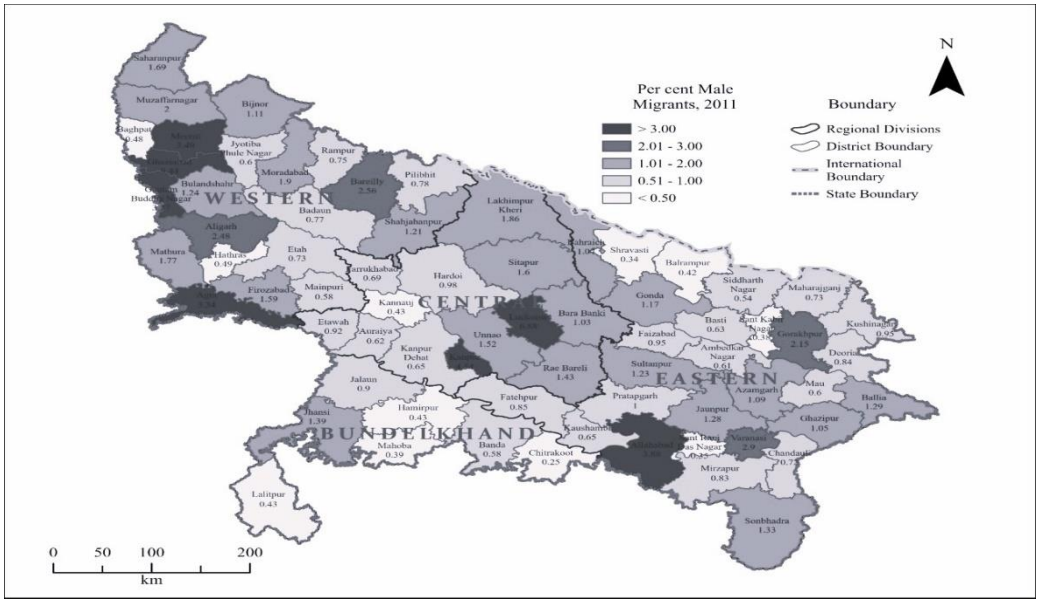
*Uttar Pradesh: Male In-Migration (%), as per Census 2001*




Source: Compiled by Author

**Figure 9(b)**

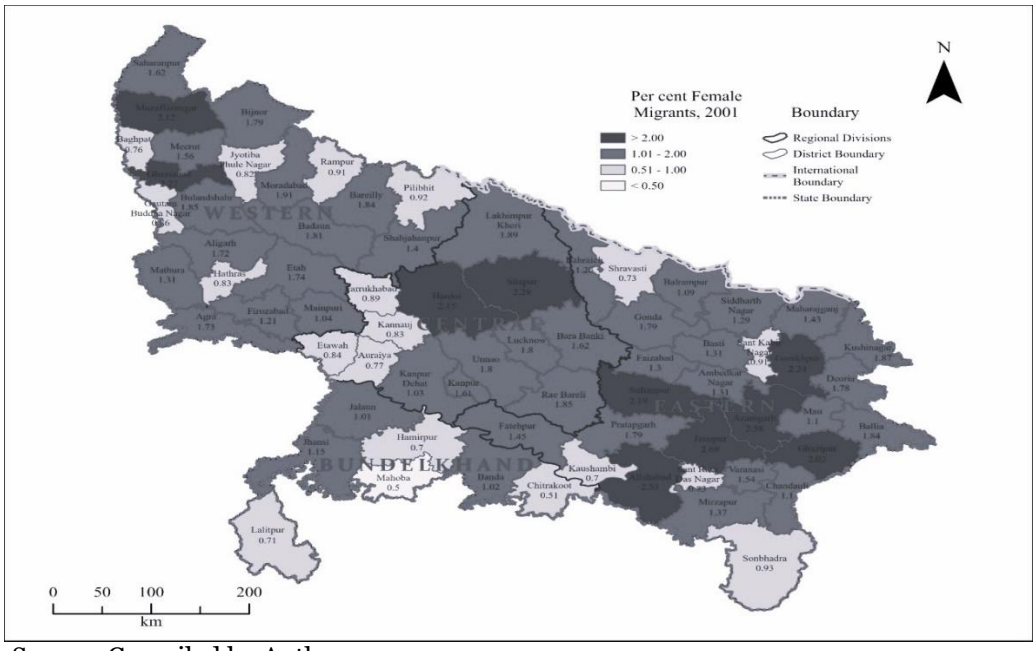
*Uttar Pradesh: Male In-Migration (%), as per Census 2011*




Source: Compiled by Author

**Figure 10(a)**

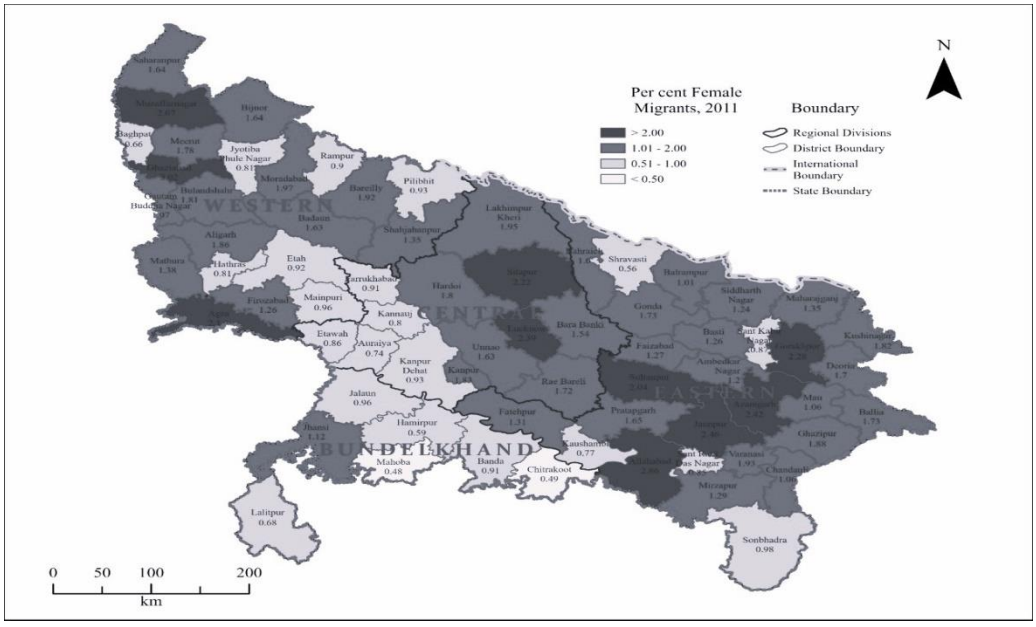
*Uttar Pradesh: Female In-Migration (%), as per Census 2001*




Source: Compiled by Author

**Figure 10(b)**

*Uttar Pradesh: Female In-Migration (%), as per Census 2011*




Source: Compiled by Author

## Conclusion

The current article is based on 2001 and 2011 Census data. The study focused on the in-migration trend in four regions of the state: Bundelkhand, eastern, western, and Central Uttar Pradesh. Out-migration has historically been a feature of the state. However, in-migration to the state is also significant. Considering the regional inward migration, male in-migration was greatest in the western region. This might be due to two factors. Firstly, the western area is more industrialised and agriculturally prosperous. According to the Agricultural Mechanisation Guide for Uttar Pradesh, about seventy per cent of the cultivable land in this region is under cultivation, greater than any other part of the state. Secondly, Ghaziabad and Gautam Buddha Nagar/Noida in Western Uttar Pradesh are geographically adjacent to Delhi. They are also parts of the (National Capital Region) NCR, which provides easy connectivity to Delhi for work and affordable living to the migrants.

On the other hand, female in-migration is higher in the eastern area due to its proximity to Bihar, where females relocate to the state after marriage. There is the highest rate of migration owing to marriage, whether in-migration or out-migration. Furthermore, the relationship between male migration and GDDP is high in all the regions. Let us relate this phenomenon with urbanisation and industrialisation. In that case, it reveals that GDP, Per Capita Income (PCI) and migration are the by-products and causes of urbanisation and industrialisation.

In addition, the study discovers disparities in economic development throughout the districts and regions of the state, which is reflected in district-level in-migration. Comparatively, the districts and regions receiving the highest in-migration are more developed than those with the lowest in-migration, and the rate of economic growth in those developed districts has been particularly rapid in recent years (Tanwar et al., 2016; Kumar et al., 2018; Ahmed, & Rahaman, 2022). For example, Gautam Buddha Nagar (Noida) and Ghaziabad are the two most developed districts in Uttar Pradesh, both of which are located in the state's Western Region (Ahmed & Rahaman, 2022), and Ghaziabad is also the state's most migrant-receiving district. This suggests that differences in social and economic growth across districts and regions within the state may be a cause of concern, as development attracts migrants, and an increase in such types of migration can cause demographic imbalances, as well as problems such as congestion, pollution, and scarcity of resources, within the state's developed districts.

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POPULATION GEOGRAPHY
ISSN 0256-5331
UGC-CARE Listed Volume 46(1) June 2024

# Janani Suraksha Yojana in Kashmir Valley: A Binary Logistic Regression Analysis

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**To cite this article:** Alam, T., Para, I. A., & Manzoor, M. (2024). Janani Suraksha Yojana in Kashmir Valley: A binary logistic regression analysis. *Population Geography*, *46*(1), 91–106.

## Abstract

Janani Suraksha Yojana (JSY) is a maternal care Initiative that stimulates institutional delivery by offering monetary rewards to mothers who give birth to their children under the medical facility. Studying a community's usage patterns and perceptions of a specific health programme is crucial for determining the program's success or failure. The study aimed to analyse the impact of educational status, economic status, level of awareness and age of the respondent on the institutional deliveries in the district Srinagar in J&K. The different estimation techniques, like the Chi-square test, Logistic regression model and Descriptive analysis, were used in the study to attain the objectives. The association between full immunisation, PNC Checkups, government institutional deliveries, financial assistance, and level awareness was checked by Pearson Chi-Square Value, and the results were found to be significant among all the variables. By the findings of the logistic regression model, all socioeconomic variables are statistically significant at a level of 5%. The economic status, level of awareness, and age of respondents positively impact the institutional deliveries except for education status, which is negatively related to the dependent variable. The study suggests that the government should focus on increasing the gross enrollment ratio of women in higher education. Moreover, policymakers should expand the JSY reimbursement to include non-medical costs associated with maternity care, and appropriate measures should be taken to curb non-medical or indirect expenditures in public health facilities.

***Keywords*:** health status, JSY, institutional deliveries; child immunization; PNC checkup; financial assistance; binary logistic regression

## Introduction

The prime goal for India's public health is to strengthen mothers' well-being. Maternity services must be used by mothers to improve maternal health. Notably, for disadvantaged populations, the cost of pregnancy is frequently a financial burden. India introduced a conditional maternity benefit transfer plan in 2005 to encourage women to use facilities. (Saradiya & Aditya, 2018). Programs for conditional cash transfers (CCTs) are becoming more and more common in developing nations (World Bank, 2015). CCT programs

Article:
Received: 13.04.23 Reviewed: 21.01.24 Accepted: 13.03.24

offer monetary transfers to households in exchange for adhering to a set of pre-established conditions intended to enlarge the use of health and educational services to reduce short-term and intergenerational poverty (Diwan et al., 2012). CCTs, which frequently concentrate on the underprivileged, may assist in reducing disparities in service access and health and educational results. Since its introduction in 2005, Janani Suraksha Yojana (JSY), one of the substantial cash transfer Programmes in the world, has attracted considerable attention (Kumar et al., 2015; Diwan et al., 2012). Pregnant women in India are given financial incentives by JSY in order to persuade them to give birth at public hospitals under free medical facilities. When analysing the Program's efficacy, policymakers in India should consider its benefits. However, other countries with poor institutional delivery rates and inadequate reproductive health outcomes should also take note of India's experience.

Article 25 of the 1948 Universal Declaration of Human Rights states, "Prevention and promotion of health is one of the basic human rights." (1). Fortunately, maternal health issues have remained at the forefront of international and national health policies in recent years. The emphasis on achieving "*Good health and well-being*" in *sustainable development goal* 3 emphasised developing good health (Lim et al., 2010; Pal et al., 2012). The main issue with primary health centres is that they focus more on curative healthcare and ignore preventive aspects (Khursheed, H., 2017). India's government emphasises encouraging institutional deliveries to improve maternal survival, which was also emphasised in the MDGs (Desai et al.,2016; Maharjan & Joshi, 2011*)*. In Hindi, Janani means mother, Suraksha means self-keeping, and Yojana means scheme (Diwan et al., 2012). Mother Protection is the basic definition of Janani Suraksha Yojana, established as part of India's National Rural Health Mission (NRHM) on April 12, 2005. This study aimed to assess the impact of JSY on institutional births, maternal illness, and mortality and to highlight any difficulties with the program's implementation (Misra et al.,2014; Mukherjee & Singh, 2018).

The main objectives of JSY were to reduce newborn and death rates by encouraging institutional delivery and giving institutional care special priority for women, especially those from BPL families below the poverty line (Dandona et al., 2010). The objective could be achieved if they receive monetary payments during institutional births and prenatal and postnatal care. (K. Gupta1, et al.,2012; Rahmana & Pallikadavath, 2018). Based on the pre-programme level of institutional performance, the Programme separates states into high-performing (HPS) and low-performing (LPS) groups. The amount of financial aid is determined by how well the state does, regardless of whether it is rural or urban. Since the implementation of the JSY, the worst-performing state has been

Madhya Pradesh in the Janani Suraksha Yojana. The first formal statistical examination of JSY's effects on the whole nation of India was carried out by Lim et al. (2010). Prior analyses had been more descriptive (Grahacharya & Ralte, 2008), geographically constrained (UNFPA - India, 2009; Sharma et al., 2009), or had only taken a small number of outcomes into account (Satapathy, 2009). The JSY initiative had substantial, favourable effects on institutional deliveries, antenatal care, and skilled birth attendance (Lim et al., 2010). Even more convincing, they discovered a modest but statistically significant maternal and neonatal mortality decline in two of their analytic methodologies.

## Health Scenario in Jammu & Kashmir

With 13.6 million people, the Jammu and Kashmir (J & K) UT represents 1% of the nation's population. Despite numerous obstacles like financial resources, poor road connectivity, low pressure of the private sector, and also making it accessible and affordable to all, especially to the under-served and under-privileged segments of the population, the UT government has implemented several programs in the health sector to give its citizens with high-quality healthcare facilities (Jan et al., 2014). This is because it recognises the significance of health for the economy's overall growth. The UT of Jammu and Kashmir comprises 20 districts, viz., ten districts in Kashmir Region and ten districts in Jammu Region. Regarding the public expenditure on health, health expenditure as a percentage of GSDP has increased. The 20 districts that comprise the Jammu and Kashmir Union Territory are divided equally between the Kashmir and Jammu regions, each comprising ten districts. Health expenditure as a percentage of total expenditure has also surged from 5.38% in 2011-12 to 5.95% in 2015-16. The current public health expenditure per cent of GDP is 2.1, the highest compared to our national level of 1.0 in 2019 (RBI, 2019). Infant Mortality Rate (IMR) successfully decreased by 8 points in the UT of Jammu and Kashmir, from 34 in 2015 to 23 in 2020. The total fertility rate (TFR), which was 1.7 in 2015 but was only 1.6 in 2016, has also decreased. The neonatal Mortality Rate (NMR) decreased from 26 in 2014 to 20 in 2015. There are currently 5534 health institutions in the state, 4433 of which are government and 1101 private. The number of beds in tertiary care hospitals has climbed to 5083, and the number in secondary care hospitals has increased to 9339. Compared to the WHO recommendation of 1:000, the UT of J&K has a doctor-patient ratio of 1:1658. As part of the National Health Mission, which is a flagship Programme, maternal health initiatives like Janani Suraksha Yojana (JSY) and Janani Shishu Suraksha Karyakram (JSSK) were put in place with the main goal of reducing infant and mother mortality rates by promoting institutional deliveries. The infant mortality rate

has considerably fallen from 45 in 2005–2006 to 32 in 2015–2016, according to data from the National Family Health Survey (NFHS–4).

## Review of Literature

The Janani Suraksha Yojana (JSY) scheme is a demand-driven initiative by the Indian government to decrease maternal deaths by providing financial incentives to women to give birth in hospitals (Misra et al., 2014; Carvalho & Rokick, 2019). Many studies have been conducted on this topic, and it has been found that under JSY, Cash transfers have positively impacted the deliveries among women (Randive et al., 2013; Misra et al., 2014; Carvalho & Rokicki, 2019; De & Timilsina, 2020). Numerous studies indicate that JSY's impact on institutional delivery rates in India has led to an increase in JSY beneficiaries and institutional delivery rates, which has led to a significant decline in infant mortality rates (Gupta et al., 2012). Many studies have been conducted in the UT of Jammu and Kashmir, such as in the Budgam district by Qurat-ul-Ain (2010). According to the latest data, only 10.6% of new mothers had a prenatal examination, whereas 97% received the checkup at a hospital, 89% of births took place in hospitals, and 10.6% of women gave birth at home. Jan et al. (2014) conducted a primary study in the Ganderbal district of Kashmir Valley, and the results revealed that 90% of respondents have heard about JSY while 48.75% have heard about JSY from ASHA, 93.75% know that only money is given for institutional delivery. Dar and Bhat (2018) conducted a study where they utilised various factors to investigate the reduction of IMR, such as per capita income (PCI), the proportion of institutional deliveries, female literacy rate, the percentage of women attending complete antenatal clinics (ANC), and the proportion of households with access to sanitation. Sabitri conducted research in 2019 regarding maternal healthcare services and socioeconomic differences in India before and after the national rural health mission. Using the Logit Model, the study found that maternal care services varied by the mother's education level, social group, age, and income. In their study, Meh et al. (2022) conducted a cross-sectional survey at the national level to examine trends in the maternal mortality ratio from 1997 to 2020. According to the findings, India's MMR decreased by almost 70% between 1997 and 2020.

## Objectives of the Study

Taking into account the literature review, the study is based on the following goals:

i. To know the socioeconomic background of respondents.
ii. To increase respondents' awareness of the JSY scheme.
iii. To find the association between Child Immunisation, PNC checkups, and Financial Assistance under the JSY Scheme.
iv. To find the impact of socioeconomic determinants

on government institutional deliveries

## Database and Methodology

The study aimed to evaluate how well the Janani Suraksha Yojana promoted institutional delivery and its impact on beneficiaries in the Srinagar district. The study consists of four medical zones and one block: Batmaloo Zone, S.R. Gunj Zone, Khanyar Zone, Zadibal Zone and Hazratbal Block. The research relies on primary data sources. A primary survey collected the data using a well-designed, semi-structured questionnaire based on the study's objectives. Data was collected for the study by using a purposive stratified cum random sampling technique to conduct a field survey. The female beneficiaries whose deliveries occurred during 2019-20 in different government hospitals in the Srinagar district were purposively selected. A total of 90 samples were collected from the field. Keeping the study's objectives, the current research employs various statistical tools and econometrics techniques to analyse the data using SPSS-20 and Excel software.

## Descriptive Statistics

Table 1 presents the age-wise breakdown of the sampled respondents. The sample respondents were categorised into five age groups, and the frequencies and percentages were calculated from the collected data.

The table reveals that 50.0% of respondents fell in the age group of 26-30 years, 27.8% were in the age group range of 31-35 years, and 17.8% were in the age group of 21-25 years. The data also reveals that just 3.3% of all responses were within the 36–40 age group. It was found that only 1.1% of the respondents were found to be in the age group of 41-45. The mean age was 29 years, and the minimum and maximum ages of the respondents were 21 and 41 years.

**Table 1**

*Age of the Respondents*

| Age | Number of Respondents | Percentage |
|---|---|---|
| 21-25 year | 16 | 17.8 |
| 26-30 year | 45 | 50.0 |
| 31-35 year | 25 | 27.8 |
| 36-40 year | 3 | 3.3 |
| 41-45 | 1 | 1.1 |
| Total | 90 | 100.0 |

Source: Field Survey, 2022

**Table 2**

*Educational Status Among Women Respondents*

| Education Level | Number of Respondents | Percentage |
|---|---|---|
| Illiterate | 10 | 11.1 |
| Up to Primary | 13 | 14.4 |
| Up to Middle | 14 | 15.6 |
| Secondary | 16 | 17.8 |
| Higher Secondary | 20 | 22.2 |
| Graduation | 15 | 16.7 |
| Post-graduation and higher | 2 | 2.2 |
| Total | 90 | 100 |

Source: Field Survey,2022

It is evident from Table 2 that a maximum number of respondents, i.e. 22.2%, have received education up to higher secondary level (12th

Standard), 16.7% have received education up to graduation level, 17.8% have received education up to secondary level (10th Standard), 15.6% have received education upto middle (8th Standard), 11.1% respondents were illiterate and only 2.2% were qualifying post-graduation or higher. The minimum and maximum years of schooling were found to be 0 and 25 years, respectively. It was also found that the mean years of schooling was approximately four years.

**Economic Status of the Respondents**

Table 3 shows economic status; the respondents were classified based on the type of ration cards they had. Priority Household (PHH), Antyodaya Anna Yojana (AAY), Below Poverty Line (BPL) and Above Poverty Line (APL). Later, it was seen that the AAY and PHH categories had very low frequencies, and therefore, these two were clubbed into the BPL category. In this study, BPL includes the AAY and PHH categories. The distribution of respondents in terms of their economic status is given as:

**Table 3**

*Economic Status*

| Category | Number of respondents | Percentage |
|---|---|---|
| BPL | 32 | 35.6 |
| APL | 58 | 64.4 |
| Total | 90 | 100.0 |

Source: Field Survey,2022

The Table demonstrates that 64.4% of respondents fall in the APL category, and 35.6% fall in the BPL category. The above data reveals that most sampled respondents had a good economic status.

**Awareness of Respondents About JSY**

Knowledge is one of the most important factors in determining how well and for whom a Programme works. More people are taking advantage of a programme as a direct result of increased education about the field in which it operates. Table 4 summarises the statistics received from the respondents regarding their knowledge of the JSY scheme, the time they became aware of it, and their level of awareness about the scheme**.**

The data suggests a relatively high level of awareness about the Janani Suraksha Yojana (JSY) among the surveyed population. Approximately 84.44% of the respondents indicated that they are aware of JSY. This indicates the scheme has significant attention or publicity among the surveyed group. However, a portion (15.56%) of the population remains unaware of the scheme, which might suggest further dissemination of information or outreach efforts to ensure broader awareness and potential participation in the program. This highlights a potential requirement for additional efforts in spreading information or outreach initiatives to enhance awareness and encourage broader participation in the program.

Regarding the sources of information for awareness about the Janani Suraksha Yojana (JSY). The majority of respondents (78.96%), a

total of 60, were informed about JSY through ASHAs, indicating the significant role these health workers play in disseminating information about healthcare programs. A smaller proportion of respondents (14.47%) received information from ANMs/AWWs, suggesting another important channel for spreading awareness within the community. Only (6.57%) awareness is through government publicity, electronic media, or print media as their source of information, indicating a potential improvement in reaching a wider audience through these channels. The absence of doctors as a source of information suggests a potential gap in utilising healthcare professionals for awareness campaigns related to JSY. There might be opportunities to involve doctors more actively in disseminating information about such government schemes.

**Table 4**

*Awareness of Respondents About JSY*

| Heard about JSY | Number of Respondents | %age |
|---|---|---|
| No | 14 | 15.56 |
| Yes | 76 | 84.44 |
| Total | 90 | 100.00 |
| Source of Information | | |
| Doctor | 0 | 0 |
| ANM/AWW | 11 | 14.47 |
| ASHA | 60 | 78.96 |
| Govt. Publicity/Electronic media/Print media | 05 | 6.57 |
| Total | 76 | 100.00 |
| When | No. of Respondents | Percentage |
| Before Marriage | 4 | 5.8 |
| Before Pregnancy | 5 | 6.7 |
| During Pregnancy | 64 | 84.3 |
| After Delivery | 3 | 3.2 |
| Total | 76 | 100.00 |
| What | No. of Respondents | Percentage |
| All components | 59 | 77.9 |
| Financial assistance | 11 | 14.4 |
| Financial assistance and free institutional delivery | 6 | 7.7 |
| Total | 76 | 100.00 |

Source: Field Survey,2022

The data shows that the highest percentage of respondents (84.3%) became aware of JSY during their pregnancy, indicating that this period is crucial for disseminating information about the scheme. This suggests that educating women about JSY is particularly effective during pregnancy, possibly through antenatal care visits or other healthcare interactions. A smaller percentage of respondents became aware of JSY before marriage (5.8%) or before pregnancy (6.7%), indicating that there is some awareness even before these significant life events occur. Interestingly, a few respondents

(3.2%) became aware of JSY after delivery, suggesting that there may still be opportunities to reach women with information about the scheme during the Postnatal period. Overall, the results indicate that efforts to raise awareness about JSY are most effective during pregnancy. However, there may be additional opportunities to reach women before marriage, pregnancy, and delivery to ensure broader awareness and potential participation in the scheme.

The majority of respondents (77.9%) were aware of all components of the JSY scheme, like financial assistance, free institutional delivery, postnatal care (PNC), antenatal care (ANC), free transport, and free medicine, indicating a comprehensive understanding among the respondents. A smaller proportion of respondents were aware only of the financial assistance component (14.4%), suggesting that some women were less informed about the broader aspects of the scheme beyond financial support. A minority of respondents (7.7%) were aware of financial assistance and free institutional delivery components, indicating that some women have partial knowledge of the scheme. Overall, while most respondents demonstrated awareness of all components of the JSY scheme, some individuals may benefit from additional information or education about the various components, particularly those beyond financial assistance. This highlights the importance of comprehensive awareness campaigns to ensure a clear understanding of the benefits and provisions offered by the JSY scheme.

While many respondents are familiar with JSY, there are still gaps, particularly in reaching individuals unfamiliar with its benefits. Increasing outreach, effectively using healthcare staff, and executing comprehensive awareness efforts are critical. These initiatives are critical to increasing engagement and improving mother and child health outcomes through JSY.

**Ho** There is no significant association between full immunisation, PNC checkups, child immunisation, and financial assistance.

To determine the relationship among the respondents regarding the JSY scheme, the study used the cross-tabulation technique in SPSS 20. They are given in Table 5. Pearson Chi-Square ($\chi 2$) measures the strength of association between the two variables. Degrees of Freedom (DOF) indicates the number of independent variables available to estimate a statistic. Asym. Sig (2-sided) is the significance level, or p-value, associated with the Chi-Square statistic. It indicates the probability of observing the data if there is no true association between the variables.

## Association Between the Socioeconomic Indicators and Awareness of the Respondents

Table 5 shows the results of the cross-tabulation awareness of the respondents:

**Table 5**

*Association Between the Socioeconomic Indicators and Awareness of the Respondents*

| Variables | Pearson Chi-Square ($\chi 2$) | DOF | Asym. Sig (2-sided) |
|---|---|---|---|
| Full child immunisation and PNC checkup | 2.893[a] | 1 | 0.089 |
| Govt. institutional delivery * financial assistance | 90.000[a] | 1 | .000 |
| Full ANC Checkup * Full child immunisation | 5.586[a] | 1 | .018 |
| Level of awareness * PNC checkup | 3.473[a] | 1 | .062 |
| Age of Marriage * Education | 82.524[a] | 90 | .700 |
| Awareness * age of Respondents | 18.418[a] | 18 | .428 |

Authors Calculation using SPSS-20

The p-value of 0.089 suggests an 8.9% probability of observing the association between "Full child immunisation" and "PNC checkup" by chance alone, assuming there is no true association between the variables. Since the p-value is greater than the significance level of 0.05, we fail to reject the null hypothesis. Therefore, based on these results, we do not have enough evidence to conclude that there is a statistically significant association between "Full child immunisation" and "PNC checkup". The results align with (Misra et al.,2014; Dandona et al., 2010). The Pearson Chi-Square value yielded a substantial association between "Govt. institutional delivery" and "financial assistance" with a high Chi-Square value of 90.000[a] and a significant p-value of .000. This indicates a strong relationship between receiving financial assistance and opting for government institutional delivery for childbirth. The results imply that financial support may significantly influence individuals' decisions regarding the place of delivery, potentially promoting safer childbirth practices through government healthcare facilities. The association between "Full ANC Checkup" and "Full child immunisation" with a Chi-Square value of 5.586[a] and a p-value of .018 suggests that individuals who receive comprehensive antenatal care checkups are more likely to ensure full immunisation for their children. The findings highlight the importance of prenatal healthcare in promoting child health and vaccination adherence among parents. The results align with those of Rahman and Pallikadavath (2018).

The Pearson Chi-Square test indicates a moderate association between "Level of awareness" and "PNC checkup" with a Chi-Square value of 3.473[a] and a p-value of .062. This suggests a potential relationship between awareness levels and utilisation of postnatal care checkups, although it does not reach conventional statistical significance. Further investigation may be

warranted to elucidate the nature of this association and its implications for healthcare access and awareness campaigns. The Chi-Square value of 82.524[a] for the association between "Age of Marriage" and "Education," with a large degree of freedom (90) and a non-significant p-value of .700. This indicates that there is likely no significant association between age of marriage and education level in the studied population. The results suggest that education level may not significantly influence the age at which individuals get married within this context. The Pearson Chi-Square test demonstrates a moderate association between "Awareness" and "Age of Respondents," with a Chi-Square value of 18.418[a] and a non-significant p-value of .428. This suggests that there is likely no significant relationship between awareness levels and the age of respondents in the studied population. The findings imply that age may not substantially influence respondents' awareness levels. Therefore, it can be inferred from the above table that all the female respondents are fully aware of JSY, irrespective of age. Moreover, it can be inferred from the table that financial assistance is important in promoting institutional deliveries.

The findings of Table 5 suggest targeting interventions to improve healthcare access among demographics with lower utilisation rates. Enhancing prenatal care services and expanding financial assistance programs can promote child health. Policymakers should consider policy changes to mitigate socioeconomic disparities in healthcare access, while further research is needed for a comprehensive understanding of healthcare utilisation dynamics.

**Binary Logistic Regression**

The binary logistic regression model was used to analyse the effect of socioeconomic characteristics on the Number of institutional deliveries using the SPSS-20 software. A binary logistic regression equation was used, and several institutional deliveries were taken as the dependent variable. The explanatory variables were the respondent's educational status, economic status, level of awareness, and age. Mathematically:

$$\mu_0 + \mu_1 X_1 + \mu_2 X_2 + \mu_3 X_3 + \mu_4 X_4$$

The logistic regression variable is binary, assuming 0 or 1. Therefore, *X* needs to be transformed to use the regression process. The logit transformation gives the following:

$$l_n \left(\frac{P}{1-P}\right) = \mu_0 + \mu_1 X_1 + \mu_2 X_2 + \mu_3 X_3 + \mu_4 X_4$$

where $\alpha_0$ is the slope coefficient, $\mu_1, \mu_2$, $\mu_3$ and $\mu_4$ are the slope coefficient, $X_1$ , $X_2$ , $X_3$ and $X_4$ are the explanatory coefficients, p is the probability of happening an event, and 1-p is the probability of not happening an event, $\frac{P}{1-P}$ is the odds ratio, the probabilities of the event are given by the following logistic regression equation:

$$E(P_i) = \left(\frac{\mu_0 + \mu_i X_i}{1+\exp^{\mu_0 + \mu_i}}\right) \quad 0 < P < 1$$

The parameter estimates in logistic regression cannot be estimated through Ordinary Least Squares (OLS) because the linearity assumption is violated. Therefore, we use the maximum likelihood estimation (MLE) method for parameter estimation.

**Null Hypothesis:** There is no difference between any of the explanatory factors of slope coefficients. i.e. $\mu_1 = \mu_2 = \mu_3 = \mu_4 = 0$. The binary model logistic regression findings are as follows:

**Table 6**

*Dependent variable encoding (Government institutional Delivery)*

| Original Name | Binary Value |
|---|---|
| No | 0 |
| Yes | 1 |

**Table 7**

*Coefficients of Omnibus Tests*

| Chi-square value | DOF | Significance |
|---|---|---|
| 11.400 | 4 | .022 |
| 11.400 | 4 | .022 |
| 11.400 | 4 | .022 |

Table 7 portrays the highly significant coefficients of the model. The chi-square statistic for Step (11.400) was found statistically significant at the 5% significance level with the 4 degrees of freedom, indicating that the model's predictive power improved significantly over Step 0.

The -2 log-likelihood was used to evaluate the model's overall fit (47.115a). The result of -2 log-likelihood implies that the predictors are more accurate than the null model in predicting the model. The value of Cox and Snell $R^2$ was equal to .119, and the value of Nagelkerke $R^2$ was .249. It can be concluded from these two measures that the model can explain 11% to 25% of the variation in Government institutional Delivery. However, in logistic regression, the value of R-Square does not make much sense.

In order to estimate the binary logistic regression model, the number of institutional deliveries was taken to be the binary dependent variable and educational status (years of schooling), economic status, Level of awareness and age of respondents were the explanatory variables. Education and economic status were continuous variables, and economic status was categorical.

Table *8* shows that all the coefficients are significant at a 5% significance level except that of awareness. The coefficients of EDU are -.509, which signifies that as the year of schooling increases, institutional deliveries in government hospitals will decrease. The results align with those of Sharma et al. (2018).

**Table 8**

*Model Summary*

| -2 Log likelihood | Cox & Snell $R^2$ | Nagelkerke $R^2$ |
|---|---|---|
| 47.115[a] | .119 | .249 |

## The Estimated Model

| Variables in the Equation | | | | | | |
|---|---|---|---|---|---|---|
| | B | S-Error | Wald test | DOF | Sig-Value | Exp(B) |
| Educational status | -.509 | .299 | 2.908 | 1 | .088 | .601 |
| Economic status | 1.559 | .888 | 3.085 | 1 | .079 | 4.754 |
| Level of awareness (1) | 1.000 | 1.268 | .623 | 1 | .430 | 2.719 |
| Age of the respondent | .261 | .125 | 4.386 | 1 | .036 | 1.298 |
| Constant | -3.915 | 3.611 | 1.176 | 1 | .278 | .020 |

$l_n\ (\frac{P}{1-P})$ =-3.915– .509EDU+ 1.559ECO+1.00 Awareness + .261Age

The coefficient of economic status is 1.559, which signifies that it positively impacts institutional deliveries. The slope coefficient of awareness is 1.00, which shows us that as the value of awareness improves, the number of institutional deliveries increases. The age of the respondents positively impacts the number of institutional deliveries as its elasticity coefficient is .261, which indicates that as the age of the respondents increases, the level of institutional deliveries increases by 1%.

## Conclusion

The current research work was an attempt to examine the performance of the Janani Suraksha Yojana in promoting institutional deliveries and its impact on beneficiaries. The study also tried to assess whether the educational status, economic status, level of awareness, and age of the respondents had any impact on the level of institutional deliveries in the district of Srinagar. The results are highly significant and positive with the number of institutional deliveries except that of the level of education, which shows a negative association with the level of institutional deliveries at a 10% level of significance as the level of education increases by 1% the level of institutional deliveries decrease by 1%. The reason might be that most women dislike pursuing higher studies because of family burdens. As we saw, only 2.2% of the respondents received graduation degrees. Only 75.3% of women were aware of the JSY scheme, and 21.5% were unaware. The data show that 84.3% of women become aware during pregnancy. Therefore, women must be made more aware of this Programme. Programs at all levels should be conducted in schools, colleges, and villages to create awareness among women about utilising the JSY Programme's benefits.

Moreover, the number of Government institutional deliveries and financial assistance has a very high association as the level of financial assistance increases. The number of institutional deliveries increases was checked using the Pearson chi-square value. The research demonstrates that JSY financial support has a strong favourable association between education level and the probability of full immunisation received by the

newborn child. This study found a positive association that when a mother's education level rises, she becomes more aware of the significance of child immunisation for children and ensures that. In addition to better healthcare delivery through institutional change, there is a need to devote more resources to the health sector, such as increasing public health expenditure as a proportion of GDP and the number of doctors and nurses. The health sector must devote more resources to improving healthcare delivery and institutional changes. Additionally, future research should focus on exploring the long-term impacts of JSY, examining its sustainability, and identifying strategies to overcome barriers to maternal healthcare access in the region. The study underscores the importance of targeted interventions and policy initiatives in advancing maternal health and achieving sustainable development goals in conflict-affected regions like Kashmir.

## Recommendation in Kashmir Perspective

Since the JSY program is based on cash incentives, the number of institutional deliveries has increased and reduced the cost of delivery at public health hospitals for those in need. The program aims to lower maternal and infant mortality, which can be achieved by providing women with high-quality delivery and child mortality care in public health facilities. As a result, the shortages in the supply side, which can take many different forms and include shortages of medicines, skilled labour, and supplies, must be imperatively addressed. The government should take various steps to increase public awareness related to the JSY Programme. There is a need to level up the health infrastructure facilities in healthcare centres in order to reduce the overcrowding in primary, secondary and tertiary care hospitals. Peripheral health workers like ANMs and ASHAs should be regularly trained, motivated and monitored to provide antenatal care, delivery care and postnatal services in the district so that more and more women can go to hospitals for delivery. This study concluded that JSY, created by the government of India, shows enormous potential and hope for helping the underprivileged, undeserving inhabitants of rural regions. There is no question that Jammu and Kashmir cannot reduce its infant and maternal mortality rates to the levels required by the Millennium Development Goals and the Sustainable Development Goals. This could be achieved when the government increases public awareness related to the benefits of JSY through government publicity, electronic media, and print media. Moreover, conducting ongoing independent monitoring and assessments is crucial to determine its impact on the scheme.

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POPULATION GEOGRAPHY
ISSN 0256-5331
UGC-CARE Listed Volume 46(1) June 2024

# Trends and Patterns of Fertility and Contraception in Odisha

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**To cite this article:** Bera, S., & Das, S. (2024). Trends and patterns of fertility and contraception in Odisha. *Population Geography*, *46*(1), 107–126.

## Abstract

This study examines the changing fertility patterns and family planning practices in the eastern Indian state of Odisha, utilising data from the Census of India and the National Family Health Survey. The findings indicate that Odisha has made significant strides in addressing fertility concerns. The state has successfully achieved a below-replacement level fertility rate, and the current trajectory of declining fertility and increasing contraceptive use is expected to lead to further reductions in the fertility rate. However, despite these optimistic developments, the persistence of inter-district and rural-urban disparities in fertility and contraceptive prevalence remains a concern.

***Keywords:*** crude birth rate, total fertility rate, birth order, birth interval, contraception, spatial dimension

## Introduction

In a demographic sense, fertility is the product or output of reproduction, and a woman's fertility is generally understood as the number of live births a woman bears during her reproductive age. Like mortality and migration, fertility is one of the most powerful components of population growth. Fertility is also accountable for the biological replacement and maintains human society (Bhende & Kanitkar, 2015), and on the other hand, the changing behaviour of society influences fertility (Fayyad, 2012). According to Bongaarts (1978), the biological and behavioural factors (called intermediate fertility variables) are the set of factors through which socioeconomic, cultural and environmental variables (indirect determinants) affect fertility. In contrast, the intermediate fertility variables (direct determinants) directly influence fertility. If an intermediate fertility variable changes, then fertility necessarily changes, which is not essential in the case of an indirect determinant. The

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Article:
Received: 11.01.23 Reviewed: 30.03.24 Accepted: 15.04.24

fertility pattern differs from one geographical area to another and varies over time. With the worldwide mortality rate declining dramatically, analysing reproductive patterns and family structure has become increasingly crucial in population studies. However, discussing fertility is important to understanding demographic behaviour and vital in assessing the human condition and social structure (Fayyad, 2012).

Researchers and policymakers have expressed concern over the rising population size and appreciably high population growth rate since the independence of India. To prevent rapid population growth, the government has taken many steps. India was the first country to introduce an official family planning programme way back in 1952 and to provide free family planning benefits for married couples (Ministry of Health and Family Welfare, 2002). Slogans in Hindi, such as "*Hum Do, Hamare Do"* (We are two, we have two) and "*Chota Parivar Sukhi Parivar*" (Small family is a happy family), have been used for a long to spread awareness about the benefits of small family and population stabilisation. The government programmes have emphasised stabilising the population and improving reproductive and child health.

According to reports of the National Family Health Survey (NFHS), the Total Fertility Rate (TFR) in India has declined from 3.4 in 1992-93 (NFHS-1) to 2.0 in 2019-21 (NFHS-5). A TFR of 1.6 children per woman was observed in urban India and 2.1 in rural India in 2019-21 (NFHS-5). While it is true that India has embarked upon a process of fertility decline, there is a wide inter-state and rural-urban variation in fertility (Guilmoto & Rajan, 2013). The eastern Indian state of Odisha has experienced a noteworthy decline in TFR from 2.92 children per woman in 1992-93 (NFHS-1) to 1.82 in 2019-21 (NFHS-5). It clearly shows that Odisha's TFR figure is below the replacement level fertility (2.1). This has happened without a similar success rate in socioeconomic development and mortality decline (Das, 2018). Therefore, it is essential to study the fertility trajectory in Odisha, a socioeconomically lagging state of India. Secondly, an analysis of trends in contraceptive use will give an idea about the family planning practices in the state. The present study aims to analyse fertility trends and spatial patterns and the use of family planning in Odisha.

## Data and Methods

The present study is primarily based on data from the Census of India and the National Family Health Surveys (NFHS). NFHS reports provide information on different parameters of fertility and contraception but do not provide district-level data on fertility indicators like the total fertility rate. Hence, the analysis of

district-level fertility indicators relies on the author's calculation based on the Census of India's 'F' series data on Children Ever Born. Again, the data for 2021 has yet to be published by the Census of India; therefore, Census of India 2011 data have been used to show the district-level variation of fertility. Total Fertility Rate has been calculated as $TFR=5\Sigma ASFR_a$ (for 5-year age groups), where $ASFR_a$ stands for Age Specific Fertility Rate for women in a defined age group *a*. In addition, districts of Odisha are grouped into three broad agro-climatic regions following the National Sample Survey Organisation (NSSO) (Table 1).

The study used simple descriptive statistics to describe the data and a correlation coefficient to determine the relationship between contraception use and the total fertility rate at the district level in Odisha. The indicators used in the study are represented in Table 2.

**Table 1**

*Agro-Climatic regions of Odisha*

| Region | Name of District |
|---|---|
| Coastal | Baleshwar, Bhadrak, Kendrapara, Jagatshinghapur, Cuttack, Jajapur, Nayagarh, Khordha, and Puri |
| Northern | Bargarh, Jharsuguda, Sambalpur, Debagarh, Sundargarh, Kendujhar, Mayurbhanj, Dhenkanal, Anugul, and Balangir |
| Southern | Kandhamal, Baudh, Subarnapur, Ganjam, Gajapati, Nuapada, Kalahandi, Rayagada, Nabarangapur, Koraput and Malkanagiri |

Source: NSS 75th round

**Table 2**

*Description of the Indicators*

| Parameters/Indicators | Definition |
|---|---|
| Crude Birth Rate (CBR) | Total registered live births per 1000 mid-year population in a geographical area in a particular year. |
| Age Specific Fertility Rate (ASFR) | The number of births to women of a particular age group per 1000 women in that age group. |
| Total Fertility Rate (TFR) | Total number of children born per woman over her childbearing years according to the current schedule of age-specific fertility rates. |
| Birth Order | The order of a child born to a mother, first-born and second-born, are examples. |
| Birth Interval | The time between two successive live births indicates the pace of childbearing. |
| Contraceptive Prevalence Rate | The proportion of currently married women aged 15-49 years who are or whose husbands are currently using at least one contraceptive method. |

## Trends in Fertility in Odisha, 1992-93 to 2019-21

### *Crude Birth Rate (CBR)*

The crude birth rate (CBR) is an important measure of fertility as it reflects fertility's contribution to the population's growth (Bhende & Kanitkar, 2015). The trend of CBR reflected in Table 3 and Figure 1 suggests a gradual decline of CBR in Odisha since 1992-93 (NFHS-1).

It shows that the crude birth rate (CBR) at all Odisha levels declined from 26.5 births per 1000 mid-year population in 1992-93 (NFHS-1) to 15.9 in 2019-21 (NFHS-5), registering a fall of about 40 per cent (10.6 points). The CBR has remained higher in rural areas than urban areas in the last three decades.

The CBR in urban areas declined from 23.9 in 1992-93 (NFHS-1) to 13.1 in 2019-21 (NFHS-5), and in rural areas, it declined from 27.0 in 1992-93 (NFHS-1) to 16.5 in 2019-21 (NFHS-5).

Between 1992-93 (NFHS-1) and 1998-99 (NFHS-2), the annual change of CBR was -2.77 per cent in Odisha. Notably, a similar pattern of CBR (22.1) was observed in 1998-99 (NFHS-2) and 2005-06 (NFHS-3), while at the same time, the CBR in rural areas increased by 0.38 per cent per annum, and the CBR decreased with an annual change of -1.71 per cent in urban areas. Further, from 2005-06 to 2015-16, the annual change of CBR was -1.81 per cent and -2.43 per cent between 2015-16 and 2019-21.

**Table 3**

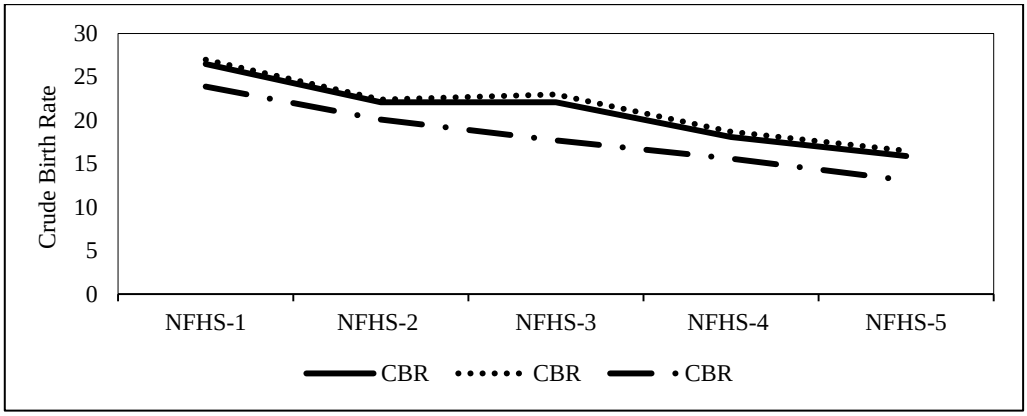
*Trend in Crude Birth Rate for the Three Years Preceding the Survey in Odisha, 1992-93 to 2019-21*

| NFHS rounds | Crude Birth Rate (CBR) | | | | | |
|---|---|---|---|---|---|---|
| | Total | Annual change (in percent) | Rural | Annual change (in percent) | Urban | Annual change (in percent) |
| NFHS-1 (1992-93) * | 26.5 | - | 27.0 | - | 23.9 | - |
| NFHS-2 (1998-99) ** | 22.1 | -2.77 | 22.4 | -2.84 | 20.1 | -2.65 |
| NFHS-3 (2005-06) *** | 22.1 | 0.00 | 23.0 | 0.38 | 17.7 | -1.71 |
| NFHS-4 (2015-16) **** | 18.1 | -1.81 | 18.7 | -1.87 | 15.6 | -1.19 |
| NFHS-5 (2019-21) ***** | 15.9 | -2.43 | 16.5 | -2.35 | 13.1 | -3.21 |

Source: *International Institute for Population Sciences (1995), ** International Institute for Population Sciences and ORC Macro (2001), *** International Institute for Population Sciences and Macro International (2008), **** International Institute of Population Sciences and ICF (2017), ***** International Institute of Population Sciences and ICF (2021)

**Figure 1**

*Trends of Crude Birth Rate in Odisha, 1992-93 to 2019-21*




Source: Based on Table 3

### *Total Fertility Rate (TFR)*

In the last three decades, the state of Odisha has experienced a remarkable decline in TFR. Different rounds of NFHS show that TFR declined from 2.92 births per woman in 1992-93 (NFHS-1) to 1.82 in 2019-21 (NFHS-5). Although a TFR of 2.1 children per woman is desirable for replacing their parents from a demographic point of view, Odisha, despite being a socioeconomically less developed state of India, has achieved a TFR level (1.82 children per woman), much below the replacement level of fertility.

Though India has also achieved replacement-level fertility, the TFR of the nation (2.0) was higher than the state of Odisha (1.82) in 2019-21. Like CBR, the TFR in urban areas has been lower than the TFR in rural areas over the years. The TFR in rural Odisha decreased from 3.0 children per woman in 1992-93 to 1.89 children per woman in 2019-21, a decline of 37 per cent. In contrast, the corresponding decline in urban areas is from 2.53 children per woman to 1.48 children per woman, registering a decline of 41.5 per cent during the same period. During the period between the first and second NFHS (1992-93 and 1998-99), TFR declined by 0.46 points with an annual change of -2.63 per cent, and TFR reduced by 0.09 points with an annual change of -0.52 per cent during the second inter-survey period (during 1998-99 to 2005-06). During the third and fourth surveys (2005-06 and 2015-16), TFR decreased by 0.32 points with an annual change of -1.35 per cent. Further, the period between 2015-16 (NFHS-4) and 2019-21 (NFHS-5) witnessed a decline of TFR in Odisha by 0.23 points with an annual change of -2.24 per cent.

Age-specific fertility rates (ASFRs) are lower at all ages in urban areas than in rural areas. A substantial proportion of births has occurred in the age group of 20-29. According to NFHS 5, 68.0 per cent of total births are concentrated in the 20-29 age group, while the corresponding figures for rural and urban areas are 53.9 per cent and 68.6 per cent, respectively. Births in the age group of 15-19 account for 10.72 per cent of the total births, while the corresponding figures for rural and urban areas are 8.78 per cent and 9.12 per cent, respectively. A lower proportion of births occurs in those below 20 and above 34.

**Table 4**

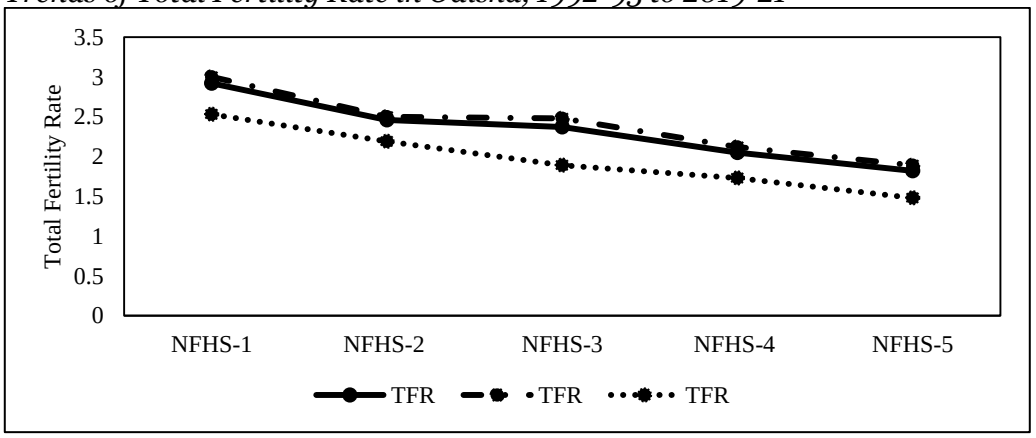
*Trend in Total Fertility Rate for the Three Years Preceding the Survey in Odisha, 1992-93 to 2019-21*

| NFHS rounds | Total Fertility Rate (TFR) | | | | | |
|---|---|---|---|---|---|---|
| | Total | Annual change (in percent) | Rural | Annual change (in percent) | Urban | Annual change (in percent) |
| NFHS-1 (1992-93) * | 2.92 | - | 3.00 | - | 2.53 | - |
| NFHS-2 (1998-99) ** | 2.46 | -2.63 | 2.50 | -2.78 | 2.19 | -2.24 |
| NFHS-3 (2005-06) *** | 2.37 | -0.52 | 2.48 | -0.11 | 1.89 | -1.96 |
| NFHS-4 (2015-16) **** | 2.05 | -1.35 | 2.12 | -1.45 | 1.73 | -0.85 |
| NFHS-5 (2019-21) ***** | 1.82 | -2.24 | 1.89 | -2.17 | 1.48 | -2.89 |

Source: * International Institute for Population Sciences (1995), ** International Institute for Population Sciences and ORC Macro (2001), *** International Institute for Population Sciences and Macro International (2008), **** International Institute of Population Sciences and ICF (2017), ***** International Institute of Population Sciences and ICF (2021)

**Figure 2**

*Trends of Total Fertility Rate in Odisha, 1992-93 to 2019-21*




Source: Based on Table 4

### *Fertility by Background Characteristics*

NFHS also provides data on fertility differentials based on major socioeconomic characteristics like education, religion, and caste. Fertility varies greatly by the level of education of the mothers. It is generally observed that an increase in the educational level of women is associated with delayed birth, lower fertility, and smaller family size (Norville et al., 2003). As per NFHS-5 (2019-21), the fertility rate is 32 per cent lower among women who have completed 12 or more years of schooling than illiterate women. Table 5 also represents a declining fertility trend with women's increasing educational status in Odisha. As expected, literate women have maintained a lower fertility rate than illiterate women.

Fertility rates have declined among all religions from 2015-16 (NFHS-4) to 2019-21 (NFHS-5). According to NFHS-5 (2019-21), the TFR is high among Christians (2.33) and 'other' religions, including Sikhs, Buddhists, Jains and others (2.53). Although Muslims have higher fertility than Hindus in Odisha, the Hindu-Muslim differential is not too wide.

**Table 5**

*Trend in Total Fertility Rate for the Three Years Preceding the Survey by Background Characteristics in Odisha, 1998-99 to 2019-21*

| Background characteristic | NFHS-2 (1998-99)* | NFHS-3 (2005-06)** | NFHS-4 (2015-16) *** | NFHS-5 (2019-21) **** |
|---|---|---|---|---|
| Schooling | | | | |
| No schooling | 2.87 | 3.13 | 2.66 | 2.43 |
| <5 years complete | 2.42 | 2.24 | 2.42 | 2.05 |
| 5-9 years complete | 1.96 | 2.01 | 2.03 | 1.89 |
| 10-11 years complete | 1.62 | 1.89 | 1.85 | 1.85 |
| 12 or more years complete | - | - | 1.60 | 1.65 |
| Religion | | | | |
| Hindu | 2.45 | 2.35 | 2.04 | 1.80 |
| Muslim | 3.01 | - | 2.00 | 1.85 |
| Christian | 2.43 | - | 2.38 | 2.33 |
| Other | - | - | 3.73 | 2.53 |
| Caste | | | | |
| Scheduled Caste` | 2.85 | 2.30 | 2.13 | 1.85 |
| Scheduled Tribe | 2.66 | 3.14 | 2.46 | 2.11 |
| Other Backward Class | 2.47 | 2.25 | 1.87 | 1.70 |
| Other | 2.07 | 2.01 | 1.87 | 1.59 |
| Do not know | - | - | 2.16 | 1.79 |

Source: *International Institute for Population Sciences and ORC Macro (2001), **International Institute for Population Sciences and Macro International (2008), ***International Institute of Population Sciences and ICF (2017), ****International Institute of Population Sciences and ICF (2021)

The reasons for higher fertility among Christians in Odisha need a special discussion, which does not form a matter of investigation for this paper. Caste is an important indicator of social status, and differentials in fertility by caste are wide. As per NFHS-5 (2019-21), the TFR among STs is the highest, followed by SCs, OBC and others.

The distribution of births by birth order is yet another way to view fertility differentials. As expected, the proportion of births in each order is larger than in the next higher order. According to NFHS-5 (2019-21), 44.3 per cent of all births are first-order births, 36.1 per cent are second-order births, 12.5 per cent are third-order births, and 7.0 per cent are fourth-order births or higher in Odisha.

It is to be noted that the proportion of women with birth orders 3 and 4 or more has decreased over time. On the other hand, the proportion of women with birth orders 1 and 2 has increased over time. This indicates a falling fertility rate and squeezing family size. However, a lesser degree of differential is observed by place of residence.

**Table 6**

*Percentage Distribution of Birth to Women for the Three Years Preceding the Survey by Birth Order in Odisha, 1992-93 to 2019-21*

| Residence | Birth order | NFHS-1 (1992-93) * | NFHS-2 (1998-99) ** | NFHS-3 (2005-06) *** | NFHS-4 (2015-16) **** | NFHS-5 (2019-21) ***** |
|---|---|---|---|---|---|---|
| Total | 1 | 27.4 | 29.0 | 34.8 | 43.4 | 44.3 |
| | 2 | 24.6 | 28.1 | 28.5 | 33.4 | 36.1 |
| | 3 | 19.8 | 18.4 | 16.6 | 13.0 | 12.5 |
| | Four or more | 28.2 | 24.5 | 20.1 | 10.2 | 7.0 |
| Rural | 1 | - | 28.9 | 34.0 | 42.7 | 43.9 |
| | 2 | - | 28.0 | 28.2 | 33.0 | 35.4 |
| | 3 | - | 18.6 | 16.9 | 13.1 | 13.0 |
| | Four or more | - | 24.5 | 20.9 | 11.1 | 7.7 |
| Urban | 1 | - | 29.7 | 39.9 | 47.4 | 46.7 |
| | 2 | - | 28.3 | 30.6 | 35.7 | 40.1 |
| | 3 | - | 17.0 | 14.7 | 11.9 | 9.9 |
| | Four or more | - | 24.9 | 14.7 | 5.1 | 3.3 |

Source: *International Institute for Population Sciences (1995), **International Institute for Population Sciences and ORC Macro (2001), ***International Institute for Population Sciences and Macro International (2008), ****International Institute of Population Sciences and ICF (2017), *****International Institute of Population Sciences and ICF (2021).

## Spatial Patterns of Fertility in Odisha, 2011

Table 7 demonstrates the region-wise comparison of census-based estimates of fertility in 2011. The TFR was 2.0 in the state in 2011, below the replacement level fertility (2.1). At the same time, it was 2.1 in rural areas and 1.6 in urban areas. There was diversity in TFR among the regions and individual districts in Odisha. TFR was low in the coastal and northern parts and high in the southern part of Odisha.

**Table 7**

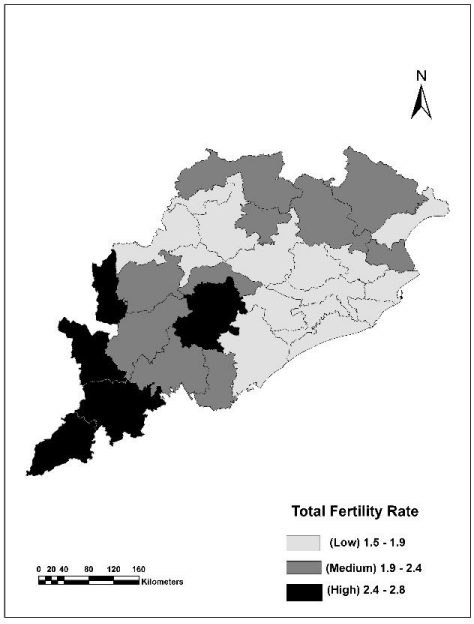
*Region-wise Total Fertility Rate in Odisha, 2011*

| Region | Name of the District | Total Fertility Rate (TFR) | | | |
|---|---|---|---|---|---|
| | | Total | Rural | Urban | Gap between Rural and Urban |
| Coastal | All | 1.8 | 1.8 | 1.6 | 0.2 |
| | Baleshwar | 1.9 | 1.9 | 1.5 | 0.4 |
| | Bhadrak | 2.0 | 2.0 | 1.9 | 0.1 |
| | Kendrapara | 1.8 | 1.8 | 1.8 | 0.0 |
| | Jagatsinghapur | 1.5 | 1.5 | 1.4 | 0.1 |
| | Cuttack | 1.7 | 1.8 | 1.4 | 0.4 |
| | Jajapur | 1.9 | 1.9 | 1.8 | 0.1 |
| | Nayagarh | 1.9 | 1.9 | 1.5 | 0.4 |
| | Khordha | 1.7 | 1.9 | 1.4 | 0.5 |
| | Puri | 1.7 | 1.7 | 1.4 | 0.3 |
| Southern | All | 2.3 | 2.4 | 1.7 | 0.7 |
| | Ganjam | 1.9 | 2.0 | 1.6 | 0.4 |
| | Gajapati | 2.3 | 2.5 | 1.6 | 0.9 |
| | Kandhamal | 2.6 | 2.7 | 1.7 | 1.0 |
| | Baudh | 2.3 | 2.3 | 1.4 | 0.9 |
| | Subarnapur | 1.9 | 1.9 | 1.7 | 0.2 |
| | Balangir | 2.2 | 2.3 | 1.6 | 0.7 |
| | Nuapada | 2.5 | 2.6 | 1.8 | 0.8 |
| | Kalahandi | 2.3 | 2.4 | 1.7 | 0.7 |
| | Rayagada | 2.1 | 2.2 | 1.5 | 0.7 |
| | Nabarangapur | 2.8 | 2.9 | 1.8 | 1.1 |
| | Koraput | 2.4 | 2.6 | 1.7 | 0.9 |
| | Malkangiri | 2.7 | 2.8 | 2.0 | 0.8 |
| Northern | All | 1.9 | 2.0 | 1.6 | 0.4 |
| | Bargarh | 1.7 | 1.8 | 1.5 | 0.3 |
| | Jharsuguda | 1.7 | 1.7 | 1.6 | 0.1 |
| | Sambalpur | 1.6 | 1.7 | 1.5 | 0.2 |
| | Debagarh | 2.0 | 2.0 | 1.5 | 0.5 |
| | Sundargarh | 2.0 | 2.1 | 1.7 | 0.4 |
| | Kendujhar | 2.1 | 2.3 | 2.0 | 0.3 |
| | Mayurbhanj | 2.1 | 2.2 | 1.4 | 0.8 |
| | Dhenkanal | 1.9 | 1.9 | 1.5 | 0.7 |
| | Anugul | 1.9 | 1.9 | 1.6 | 0.3 |
| Odisha | | 2.0 | 2.1 | 1.6 | 0.5 |

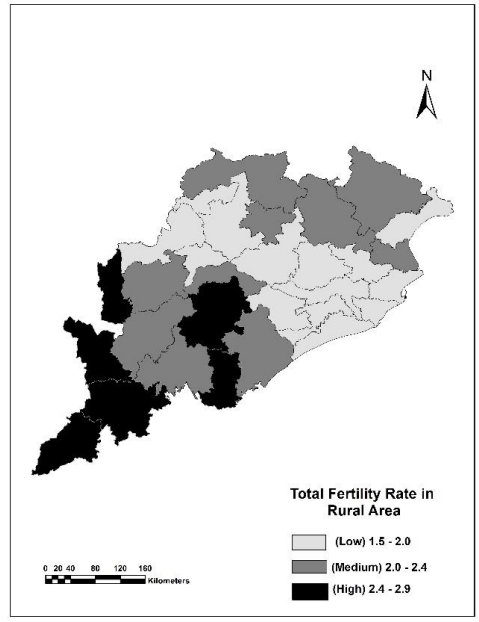
Source: Calculated based on F-Series data of Census of India, 2011

**Figure 3**

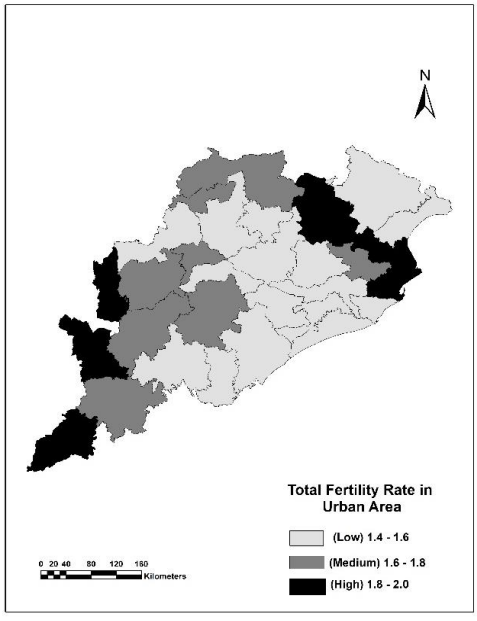
*District-level Variation of Total Fertility Rate (A), Total Fertility Rate in Rural Areas (B), Total Fertility Rate in Urban Areas (C) and Total Fertility Rate Differential Between Rural And Urban Areas (D) in Odisha, 2011*



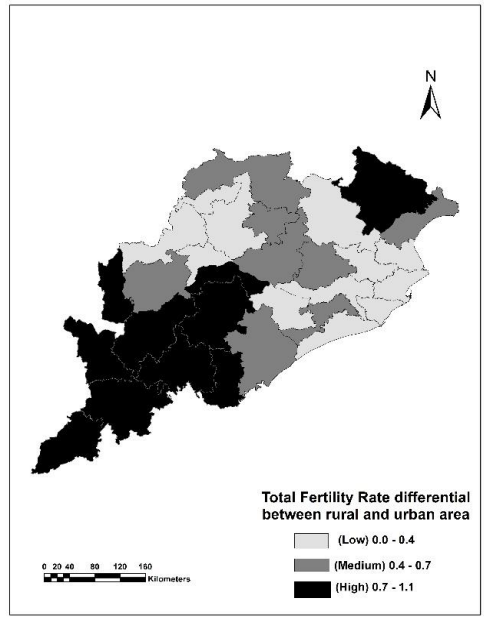

(A)




(B)




(C)




(D)

It is important to note that the TFR was below replacement level in all coastal region districts, eight northern regions and two southern regions. TFR ranges between 1.5 in the Jagatsinghapur district of the coastal region and 2.8 in the Nabarangapur district of the southern region in Odisha. A lower figure of TFR was also observed in Sambalpur (1.6), Jharsuguda (1.7), Khordha (1.7), Puri (1.7) and Cuttack (1.7) and higher TFR was observed in Malkangiri (2.7), Kandhamal (2.6), Nuapada (2.5) and Koraput (2.4). Like CBR, the rural-urban gap in TFR was appreciably high in the southern region of Odisha.

**Family Planning**

It is widely known that the use of family planning methods leads to declining fertility. Therefore, this section covers the current use of family planning methods among women aged 15-49. As per NFHS-5 (2019-21), knowledge of contraception is almost universal in Odisha, as 99.6 per cent of all women in the reproductive age group and 100.0 per cent of currently married women knew about at least one method of contraception. However, some methods of family planning are still little known. Twenty-four per cent of currently married women knew about female condoms, 6.1 per cent knew about the diaphragm, and 4.4 per cent knew about foam or jelly. There was a marginal rural-urban gap in terms of knowledge of contraception among currently married women. The knowledge of modern methods of contraception among currently married women is better known than the traditional methods of contraception.

In 2019-21, the contraceptive prevalence rate (CPR) among currently married women (15-49) in Odisha was 74.1 per cent, which was much higher than the national average (66.7 per cent). The rate has substantially increased from 36.3 per cent in 1992-93 (NFHS-1) to 74.1 per cent in 2019-21 (NFHS-5). Most of them used modern methods, although some practised traditional methods. Both the current use of modern and traditional contraception methods has increased over time. However, the rate of increase in the use of traditional methods is higher than that of modern methods.

**Table 8**

*Percentage of Currently Married Women Aged 15-49 years by Current use of Contraception in Odisha, 1992-93 to 2019-21*

| Current use of contraception | NFHS-1 (1992-93) * | NFHS-2 (1998-99) ** | NFHS-3 (2005-06) *** | NFHS-4 (2015-16) **** | NFHS-5 (2019-21) ***** |
|---|---|---|---|---|---|
| Any method | 36.3 | 46.8 | 50.7 | 57.3 | 74.1 |
| Any modern method | 34.7 | 40.3 | 44.7 | 45.4 | 48.8 |
| Any traditional | 1.2 | 5.6 | 6.1 | 11.9 | 25.4 |

| method | | | | | |
|---|---|---|---|---|---|
| Modern methods | | | | | |
| Female sterilisation | 28.3 | 33.9 | 33.1 | 28.2 | 28.0 |
| Male sterilisation | 3.4 | 1.7 | 1.0 | 0.2 | 0.3 |
| Pill | 0.9 | 3.0 | 7.0 | 12.0 | 10.8 |
| IUD or PPIUD | 1.5 | 0.8 | 0.5 | 1.1 | 2.6 |
| Injectable | - | - | 0.1 | 0.2 | 0.2 |
| Condom/nirodh | 0.6 | 0.9 | 3 | 3.4 | 5.5 |
| Female condom | - | - | - | 0.0 | 0.0 |
| Emergency contraception | - | - | - | - | 0.1 |
| LAM | - | - | - | 0.2 | 1.2 |
| Other modern method | - | - | 0.0 | 0.1 | 0.0 |
| Traditional methods | | | | | |
| Rhythm/safe period | 0.9 | 3.8 | 1.7 | 3.5 | 9.9 |
| Withdrawal | 0.3 | 1.8 | 3.3 | 8.4 | 15.4 |
| Not currently using | 63.7 | 53.2 | 49.3 | 42.7 | 25.9 |

Source: *International Institute for Population Sciences (1995), **International Institute for Population Sciences and ORC Macro (2001), ***International Institute for Population Sciences and Macro International (2008), ****International Institute of Population Sciences and ICF (2017), *****International Institute of Population Sciences and ICF (2021)

The share of female sterilisation in all modern methods of contraception remains the highest, but it has decreased from 1998-99 (NFHS-2) to 2019-21 (NFHS-5). The use of male sterilisation methods has also declined during the period 1992-93 and 2019-21. However, the current use of family planning methods like pills and condoms under modern methods and rhythm/safe periods and withdrawal under traditional methods during the period 1992-93 and 2019-21 have increased.

The use of contraceptives increases sharply with the increasing age of married women, but the use of traditional methods decreases after the age of 39 in Odisha. The rural-urban gap in the current use of family planning methods in Odisha was only 3.4 percentage points in 2019-21 (NFHS-5). It is noted that the use of modern methods of contraception in urban areas is lower than in rural areas. In contrast, the use of traditional methods in urban areas is higher than in rural areas. The use of modern methods decreases with increasing years of schooling of women, but an inverse relationship is observed between mother's education level and the use of modern contraceptive methods.

**Table 9**

*Percentage of Currently Married Women Aged 15-49 Years by Current Use of Contraception According to Background Characteristics in Odisha, 2019-21*

| Background characteristic | Any method | Any modern method | Any traditional method | Not currently using |
|---|---|---|---|---|
| Age | | | | |
| 15-19 | 40.4 | 20.0 | 20.4 | 59.6 |
| 20-29 | 56.6 | 33.3 | 23.3 | 43.4 |
| 30-39 | 72.0 | 44.9 | 27.1 | 28.0 |
| 40-49 | 74.5 | 53.2 | 21.3 | 25.5 |
| Residence | | | | |
| Urban | 76.9 | 47.2 | 29.7 | 23.1 |
| Rural | 73.5 | 49.1 | 24.4 | 26.5 |
| Mother's schooling | | | | |
| No schooling | 74.4 | 54.7 | 19.7 | 25.6 |
| <5 years complete | 75.3 | 54.2 | 21.1 | 24.7 |
| 5-9 years complete | 75.6 | 48.7 | 26.8 | 24.4 |
| 10-11 years complete | 70.4 | 42.9 | 27.6 | 29.6 |
| 12 or more years complete | 72.0 | 39.5 | 32.5 | 28.0 |
| Religion | | | | |
| Hindu | 74.2 | 49.0 | 25.2 | 25.8 |
| Muslim | 73.0 | 42.9 | 30.1 | 27.0 |
| Christian | 71.5 | 43.8 | 27.7 | 28.5 |
| Other | 80.0 | 53.3 | 26.6 | 20.0 |
| Caste/tribe | | | | |
| Scheduled caste | 76.1 | 52.5 | 23.6 | 23.9 |
| Scheduled tribe | 71.4 | 47.0 | 24.4 | 28.6 |
| Other backward class | 74.2 | 49.6 | 24.6 | 25.8 |
| Other | 75.2 | 45.5 | 29.7 | 24.8 |

Source: NFHS-5 (2019-21): International Institute of Population Sciences and ICF (2021)

Differentials in the use of modern conceptive methods by religion are observed. As per NFHS 5, 49 per cent of currently married Hindu women

used modern methods, while the figures for Christians and Muslims are 43.8 per cent and 42.9 per cent, respectively. Similarly, the corresponding figures for SCs, STs, OBCs and the non-SC/ST/OBC population are 52.5 per cent, 47 per cent, 49.6 per cent and 45.5 per cent, respectively. Surprisingly, the figure is highest among SCs, STs, OBCs and General castes.

## Spatial Patterns of Current Use of Contraceptive Methods, 2019-21

Table 10 shows the district-wise data on the percentage of currently married women aged 15-49 years using contraceptive methods (contraceptive prevalence rate), one of the important proximate determinants of fertility. The proportion of women who used at least one contraception method or whose husbands used any contraception method varies across the districts. The pattern of any method of contraception, any modern method and any traditional method by currently married women aged 15-49 years based on district-level data reflects regional imbalances.

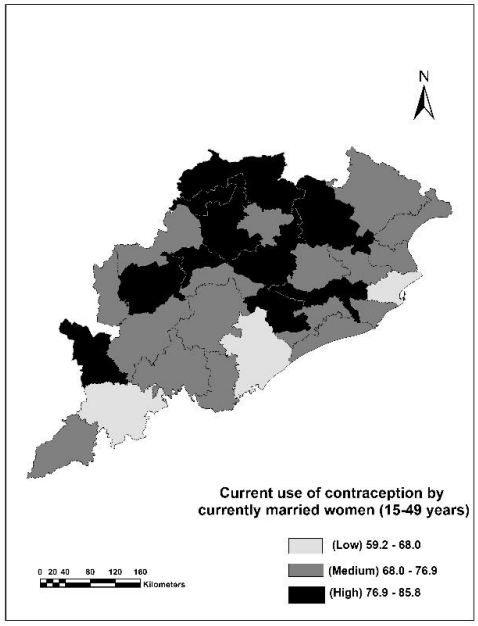
**Table 10**

*Percentage of Currently Married Women Aged 15-49 Years Using Contraceptive Method by District, Odisha, 2019-21*

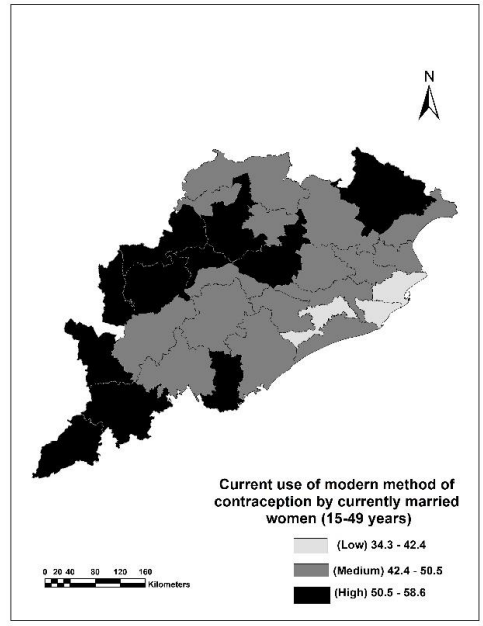
| Name of the District | Current use of contraception | | | Name of the District | Current use of contraception | | |
|---|---|---|---|---|---|---|---|
| | Any method | Any modern method | Any traditional method | | Any method | Any modern method | Any traditional method |
| Bargarh | 75.4 | 55.7 | 19.7 | Nayagarh | 78.2 | 43.7 | 34.5 |
| Jharsuguda | 81.4 | 50.3 | 31.0 | Khordha | 74.7 | 42.4 | 32.3 |
| Sambalpur | 77.1 | 58.1 | 19.0 | Puri | 74.4 | 48.6 | 25.7 |
| Debagarh | 74.1 | 42.8 | 31.3 | Ganjam | 59.2 | 46.7 | 12.5 |
| Sundargarh | 79.7 | 47.9 | 31.8 | Gajapati | 76.2 | 53.9 | 22.3 |
| Kendujhar | 77.6 | 45.8 | 31.8 | Kandhamal | 76.7 | 49.6 | 27.2 |
| Mayurbhanj | 76.3 | 50.8 | 25.5 | Baudh | 70.7 | 45.3 | 25.4 |
| Baleshwar | 68.3 | 49.7 | 18.6 | Subarnapur | 77.4 | 57.0 | 20.4 |
| Bhadrak | 72.0 | 50.4 | 21.6 | Balangir | 77.8 | 58.6 | 19.2 |
| Kendrapara | 64.7 | 34.3 | 30.4 | Nuapada | 71.4 | 54.9 | 16.6 |
| Jagatsinghapur | 71.9 | 38.8 | 33.1 | Kalahandi | 75.9 | 48.6 | 27.3 |
| Cuttack | 84.4 | 47.0 | 37.4 | Rayagada | 72.7 | 45.3 | 27.4 |
| Jajapur | 76.1 | 44.9 | 31.2 | Nabarangapur | 77.1 | 56.2 | 20.8 |
| Dhenkanal | 75.9 | 48.2 | 27.7 | Koraput | 65.4 | 56.0 | 9.4 |
| Anugul | 85.8 | 52.6 | 33.2 | Malkangiri | 74.1 | 53.4 | 20.6 |

Source: NFHS-5 (2019-21): International Institute of Population Sciences and ICF (2021)

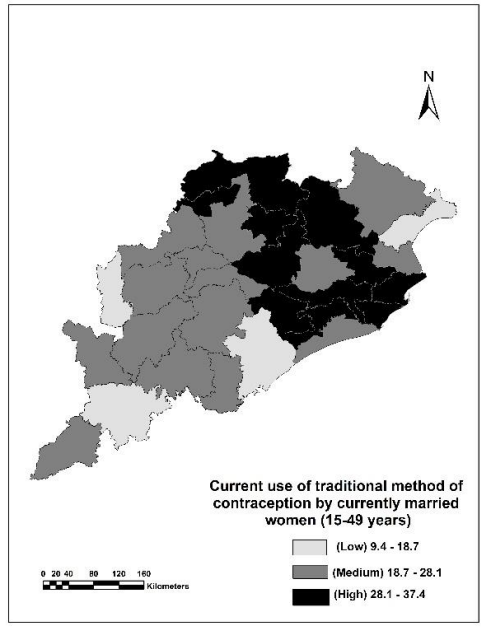
**Figure 4**
*Percentage of Currently Married Women Aged 15-49 Years by Current use of Contraception (A), Current use of the Modern Method of Contraception (B) and Current use of the Traditional Method of Contraception (C) by District, Odisha, 2019-21*




(A)




(B)




(C)

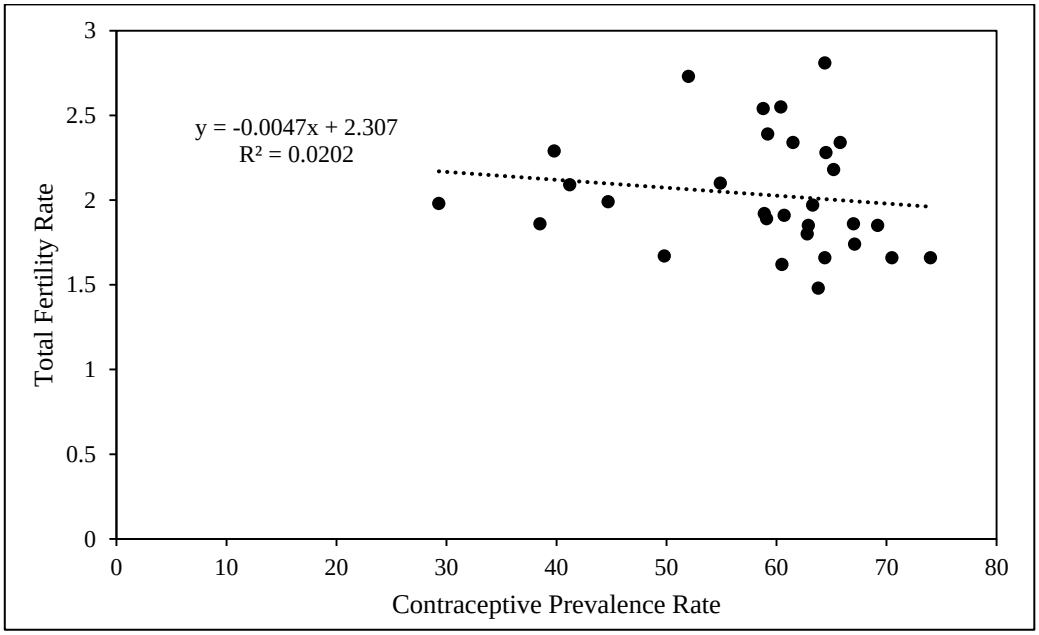
According to NFHS-5, Contraceptive Prevalence Rate (CPR) was lowest in the Ganjam district (59.2 per cent) and highest in the Anugul district (85.8 per cent). Higher CPR was also observed in Cuttack (84.4 per cent), Jharsuguda (81.4 per cent), Sundargarh (79.7 per cent) and Nayagarh (78.2 per cent). Of thirty, nine districts represent a CPR lower than the state average (74.1 per cent). These districts are Ganjam (59.2 per cent), Kendrapara (64.7 per cent), Koraput (65.4 per cent), Baleshwar (68.3 per cent), Baudh (70.7 per cent), Nuapara (71.4 per cent), Jagatsinghapur (71.9 per cent), Bhadrak (72.0 per cent) and Rayagada (72.7 per cent). The figure for modern family planning method is highest in Balangir district (58.6 per cent) followed by Sambalpur (58.1 per cent), Subarnapur (57.0 per cent), Nabarangapur (56.2 per cent), Koraput (56.0 per cent) and Bargarh (55.7 per cent) and lowest in Kendrapara (34.3 per cent) followed by Jagatsinghapur district (38.8 per cent). In contrast, traditional family planning method is highest in Cuttack district (37.4 per cent) followed by Nayagarh (34.5 percent), Anugul (33.2 percent), Jagatsinghapur (33.1 percent) and khordha (32.3 percent) and lowest in Koraput district (9.4 percent) followed by Ganjam (12.5 percent), Nuapada (16.6 percent) and Baleshwar (18.6 percent). Figure 4 shows that the magnitude of use of any method is high in the north-western part. In contrast, the use of modern methods of contraception is high in the southern as well as western parts, and the use of traditional methods is high in the northern part of the state.

**Use of Contraception and Total Fertility Rate**

The district-level pattern of use of contraception and TFR data show a wide range of regional variations in Odisha. According to Bongaarts (1978), the prevalence of contraception is one of the most powerful variables among 'intermediate fertility variables' and directly influences fertility. Therefore, an attempt was made to determine the relationship between the contraceptive prevalence rate and the total fertility rate in Odisha. The Census of India does not provide contraception data; district-level TFR data are unavailable in NFHS reports. Hence, the study used CPR data from NFHS-4 (2015-16) and TFR estimates based on the Census of India, 2011, to see if they are correlated. Figure 5 shows that the relationship between CPR and TFR is weak but negative ($r = -0.142$).

**Figure 5**

*Relationship Between Contraceptive Prevalence Rate and Total Fertility Rate in Odisha*




Source: Based on Appendix 1

## Summary and Conclusion

Odisha has experienced a rapid decline in fertility in the recent past. As a result, the state has already achieved fertility levels below replacement levels. Though fertility declined in all sections of society, the current fertility rate varies greatly by socioeconomic group. Inter-district fertility variation is also pronounced (Behuria and Das, 2016). Though fertility remains higher in rural areas than in urban areas, the rural-urban gap has narrowed. This reflects that the pace of decline in fertility in rural areas is higher than in urban areas. At the same time, the fertility rate is substantially high among tribes and women with lower levels of education. Perhaps this is why the fertility rate is highest in rural southern Odisha, characterised by educational backwardness and a higher degree of tribal concentration. The high yet low pace of decline in fertility among Christians in the state needs special scrutiny.

Further, the analysis of data on contraception reveals that a substantially high proportion of women are currently using at least one type of family planning method. The extent of use of modern family planning methods in urban areas is

lower than in rural areas. In contrast, the use of traditional methods such as rhythm and withdrawal in urban areas is higher than in rural areas. This form is yet another issue that needs further inquiry. Nevertheless, a higher contraceptive prevalence rate is observed in the regions known to have higher fertility rates.

Similarly, the rate of use of modern contraceptive methods is found to be higher in the social groups characterised by higher fertility rates. Socioeconomic development, along with an increase in contraceptive prevalence, has resulted in a lowering of fertility. With ongoing socioeconomic development and increasing acceptance of modern contraceptive methods in high-fertility regions and groups, fertility will continue to decline in the state. As the current total fertility rate in Odisha is below replacement level and is expected to fall further, the famous old slogan of the family planning campaign '*Hum Do, Hamare Do'* (we are two, we have two) will lose its relevance and the phrase '*Hum Do, Hamare Ek'* (We are two, we have one) will gain prominence in the state in times to come. However, to maintain the current rate of decline in fertility in the next few decades and to stabilise population growth, the government needs to keep on providing all types of family planning methods free of cost, allowing people from all sections of the population to use family planning methods of their choice. At the same time, no one should forget the statement 'Development is the best contraceptive' by Dr Karan Singh, India's then health minister, at the World Population Conference in Bucharest in 1974.

## Acknowledgement

The authors gratefully acknowledge the Indian Council of Social Science Research (ICSSR) for financial support.

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## Appendix 1

*District Level Pattern of Contraceptive Prevalence Rate and Total Fertility Rate in Odisha*

| Name of the District | CPR* | TFR** | Name of the District | CPR* | TFR** |
|---|---|---|---|---|---|
| Bargarh | 67.1 | 1.7 | Nayagarh | 62.9 | 1.9 |
| Jharsuguda | 74.0 | 1.7 | Khordha | 64.4 | 1.7 |
| Sambalpur | 60.5 | 1.6 | Puri | 70.5 | 1.7 |
| Debagarh | 44.7 | 2.0 | Ganjam | 59.1 | 1.9 |
| Sundargarh | 63.3 | 2.0 | Gajapati | 65.8 | 2.3 |
| Kendujhar | 39.8 | 2.3 | Kandhamal | 60.4 | 2.6 |
| Mayurbhanj | 41.2 | 2.1 | Baudh | 64.5 | 2.3 |
| Baleshwar | 38.5 | 1.9 | Subarnapur | 60.7 | 1.9 |
| Bhadrak | 29.3 | 2.0 | Balangir | 65.2 | 2.2 |

| | | | | | |
|---|---|---|---|---|---|
| Kendrapara | 62.8 | 1.8 | Nuapada | 58.8 | 2.5 |
| Jagatsinghapur | 63.8 | 1.5 | Kalahandi | 61.5 | 2.3 |
| Cuttack | 49.8 | 1.7 | Rayagada | 54.9 | 2.1 |
| Jajapur | 58.9 | 1.9 | Nabarangapur | 64.4 | 2.8 |
| Dhenkanal | 69.2 | 1.9 | Koraput | 59.2 | 2.4 |
| Anugul | 67.0 | 1.9 | Malkangiri | 52.0 | 2.7 |

Source: * International Institute of Population Sciences and ICF (2017), **calculation based on Census of India, 2011

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POPULATION GEOGRAPHY
ISSN 0256-5331
UGC-CARE Listed Volume 46(1) June 2024

# Trends, Composition and Status of Elderly Women Workers in India

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**To cite this article:** Ghosh, S., & Khatun, S. (2024). Trends, composition and status of elderly women workers in India. *Population Geography*, *46*(1), 127–140.

## Abstract

Ageing is a life process which is constituted biologically and socially. The study has assessed the status of aged women workers in India by analysing their demographic and socioeconomic circumstances and working status. The study is based on secondary data collected from the census of India (1971-2011), and data has been represented by percentage analysis. The study's findings reveal that older women (60 and above) are growing faster, and their inclusion in the workforce has also been gradually increased than before. It is noticeable that in the younger elderly age group (60-69), women mostly work as main workers, meaning they are engaged in full-time, regular employment. With increasing age, their participation in work diminishes in the main sector and increases in the marginal sector, which refers to part-time, temporary, or informal employment. Providing proper schemes, their allotment, support, care, and empathy for government and family can ensure the mainstreaming and up-grading of the overall quality of life of elderly women in India.

***Keywords*:** ageing, census data, elderly women, main worker, workforce

## Introduction

Grayness is a universal fact. It is inevitable for all living bodies. Thus, humans are also part of this reality. India has the second-largest elderly population in the world (Rajan, 2010). According to WHO (2002), "Population ageing refers to a decline in the proportion of children and young people and an increase in the proportion of people age 60 and over" (p. 6). Elderly or old age consists of ages nearing or surpassing the average lifespan of human beings (Govt. of India, 2011). The term 'active ageing', introduced by the WHO (2002), refers to "the process of optimising opportunities for health, participation and security to enhance the quality of life as people age" (p. 12). The US Department of Labour (2015) defined older people

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Article:
Received: 21.05.21 Reviewed: 29.11.23 Accepted: 11.12.23

as those 55 years and above. Older women refer to women aged 50 and older (WHO, 2007). The working population can be broadly divided into three age groups, i.e. 05-14, 15-59 and 60 and above (Govt. of India, 2011; Selvaraj et al., 2011). The people in the 60 and above age group are considered elderly in India. The elderly population is defined differently in different countries. Even different organisations/ agencies within a country define the elderly differently. For example, Indian Railways considers 60 years of age for giving concession fair to male senior citizens, while Air India considers 65 years of age for the same purpose. In 2010, 530 million persons, 7.7 per cent of the world's population, were recorded as old (Gupta, 2014). This number is estimated to increase to 2.0 billion by 2050 (Dhar, 2014; Gupta, 2014; WHO, 2002).

This article provides an overview of the status of elderly women in India in terms of their nature of work. Most of the elderly women work to cater for their economic needs, and the majority of them work in unorganised sectors with low pay and poor job security because they find no options to select a job according to their choices due to low skills and poor educational qualifications (Alam et al., 2012). Most women forced to enter the labour market work as part-time workers with low wages and no retirement benefits, and its effects are found when they become older (Meyer, 1990). Women are responsible for child care, doing house chores, take care of other family members, so they have less opportunity to enter into work to earn money as full-time workers. Women are economically more dependent than men because of the low contribution of women to the national income compared to their male counterparts (Bhagat & Unisa, 2006). Low participation of women in the national economy is responsible for gender discrimination in old age (Agewell Research and Advocatory Centre, 2015). Due to gender inequalities, women face some difficulties throughout their lives. i.e. limited access to education, lack of employment opportunities, poor nutritional, healthcare and other welfare services, limited access to resources, lack of social support and legal protection, etc. (Serrao, 2015). Economic position, available support systems, and marital and health status determine the status of older women in their families (Kumari, 2001). Taking care of the elderly is an Indian tradition, but with the capitalist mode of economic development and changing societal norms and nuclear family structure, the tradition is diminishing with time, and older people are not receiving the attention they used to get before (Bharati & Singh, 2013). The nuclear family system and the economic and social transformation negatively affected the minds of the young generations and obstructed them from coming in contact with older generations (Amriti, 2018).

The study of the elderly population is a major concern today

in developing countries due to the impetuous growth of their population compared to developed countries (Gupta, 2013). The elderly population in India is rapidly increasing due to the declining fertility rate and increasing longevity (Reddy, 2016; WHO, 2002) because of the development of medical facilities. In India, the share of the aged population was only 6.0 per cent in 1971, which increased to 8.6 per cent in 2011, and the share of the elderly population is predicted to rise further to 19.5 per cent (319 million) by 2050. The share of elderly females in the female population is higher than the male population. The term "Feminization of Aging" means that with increasing age, the proportion of elderly women has increased compared to elderly men (Gupta, 2013). The share of elderly males was 8.2 per cent, and 9.0 per cent was for elderly females. In the working age group (15-59), the male population (51.43 per cent) is greater than the female population (48.57 per cent). In contrast, the elderly (60 and above) age group shows a higher percentage of the female population (50.82 per cent) than the male (49.18 per cent) in the same year. Among the elderly (60 and above) female population, 23.38 per cent were working, and 76.62 per cent were non-working in 2011. According to 2011 census data, the adult elderly age group (60-69) has constituted nearly 29.83 per cent of female workers, and the next age groups (70-79 and 80 and above) have respectively constituted nearly 24.89 per cent and 26.21 per cent of female workers to total workers. Including the pre-retirement phase, the older adult population (age 45 and above) will rise to over 40.0 per cent of the total population of India or 655 million people by 2050. The proportion of people aged 75 and above is expected to increase by more than thrice between 2011 and 2050. The dramatic and widespread nature of these current and ongoing demographic shifts indicates that the population ageing challenges that India is encountering are both inevitable and exist on an enormous scale. These demographic changes present complex health, social, and economic challenges to which this heterogeneous country must rapidly adapt, address these issues effectively, and formulate plans for the future.

## Objectives

1. To identify the demographic structure and trend of the elderly in India
2. To find out the working status of elderly women
3. To assess the status of elderly women in India in terms of their nature of work

## Research questions

Some research questions have been framed to analyse the data properly, which are mentioned below.

1. What is the trend of older female workers over time?
2. How does the working status of elderly women change from the younger elderly age group (60-69) to the later elderly age group (80 and above)?

3. Why is the involvement of elderly women in the non-agricultural sector showing a growing trend after the census year 1991?
4. Why is the status of elderly women influenced by their working and non-working conditions?

## Materials and Methods

This paper is mainly analytical. The present study is designed to analyse the workforce structure of elderly women (above 60) in India using the census data solely. The Census of India is an important and authentic demographic and socio-economic data source in different sequential decades. In this study, data from four decades (1971-2011) have been considered for analysis. This article may also help to understand the status of elderly women in or out of the workforce. To minimise the data complexity, rural-urban dimensions in the Indian context are combined.

## Results

After the age of 60, it is expected that people will live 18 to 20 years more (Rajan, 2010), and it is also a fact that women live five years longer than men. As the life expectancy of women is higher than men (Gupta, 2013; Reddy, 2016; WHO, 2007), women in old age generally outnumber men. The population of older women is increasing remarkably in India and will continue to increase in the near future (Gupta, 2013). So, there is a need to give special attention to elderly women in India. In the last 15 years, the population of the age group 15-59 has grown by nearly 42.34 per cent, while the elderly population has increased by about 55 per cent (Chaudhury & Kumar, 2017).

Census data show that the elderly (60 and above) female population recorded more than elderly males in the 2001 and 2011 censuses. However, their presence in the workforce was very low throughout the decade. However, the number of older female workers shows a rising trend over time (Table 1).

It is ascertained that females represented 48 to more than 50 per cent of the population of 60 and above age groups during 1971-2011, and the growth rate of elderly females (35.83 per cent) is more than that of females of all ages (18.36 per cent) in 2001-2011. The decadal growth rate of the elderly female population rose (33.61 per cent) during 1971-81, but during 1981-91 it fell (29.20 per cent) and again in the next two decades, it registered an increasing trend, i.e. 42.23 per cent in 1991-2001 and 35.83 per cent in 2001-2011.

From a religious perspective (Table 2), male and female Hindu populations have recorded a higher percentage than other religious communities in the elderly age cohorts (i.e. 60-69, 70-79 and 80 and over). Among all the religious communities of elderly groups, the higher percentage of older females is noticed in the 60-69 age groups (61.51 per cent for Hindu, 62.77 per cent for Muslim, 58.13 per cent for Christian and 61.14 per cent for others), the share is decreased with increasing age. For the age group 80 and above, the values were 11.26 per

cent for Hindu, 11.53 per cent for Muslim, 13.01 per cent for Christian and 12.12 per cent for others in 2011.

**Table 1**

*Elderly Population and Workers in India*

| Census year | Population (60 and above age group) | | Workers (60 and above age group) | |
|---|---|---|---|---|
| | Male | Female | Male | Female |
| 1971 | 16874325 (51.60) | 15825406 (48.40) | 12450628 (88.23) | 1661542 (11.77) |
| 1981 | 22022866 (51.02) | 21144523 (48.98) | 14331577 (82.84) | 2967836 (17.16) |
| *1991 | 29363725 (51.80) | 27317915 (48.20) | 17772586 (80.12) | 4409629 (19.88) |
| 2001 | 37768327 (49.29) | 38853994 (50.71) | 22755919 (73.68) | 8130234 (26.32) |
| 2011 | 51071872 (49.18) | 52777168 (50.82) | 30855552 (71.44) | 12337790 (28.56) |

Source: Census of India (1971-2011)

* Data excluding Jammu and Kashmir, when the 1991 Census was not conducted due to disturbed conditions.

Figures in parentheses indicate percentages.

**Table 2**

*India: Religious Composition of Elderly Female Population, 2011*

| Age group | Elderly female population (%) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Hindu | | Muslim | | Christian | | Others | |
| | Male | Female | Male | Female | Male | Female | Male | Female |
| 60-69 | 82.19 | 82.43 | 11.16 | 10.66 | 2.49 | 2.58 | 4.16 | 4.33 |
| 70-79 | 82.83 | 82.86 | 10.21 | 9.91 | 2.57 | 2.91 | 4.39 | 4.32 |
| 80 and above | 81.61 | 81.60 | 10.73 | 10.58 | 2.70 | 3.13 | 4.96 | 4.69 |

Source: Census of India (2011), Population Enumeration Data (Final Population)

With the working age group (15-59), both the males and females of the non-schedule group (non-SC and ST) have recorded a higher percentage than schedule groups [Schedule Caste (SC) and Schedule Tribe (ST)] in the elderly (60 and above) age group also. In the 2011 census data, the percentages of elderly males are 78.28, 15.07 and 6.65 per cent, and elderly females are 77.59, 15.21, and 7.20 per cent for non-SC/ST, SC and ST, respectively. So, the striking fact is that elderly females in the scheduled group are higher than males, and for ST, the share of the female population is higher than males in the working age group (15-59), i.e. 8.02 per cent male and 8.44 per cent female.

According to the last census (2011), in India, the overall sex ratio is 943, favouring males. However, the

sex ratio of the 60 and above age group is 1033, favouring women. The elderly older age group (80 and above) has recorded an 1137 sex ratio, which is highly auspicious towards women. The sex ratio of the older age groups 60-69, 70-79 and 80 and above have increased by more than 90, 80 and 200 points from 1991-2011, but the age group 60-69 shows a decline of 26 points during 2001-2011.

In 2011, the literacy rate among elderly females (28.47 per cent) was less than half that among elderly males (59.10 per cent). So, males are more literate than females in the old age groups. Among the elderly, the 60-69 age group has recorded the highest percentage of female literate (30.25 per cent) and the lowest percentage of female illiterate (69.75 per cent), while the opposite substance was viewed in the 70-79 age group (25.39 per cent for female literate and 74.61 per cent for female illiterate) in 2011. In the case of elderly males, the highest percentage of literate (61.54 per cent) is found in the 60-69 age groups, and the lowest (53.51 per cent) is found in the 80 and above age groups in the same year.

In the age-wise distribution of elderly women, most females are married. Widows and a very insignificant percentage of divorced/ separated are found in all three elderly age groups, namely young elderly (60-69), middle elderly (70-79), and later elderly (80 and above) through the decades (1991-2011). Though the values fluctuate, the general but striking fact is that later elderly (80 and above) widow females have risen trend (Table 3). This might be due to the age difference between spouses during the marriage.

According to the Indian census, there are two major categories of work, i.e. main and marginal categories. In India, the number of older female workers is higher in the main sector than the marginal. Still, their involvement in the marginal sector is more than that of males, and it is also explicit for the overall population and all caste groups and religious groups. Among all elderly age groups, i.e. 60-69, 70-79 and 80 and above, the main female worker has a declining trend, whereas a marginal female worker recorded an increasing trend from 1991 to 2011 (Table 4).

In religious groups of elderly female workers, Christians in the main worker (67.70 and 67.40 per cent in 2001 and 2011, respectively) and Muslims in the marginal worker category (45.80 per cent and 44.29 per cent in 2001 and 2011, respectively) possess the maximum percentage. Though higher involvement of Christian females is found, Hindu and Muslim females' involvement as the main workers increased during 2001-11 (for Hindu 57.06 and 59.80 per cent and Muslims 54.20 and 55.71 per cent in 2001 and 2011respectively).

**Table 3**

*Marital Status of Elderly Females in India*

| Year | Age groups | Marital status (%) | | | |
|---|---|---|---|---|---|
| | | Never married | Married | Widow | Divorced/ separated |
| *1991 | 60-69 | 0.72 | 52.54 | 46.30 | 0.43 |
| | 70-79 | 0.86 | 32.69 | 66.09 | 0.36 |
| | 80 and above | 6.40 | 23.42 | 69.78 | 0.33 |
| 2001 | 60-69 | 1.13 | 56.21 | 42.12 | 0.54 |
| | 70-79 | 1.58 | 35.54 | 62.45 | 0.43 |
| | 80 and above | 3.51 | 25.09 | 71.01 | 0.39 |
| 2011 | 60-69 | 43.62 | 50.46 | 5.36 | 0.56 |
| | 70-79 | 1.58 | 37.12 | 60.82 | 0.48 |
| | 80 and above | 4.50 | 26.10 | 69.01 | 0.39 |

Data Source: Based on Census of India (1991-2011) * Data excluding Jammu and Kashmir

**Table 4**

*Major Categories of Elderly Female Workers in India*

| Categories | Year | Age groups | | |
|---|---|---|---|---|
| | | 60-69 | 70-79 | 80 & above |
| Main female worker (%) | *1991 | 69.93 | 68.19 | 68.63 |
| | 2001 | 57.37 | 56.59 | 58.83 |
| | 2011 | 59.90 | 59.15 | 59.12 |
| Marginal female worker (%) | *1991 | 30.07 | 31.81 | 31.37 |
| | 2001 | 42.63 | 43.41 | 41.17 |
| | 2011 | 40.10 | 40.85 | 40.88 |

Data Source: Based on Census of India (1991-2011) * Data excluding Jammu and Kashmir

**Table 5**

*Work Participation Rate of Elderly Males and Females in India*

| Year | Age group | | | | | |
|---|---|---|---|---|---|---|
| | 60-69 | | 70-79 | | 80 and above | |
| | Male (%) | Female (%) | Male (%) | Female (%) | Male (%) | Female (%) |
| *1991 | 71.37 | 20.82 | 46.97 | 9.24 | 31.68 | 5.71 |
| 2001 | 69.73 | 26.30 | 49.30 | 13.32 | 34.63 | 8.57 |
| 2011 | 69.80 | 28.91 | 48.96 | 16.05 | 34.90 | 10.91 |

Data Source: Based on Census of India (1991- 2011) * Data excluding Jammu and Kashmir

Among caste groups of older female workers, the highest percentage of main workers (58.47 per cent) is observed for non-SC/ST and the marginal category. ST females achieved the maximum percentage (46.11 per cent) in 2001. In 2011, non-SC/ST and ST females also registered the maximum percentage (i.e. 61.39 per cent SC and 46.16 per cent ST) for main and marginal sectors, respectively, in the elderly age group.

Hill (2002) has mentioned that "although a larger proportion of men than women are employed at old ages, the labour force participation among older men has fallen while that of older women has risen" (p. 39). Despite the low work participation rate (WPR) of elderly women compared to elderly men in India from 1991 to 2011 (Table 5), women in all the older age groups marked an accelerating work participation rate at that time, reflecting Hill's views. The maximum WPR of older women is noticed in the age group 60-69 over the decades (1991-2011) and decreased with increasing age, and it may occur because of poor physical capabilities. The work participation gap between males and females is 37.04 per cent for the elderly and 40.99 per cent for the working age group.

The work participation rate of elderly females was recorded as the highest for ST in 2001 (37.27 per cent) and 2011 (41.58 per cent), though all the caste groups have shown an accelerating work participation rate of older women from 2001 to 2011. Among religious groups, FWPR of the old age group has recorded the highest percentage for Hindus; these were 21.92 per cent in 2001 and 24.59 per cent in 2011. All the religious groups have shown an increasing rate of work participation of aged women over the decade (2001-2011).

Both main and marginal categories are classified into four subcategories (table 6), i.e. cultivators (C), agricultural labourers (AL), household industry (HHI) workers and other workers (OW). In the main categories, elderly women mainly worked as agricultural labourers and cultivators, but their participation increased in another worker category from 1991-2011. In the marginal sector, representations of elderly women as agricultural labourers, household industry workers and other workers have gradually increased from 1991 to 2011.

Elderly people are involved more in the agricultural sector than the non-agricultural sectors because this sector does not require a higher level of skilled workers (Bakshi & Pathak, 2016). Census data from 2011 shows that 73.63 per cent of elderly women work in the agricultural sector, which is greater than that of elderly men (66.84 per cent).

**Table 6**

*Categories of Female Workers Among Elderly Age Groups in India*

| Year | Age group | Categories of main female worker (%) | | | | Categories of marginal female worker (%) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | C | AL | HHI | OW | C | AL | HHI | OW |
| *1991 | 60-69 | 39.89 | 44.94 | 3.13 | 12.04 | 54.36 | 38.91 | 2.06 | 4.67 |
| | 70-79 | 42.77 | 40.92 | 3.24 | 13.07 | 55.39 | 38.02 | 1.99 | 4.60 |
| | 80 & above | 41.51 | 38.32 | 3.41 | 16.76 | 53.13 | 39.52 | 2.05 | 5.30 |
| 2001 | 60-69 | 42.84 | 31.43 | 5.09 | 20.64 | 33.97 | 48.61 | 5.28 | 12.14 |
| | 70-79 | 42.88 | 28.19 | 5.68 | 23.25 | 34.27 | 46.43 | 5.72 | 13.58 |
| | 80 & above | 39.36 | 26.40 | 6.54 | 27.70 | 29.74 | 47.31 | 7.22 | 15.73 |
| 2011 | 60-69 | 32.79 | 39.67 | 4.61 | 22.93 | 24.51 | 52.55 | 5.42 | 17.52 |
| | 70-79 | 35.25 | 36.48 | 4.75 | 23.52 | 26.30 | 48.47 | 5.76 | 19.47 |
| | 80 & above | 33.05 | 31.45 | 5.42 | 30.08 | 23.74 | 44.74 | 6.73 | 24.79 |

Data Source: Based on Census of India (1991– 2011) * Data excluding Jammu and Kashmir

On the contrary, the involvement of elderly women in the non-agricultural sector is less (26.37 per cent) than that of elderly men (33.16 per cent). This is because the non-agricultural sector, particularly the service sector, requires skilled and educated workers, but in India, older women are low-skilled and less educated than older men. However, from 1991 to 2011, it was noticed that women workers in all elderly age cohorts had found a declining trend for the agricultural sector and a growing trend for the non-agricultural sectors. This is because more physical strength is needed to work as an agricultural worker than another worker. After 80, the health condition of both men and women starts deteriorating, so they want to choose those types of work where less physical effort is demanded.

## Discussion

Various factors determine the working and non-working status of elderly women. At the same time, the status of women in family and society is influenced by their working and non-working conditions. Work participation of elderly females is very low (23.38 per cent). Both economic and non-economic factors, such as scarcity of economic resources, earnings, health, education, and marital status, substantially impact older women's work participation (Herz, 1988; Hill, 2002). Hill (2002) has opined that "personal characteristics, family situation and previous labour force attachment, as well as the need for income, may affect the labour force participation of older women" (p. 40). The low participation in work might be attributed to different

factors. Firstly, it is difficult for women to get work in old age due to illness and disability, less productivity, more absent tendencies and lack of training experiences (Ellis & Goldberg, 1995). Secondly, it is stated that 'older workers are less productive than younger workers' (Hollenshead, 1982, p. 143; TUC women's conference report, 2013). Thirdly, in the digital India arena, technological knowledge is very important to get better jobs because modern technologies are applied in most work. Due to a lack of modern technological knowledge, older women mostly work as part-time workers with low wages. Fourthly, old women employed in government sectors benefited from the pension facilities. So, they can quit their jobs after retirement (55 to 65 age group) but are employed in the informal sector and have no pension facilities to continue their work after 60. Fifthly, even women from low-income families continue to work after 60 but have higher family incomes recess from work. Sixthly, the mobility of older women with their children from rural to urban or from one place to another is one of the causes of their little involvement in the workforce or more dependence on others. Seventhly, they must waive work for household responsibilities, i.e. caring for husbands, children, and grandchildren at home. Sometimes, older women cannot participate in the workforce because of disability. Some chronic diseases like heart disease and stroke, breast cancer, cervical cancer, osteoporosis and osteoarthritis affect many women later in life (WHO, 2007).

On the other hand, women's engagement in work at an older age is due to financial insecurity, negligence of the family, and very limited knowledge and awareness of their legal rights (Choudhuri, 2018). Older women are considered an 'economic burden' (Asharaf, 2005) on a family when she has no spouse and cannot engage in economically productive activities. Aged women's rights and security are disregarded in those families where they are financially dependent on their children. They bear the negligence of the family members only because they have no assets or income source. Sometimes, older people, particularly older women, cannot utilise their ancestral property due to a lack of knowledge, and ultimately, they lose their property. Older women alone are highly vulnerable to poverty and social isolation (WHO, 2002) has to participate in work.

Ellis and Goldberg (1995) also mentioned that many elderly people working in the informal sector are low-skilled or unskilled workers due to their poor socioeconomic condition. With increasing age, the proportion of women full-time workers has diminished while the proportion of women part-time and self-employed workers has increased (Hill, 2002; Selvaraj et al., 2011).

Similarly, the nature of the work of older women in India reveals a very alarming feature. Though the workers of young and old age (60–69) are the main workers with increasing age, the marginalisation of elderly females is increasing.

The other important thing is that educated elderly workers tend to work in the service sector more than in the agricultural and manufacturing sectors (Alam & Mitra, 2012). “People with limited education have low employment rates in old age, but people with college and advanced degrees tend to remain in the workforce longer”. (Burtless, 2013, p. 21).

From the result, it is found that elderly women's work participation is increasing. Among three groups of elderly women, the 80 and above age group showed more workers than the 70-79 age group in 2011. As India is a patriarchal society, here, the male is the bread earner, and women are mostly dependent on their spouse; so many women are spouseless after 80, and there are so many families in our country where children do not want to take care of their older mother. Thus, women have to work in their old age unwillingly to overcome the negligence of their family members. In high elderly age (80 and above), women mostly work as marginal workers because, in this stage, women cannot give their full effort in work, so they are employed as part-time workers. In contrast, in the younger elderly age group (60-69), there are more women workers than in other age groups. It also indicates the work-shifting tendency of older women from one age group to another. Another fact is that older women employed in the primary sector are abandoned from any social security benefits (Asharaf, 2005). After 60, women face age discrimination and wage discrimination in the labour market due to poor skill levels than their male fellows (Scottish Commission's report, 2015).

## Conclusion

In India, the dependency ratio of elderly males was 13.60 and elderly females were 14.88 per cent in 2011, but in 2001, it was 12.45 and 13.78 per cent, respectively. So, the dependency ratio is increasing in India. In this situation, formulating policies toward older people in general and older women, in particular, is necessary to improve their way of living. Policies regarding financial support, social security, and health improvement in old age might be revived to provide a better quality of life for older people both at home and outside the home. They should be aware of the government schemes and programs and the proper allotment of the schemes. At present, economic independence and education are necessary for increasing the status of older women in their families and society. Furthermore, family support and

empathy can improve women's living and working statuses. Future research must focus on the perception of older women workers in different parts of the country, which will be more effective for understanding their structure and status and, thereby, policy formulation and implementation.

## Acknowledgement

The authors thank the University Grants Commission, New Delhi, for financial support in Granting a Research Fellowship to the corresponding author and the University of Kalyani, Nadia, West Bengal, for extending research facilities.

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POPULATION GEOGRAPHY
ISSN 0256-5331
UGC-CARE Listed Volume 46(1) June 2024

# Impact of Gulf Emigration on the Economy of Muslims: A Micro-Level Study from Falta Community Development Block, South 24 Parganas, West Bengal

**Faruk Mallick**

**To cite this article:** Mallick, F. (2024). Impact of Gulf emigration on the economy of Muslims: A micro-level study from Falta community development block, South 24 Parganas, West Bengal. *Population Geography*, *46*(1),141–160.

## Abstract

Migration to the Gulf from India, a significant socioeconomic phenomenon, has profound micro and macro effects. India, the largest recipient of remittances from the GCC (Gulf Cooperation Council) nations, has seen a substantial outflow of employees, including semi-skilled and unskilled workers, from various Indian states. Before 2010, the migration to the Gulf from India was dominated by several South Indian States. However, the trend has shifted in recent years, with most workers migrating to the Gulf nations coming from densely populated northern and eastern India (Uttar Pradesh, Bihar, West Bengal, and Rajasthan). Muslims, who constitute a significant portion of the unskilled workers from India, are particularly affected. As per the Sachar Committee Report, Muslims are the disadvantaged group in India, especially in West Bengal. This study, conducted at a micro level, examines the economic effects of the Muslim labourers from the Falta CD block leaving for the Gulf in the South 24 Parganas district of West Bengal. The study's primary data were gathered via semi-structured questionnaires from sampled houses. Socioeconomic data for both migrant and non-migrant families is collected. All the information is transformed into percentages and shown using various cartograms. The study found that the migration of Muslim workers from the Gulf had a substantial impact on their families and the society in which they resided. The study also revealed that Muslim migrant worker families in the Gulf were more prosperous and affluent than non-migrant worker households.

***Keywords***: emigration, Gulf nations, Muslim emigrant, economic betterment, West Bengal

## Introduction

Migration refers to the permanent, semi-permanent or temporary change of residence of an individual or a group of people from one place to another. The history of migration has come a long way since the very beginning of civilisation. There are many reasons behind migration, and the impact of migration is deep in society. Migration is classified into

Article:
Received: 15.09.22 Reviewed: 23.01.24 Accepted: 18.04.24

different categories. Based on the direction of movement, it is divided into two groups: out-migration or emigration and in-migration or immigration. When an individual or a group of people moves into another country after leaving their own country, it is considered emigration. The process of emigration is motivated by a variety of factors.

However, in most cases, economic reasons are what matter. Several reasons, including strong working conditions, rising standards of labour, and a stable social and economic environment, influence emigration. The primary source of emigrants into industrialised countries is from several underdeveloped and emerging countries, which are dealing with issues like the growing or explosion of the population (Sen 2008, pp-187-188). Countries like India, Mexico, China, Russia, Pakistan, Bangladesh, the Philippines, etc., are experiencing the emigration process significantly, per the world migrant stocks data published by UNDESA (United Nations Department of Economic and Social Affairs) in 2019. The people from different African countries have also permanently migrated to several European developed nations.

The causes of international migration are not concentrated on single factors. However, the causes of Gulf migration tend to focus only on single economic factors. Labour migration within the Arab region is not a new phenomenon. It started in late 1930 (Winckler, 2010, p-9). Gulf emigration from India has a long history going back centuries to the time of Arab traders and travellers. There are several phases of Gulf migration, influenced by changes in economic conditions and immigration policies in the host countries (Chanda and Gupta 2018, p-180). The persistence of wage inequalities and low growth in formal employment encourage workers to consider international migration to improve their economic well-being (Madhu and Uma 2014, p- 94). India constitutes the largest contingent among expatriate workers of all labour-exporting countries to the GCC countries (Azhar, 2016, p-103-104).

Gulf countries are the leading destination for the emigration of skilled, semi-skilled, and unskilled labourers from various underdeveloped and developing countries. Almost all Gulf countries are enriched with petroleum. These countries are less crowded and have lower population densities. The per capita income of these nations is much higher than that of other developing countries. These countries are Muslim-dominated. The standard of living of the people of these countries is very classy. As the people of the Gulf nations are not involved in hard work, they always need various categories of quality workers and spend a sizable amount of money on them. The majority of the migrants in the GCC are estimated to be Muslims. Gulf countries prefer Muslim workers in most cases. The PEW research revealed that as per the Global

Religion and Migration Database 2010, about 10590000 Muslim migrant workers were present in the GCC countries, which accounted for more than 70% of total migrants (Faith on the Move- The Religious Affiliation of International Migrants, 2012).

Emigration from India to the GCC countries (Bahrain, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates) is not new. It has a long history, though it has increased remarkably since the 1970s due to the Oil Boom (Kumar, 2013). So, migrating Indian workers on a larger scale is a phenomenon of the post-1973 oil era. They have migrated to those countries for employment and earning by participating in the construction and development of the economy of oil-exporting GCC countries (Azhar 2016, p-100). As per the various annual reports of the Ministry of External Affairs (MOEA), many people from India go abroad yearly for overseas employment. The majority of these workers have gone to the Gulf countries. These workers are primarily semi-skilled and unskilled; most are temporary migrants who return to India after the expiry of their contractual employment.

The UNDESA report revealed that in 2017, 1.65 million Indians lived outside India, with more than half in the GCC countries. As per the annual report (2019-20) published by the Ministry of External Affairs (MOEA), about 3.34 lakh Indian workers migrated to different ECR countries in 2019. Most have gone to various Gulf nations (See Table 1). As per the PEW research report, Muslims of India are more emigrating in nature than Hindus. Muslims constitute only 14% of the total Indian population (per the 2011 census), while they represent 27% of the migrants from India. Most Muslim migrants from India presently reside in different GCC countries.

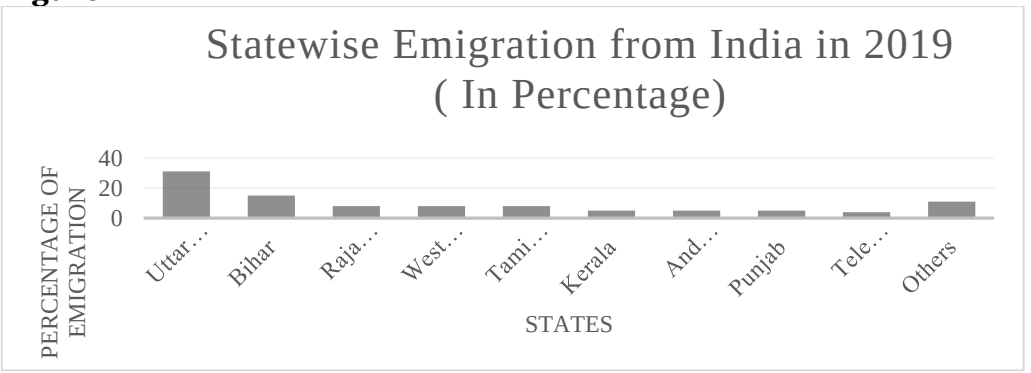
**Table 1**

*Workers Emigrated from India to Various ECR Countries (in Lakhs) in 2019*

| Name of the countries | Year-2019 (30.11.2019) |
|---|---|
| Saudi Arabia | 1.43 |
| UAE | 0.72 |
| Kuwait | 0.42 |
| Qatar | 0.28 |
| Oman | 0.26 |
| Bahrain | 0.09 |
| Malaysia | 0.10 |
| Others | 0.04 |
| Total | 3.34 |

Source: Annual Report (2019-20), Ministry of External Affairs, Government of India

**Figure 1**




Source: Protector of Emigration, MOEA, Government of India, Computed by the Authors in 2021

According to the data published by MOEA (2019), Uttar Pradesh, Bihar, Rajasthan, West Bengal, Tamil Nadu, Kerala, Andhra Pradesh, Punjab, and Telangana are the leading states for sending migrant labour outside India, mainly to the Gulf. Figure 1 shows the percentage of emigrated persons from these states during 2019.

It is clear from the chart above (Figure 1) that employees from West Bengal are consistently expressing interest in settling in other GCC nations, in addition to those from Kerala, Uttar Pradesh, and Bihar. The data also showed that during the past 20 years, a sizable number of workers from West Bengal have travelled to numerous GCC nations. Over 25,000 workers went from West Bengal to various Gulf countries in 2018. Thus, along with Rajasthan, Uttar Pradesh, and Bihar, West Bengal is becoming one of India's main states that exports workers. The likely causes are declining salaries, a lack of decent-paying jobs with good benefits, an increase in the frequency of unemployment, and rapid population expansion.

Researchers revealed that Gulf migration is mostly a Muslim-dominated phenomenon. There are several Muslim-dominated or oriented districts of West Bengal from which migrant workers are involved in emigration into the GCC countries. Murshidabad, South 24 Parganas, North 24 Parganas, Burdwan, and Nadia are significant districts that send migrant labour to the GCC countries. All these districts have a sizable number of Muslims in their total population. Murshidabad and South 24 Parganas are the top two Muslim-numbered districts in West Bengal and India, with 47,07573 and 29,03075 Muslim populations per the 2011 census. As per the MOEA data, all the districts are presently on the list of India's top 50 migrant-sending districts. As per the Ministry of External Affairs (MOEA) e-migration portal reports, from 2015 to 2018, more than 20000

workers migrated from the South 24 Parganas district to the Gulf countries. Various Muslim-dominated CD blocks, such as Magrahat I, Magrahat II, Falta, Bishnupur I, and Bishnupur II, are significant in sending migrant labour. As block-wise data on migration is not available, it is not possible to figure out the exact block-wise number of Migrant workers.

Numerous studies have analysed different facets of Muslim workers' migration to the Gulf from different Indian states. The current study, conducted at the micro level, looked into the status of Gulf migration and how it affected Muslim employees in several areas within the Falta CD block in the South 24 Parganas district of West Bengal. Different parts of the block are exclusively Muslim, and the majority of Muslim workers frequently travel to Gulf or GCC nations. It is challenging to locate a home with migrants from communities other than Muslims who are employed in the Gulf. Several villages, namely, Mollarthesh, Hasim Nagar, Gopalpur, Jafarpur, Tripurapur, Mamudpur, and Mallikpur, are a few of the areas from where Muslims involved in the emigration process to be settled mainly in the Gulf countries.

## Objectives

The study has been carried out with the following objectives:

1) To study the financial condition of Muslim workers before and after emigration into Gulf countries and to understand how Gulf migration affects Muslims' economies.

2) To compare the financial status of emigrant and non-migrant Muslim workers.

## Research Questions

The study will address the following questions based on the study's objectives.

1. What is the nature of Muslim Gulf migrants, and why do they migrate to Gulf countries?
2. What are the socioeconomic characteristics of these migrants?
3. Are there any differences in socioeconomic status between migrant and non-migrant workers and their families?

## Material and Method

The study adopted a quantitative technique to reach its objective. The study at the bottom is explorative and is mainly based on primary data. The household survey was done between January and February 2021. One hundred households (sample respondents) were chosen (50 each from the emigrant and non-migrant workers' families) from 5 Muslim-dominated villages of the block for personal interviews. These villages are Mollarthesh, Hasim Nagar, Gopalpur, Tripurapur and Zafarpur. A purposive sampling technique has been adopted to choose sample respondents from migrant and non-migrant households. Two semi-structured questionnaires with both

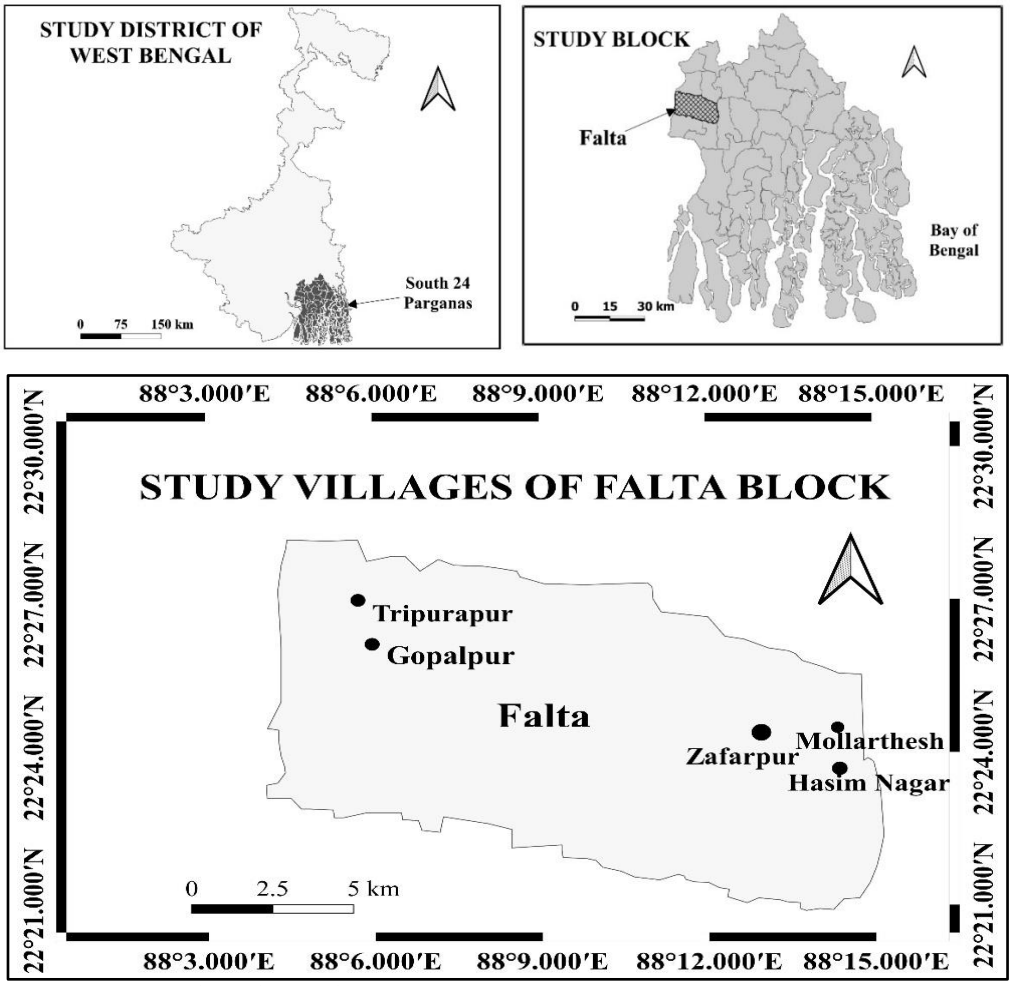
open- and closed-ended questions were prepared to gather various socioeconomic and demographic data from both the households of migrant and non-migrant workers, using face-to-face interviews with a member of the sample households. The questionnaire was then pre-tested to test the validity of the questions. After that, all unwarranted questions were removed, and final questionnaires were prepared. Households with at least one worker working in different Gulf nations for five years or have worked before for at least five years have been chosen. The chain sampling (also known as snowball sampling) technique is employed to identify sample respondents from both emigrant and non-emigrant workers. Thanks to the chain referral system, the author connected with a challenging demographic to sample. Numerous socioeconomic statistics are gathered from households with and without migrants. All the data are translated into percentages and ratios and displayed through bar graphs and charts. This makes comprehending how the emigration process improves the place's local economic and financial situation easier.

**Study Area**

Falta block of South 24 Parganas district is situated in the southern part of West Bengal near the stretch of Hooghly River. This zone is considered a Special Economic Zone (SEZ) and an assembly constituency of West Bengal. The CD block is bounded by the Budge Budge 2 and Bishnupur 2 CD blocks in the north, the Magrahat 1 CD block in the east, the Diamond Harbour 1 & 2 CD blocks in the south and the Hooghly River in the east.

According to the District Statistical Handbook, the Falta CD block has an area of 130.68 sq. km. It has one Panchayet Samity, Thirteen-gram Panchayats, 186 Gram Sansads, 133 revenue mouzas and 129 inhabited villages. According to the 2011 census of India, the Falta CD block had a total population of 249561, of which 226162 were rural and 23399 were urban. About 77% of the total population of the block is literate, compared to 77.51% of the total population of South 24 Parganas and 77.08% of the total population of West Bengal. As per the census of India in 2011, about 87352 Muslims lived in the Falta block, accounting for 35.00% of the total population of the CD block. In Falta, among the total workers, cultivators formed 7.31%, agricultural labour formed 14.92%, household industry constituted 4.89%, and 45.16% of workers are considered as the other types of workers, which include factory, mining, plantation and different activities which are not included in the previous category. There are also 27.72% of workers known as marginal workers (Table 2).

**Figure 2**
*Study Area*




Source: Prepared By the Author

**Table 2**

*Percentage of Different Category Workers in Falta, 2001 and 2011*

| Type | 2001 | | 2011 | |
|---|---|---|---|---|
| | Number of workers | % of Workers | Number of workers | % of Workers |
| Cultivators | 7759 | 8.28 | 6478 | 7.31 |
| Agricultural Labour | 22763 | 24.29 | 13220 | 14.92 |
| Household Industries | 6397 | 6.83 | 4331 | 4.89 |
| Other Workers | 36128 | 38.56 | 40013 | 45.16 |
| Marginal Workers | 20638 | 22.03 | 24556 | 27.72 |
| Total Workers | 93685 | 100 | 88598 | 100 |
| Non-workers | 148648 | NA | 160953 | NA |

Source: Census of India 2001 & 2011, District Primary Census abstract 2011 and computed by the authors

Table 2 shows the changes in the economic activities of the workers of the Falta block from 2001 to 2011. All agricultural activities have been reduced, and other activities have increased simultaneously. A sizable number of people also increase the frequency of the non-working population. So, it is assumed that agriculture and allied activities are becoming less important and less preferred in the area as most workers have joined in other economic activities. The lower wages and inconsistency in the agricultural sector are probably the reasons behind it.

**Muslims of West Bengal**

Muslims in West Bengal live in both Rural and Urban areas. The majority of them are concentrated in rural areas. Both the rural and urban Muslims suffered from poverty, illiteracy, unemployment and other social problems. However, the situation is critical in rural areas where the Muslim population shares most of West Bengal (Biswas, 2015 pp, 263)). Muslims are the principal minority and second-largest religious group after the Hindus in India and West Bengal. According to the Census of India 2011, they constitute 14.64% of the population in India and 27.0% of the population in West Bengal. Murshidabad district has the largest Muslim community, with 66.27% of the total population, followed by Maldah (51.27%), Uttardinajpur (49.92%), Birbhum (37.06%) and South 24 Parganas (35.57%). Muslims lack a share of political power and social status. Their numerical population strength is still lower than that of the majority community in Indian society. In West Bengal, Muslims are in a disadvantaged position in terms of getting facilities or infrastructure, even though they constitute the majority population of a district. (Mainuddin, 2011, pp-124-125). Regarding the total number of Muslims in the population, the South 24 Parganas district is presently the second largest Muslim district in West Bengal after Murshidabad, as per the census data 2011.

It is estimated that about 10.5% of Muslim workers engaged in trade, lower than the Hindu workers (12.3%) in West Bengal. Self-employed workers among Muslims are about 52.6%, which is more than the Hindu self-employed workers, who are 44.6 % (Sachar Committee Report 2006, p. 342–343). A report published in The Indian Express on February 15 2016, written by Esha Roy, stated that 'almost 80% of Rural Muslims in West Bengal are borderline poor'. The article also intimated that as per the SNAP Report (Non-profit Organization), rural Muslims are mainly involved in agricultural activities or daily work in non-agricultural sectors.

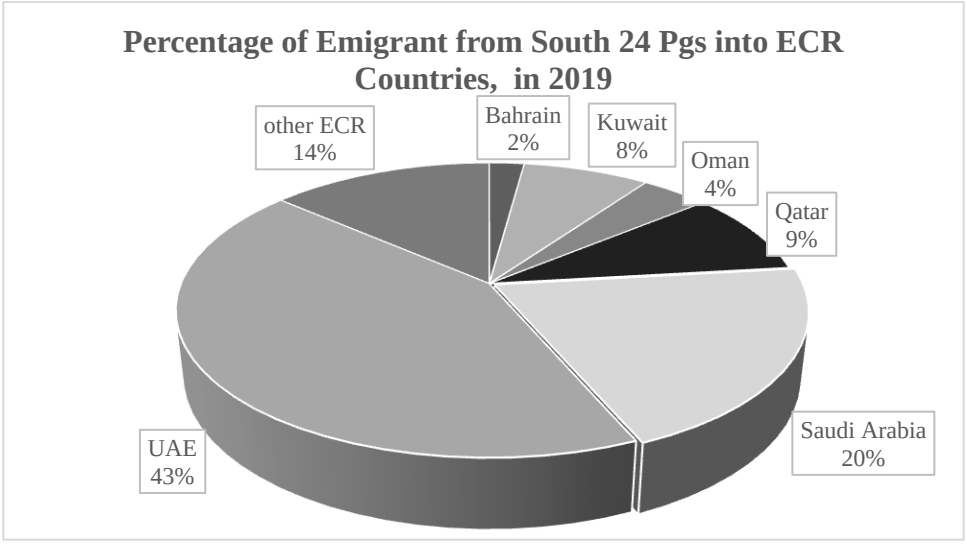
**Table 3**

*Different CD Block-Wise Muslim Population in South 24 Parganas*

| CD Block | Total population | Hindu | | Muslim | |
|---|---|---|---|---|---|
| | | Population | Percentage | Population | Percentage |
| Magrahat 1 | 269494 | 108987 | 40.44 | 155770 | 57.8 |
| Magrahat 2 | 304744 | 148091 | 48.6 | 152412 | 50.01 |
| Bishnupur 1 | 232365 | 147636 | 63.54 | 72219 | 31.08 |
| Bishnupur 2 | 214531 | 132844 | 61.92 | 80651 | 37.59 |
| Falta | 249561 | 161873 | 64.86 | 87352 | 35 |

Source: Census of India, 2011

**Figure 3**




Source: Protector of Emigration, MOEA, Govt. of India, Computed by the Authors in 2021

**Table 4**

*Destination Country of Emigrant Workers from the Study Area*

| Destination Country | Workers emigrated from the study area | Percentage of workers |
|---|---|---|
| Qatar | 11 | 16.64 |
| Saudi Arabia | 13 | 23.21 |
| UAE | 28 | 50.0 |
| Others | 4 | 7.14 |

Source: Field survey, January 2021

## Muslims of South 24 Parganas, West Bengal

Agriculture is the major source of livelihood for both the Muslim and Hindu communities of South 24 Parganas, as they work as cultivators or agricultural labourers. Muslim participation in the government sector is very small. The share of migrant workers is quite sizable in this district. Almost 65 % of migrant Muslim workers are involved in long-term migration. The majority of these workers migrated within the district or state. About 21.57% of Muslims Migrate to towns outside the State of West Bengal. So, it is expressed that there are no pull factors for attracting migrant labour into Kolkata as the city has become less attractive to job seekers from the villages (MCD Project Report, South 24 Parganas, pp. 28-29). As per the census data 2011, there is a 35.57% Muslim population in the South 24 Parganas district of West Bengal. Among the 29 CD blocks of the district, it has been seen that there are some CD blocks from where Muslim workers continuously go abroad for employment. These blocks are Falta, Magrahat I, Magrahat II, Bishnupur I, and Bishnupur II. The percentage of Muslim populations in these blocks is presented in Table 3.

Muslims in these neighbourhoods, therefore, have an important role in the local economy and society. The workforce from the Muslim population is less technically skilled and educated. It is frequently getting tougher for them to engage in decent work with good pay. They can migrate to the Gulf nations, where they can find well-paying work and do so quickly. This micro-level study is adopted to determine the economic effects of Muslim workers' migration to the Gulf from the Falta CD Block in the South 24 Parganas district of West Bengal.

## Result and Discussion

### *Destination Country*

The unskilled and semi-skilled labourers from the Muslim community are interested in different Gulf countries. The following chart (Figure 3) shows the percentage of emigrants who have gone to the ECR (Emigration Checked Required) countries from South 24 Parganas in 2019. Among all the ECR countries, the Gulf nation is the leading destination for migrant workers. UAE remains the main destination for the workers, whereas Saudi Arabia, Qatar and Kuwait are also the important destinations for migrant workers.

The primary survey data are almost similar to the data published by the MOEA in 2019. As per the field study (Table 4), about 28 workers out of 56 (50% of workers) are working or have worked before in the UAE. Saudi Arabia and Qatar are the next best choice for the workers to go and settle in these nations, as 23.21% and 19.64% of workers are working or have worked there. Only 7.14% of workers work or have worked in several other GCC countries like Kuwait, Bahrain, etc.

### *Gross Monthly Family Income*

There is a huge difference in the gross monthly income of families of Muslim emigrants before and after emigration. Based on the field survey (Table 5), nearly 48% of the 50 families had a gross monthly income of Rs.5000-10000 before migration to the Gulf. About 32% of families of emigrant workers had a gross monthly income of less than Rs.5000. Most importantly, before migration, every family had a gross income of less than Rs. 30000 per month.

Things altered once they moved to the Gulf. According to data from the field survey (Table 5), around 52% of the families of the sample's emigrant workers currently make between Rs. 20001 and Rs. 30000 monthly. Approximately 26% and 14% of the studied households have gross monthly incomes of Rs. 30001–40000 and Rs. 10001-20000, respectively. Significantly, no Muslim emigrant home was found to have a monthly income of less than Rs. 1000, while roughly 8% of households have a gross monthly Income of more than Rs. 40,000. As a result, the study discovered a considerable disparity between Muslim migrant households' gross monthly income before and after departure. Fifty non-migrant samples (households) had average gross monthly incomes comparable to those of emigrant households before the emigration of their members. Families of non-migrant employees make between Rs. 1000 and Rs. 200000 in gross monthly income. Almost 28% of households make between Rs. 5001 and Rs. 10000 monthly. Only 10% of families make between Rs. 20001 and Rs. 30000 in monthly gross income, compared to 8% of households that earn between Rs. 3001 and Rs. 40000. About 2% of non-migrant worker families (Table 5) have a gross income of more than Rs. 40000 per month.

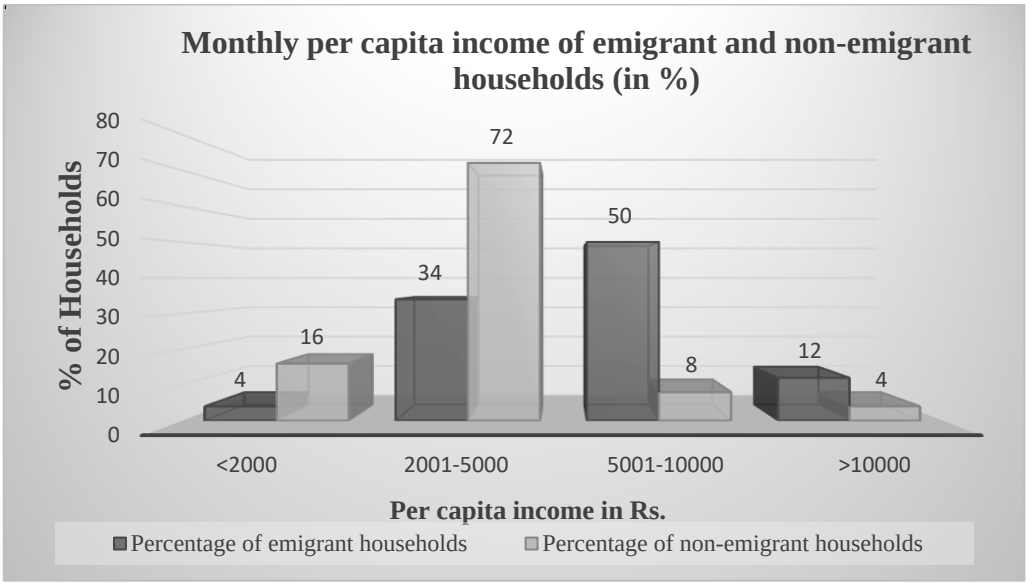
**Table 5**

*Gross Monthly Income of Emigrant and Non-Migrant Muslim Workers*

| Income in Rs. | Percentage of the Family of Migrant workers | | Percentage of the Family of Non-migrant Workers |
|---|---|---|---|
| | Before emigration | After emigration | |
| <5000 | 32 | 0 | 2 |
| 5001-10000 | 48 | 0 | 28 |
| 10001-20000 | 18 | 14 | 50 |
| 20001-30000 | 2 | 52 | 10 |
| 30001-40000 | 0 | 26 | 8 |
| >40000 | 0 | 8 | 2 |

Source: Field survey, January 2021

**Figure 4**




Source: Field survey, January 2021

**Table 6**

*Assets Possessed by the Families of Emigrant and Non-Emigrant Workers*

| Assets possessed | Percentage of the family (emigrant) | Percentage of the family (non-emigrant) |
|---|---|---|
| Land | 92 | 82 |
| TV | 76 | 58 |
| Computer | 14 | 6 |
| Refrigerator | 58 | 24 |
| Washing machine | 14 | 4 |
| Two-wheeler | 34 | 16 |
| Car/Four-wheeler | 4 | 0 |
| LPG | 89 | 26 |

Source: Field survey, January 2021

### *Per Capita Income*

Figure 4 shows the per capita income of migrant families. According to the study, almost 50% of households of emigrant workers have a monthly per capita income of Rs.5000 to Rs.10000. About 34% of these households have a per capita income of Rs.2000-5000. Almost 12% of these sampled households have a monthly per capita income of more than Rs.10000, and only 4% of

families of migrant workers have a per capita income of less than Rs.2000.

Families of non-migrant employees frequently struggle financially. The fact that these families' per capita income is substantially lower than that of emigrant worker households illustrates this reality. The per capita income for these families is displayed in Figure 5. More than 72% of homes, according to the survey, have a per capita income of between Rs. 2000 and Rs. 4000 per month, while only 4% of households have a per capita income of over Rs. 10000. 16% of these families have a monthly per capita income of less than Rs. 2000. Only 8% of households have a monthly per capita income of Rs. 5001 to 10,000.

### *Assets Possessed*

The assets owned understand households' financial state and status. Data on a family's total assets are gathered in the household survey. According to the study, 92% of emigrant households had land, compared to 82% of non-emigrant worker households (Table 6). Nearly 58% of homes have refrigerators, and 76% of emigrant worker families have a TV. Additionally, 14% of these households utilise computers. However, only 24% of non-emigrant worker families use a refrigerator, and only 58% own a TV. Two-wheeler ownership is now prevalent among lower middle-class families. Approximately 34% of emigrant worker households have at least one two-wheeler, compared to only 16% of non-emigrant worker households. A computer is only present in 6% of non-migrant households. A washing machine is an uncommon item for those living in rural areas. However, only 4% of non-emigrant worker homes have a washing machine compared to 14% of emigrant worker households. Four-wheelers are owned by 4% of emigrant worker households, while neither a car nor a four-wheeler is found in any non-migrant family. Approximately 89% of migrant worker families utilise LPG, compared to only 26% of non-migrant families.

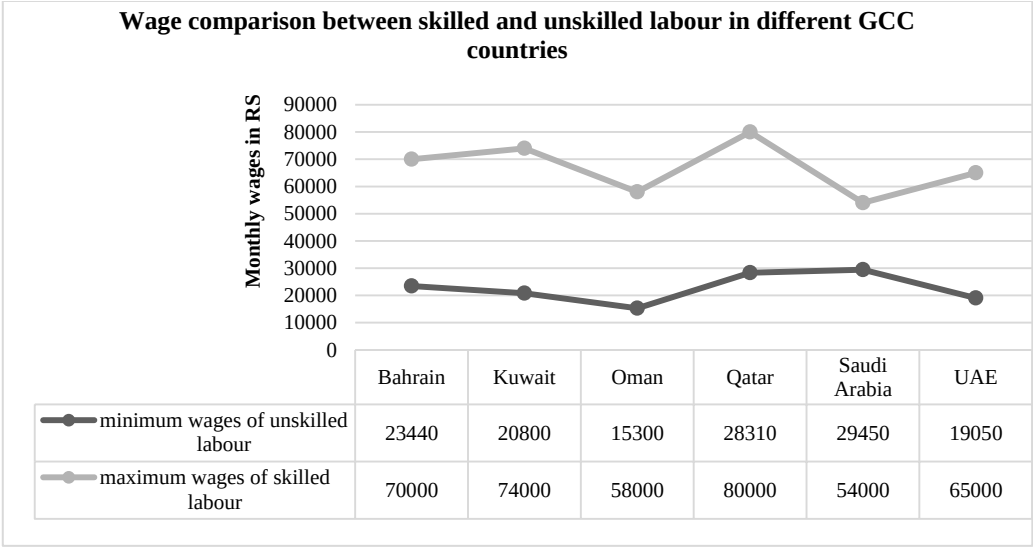
### *Average Monthly Wages*

The average earnings of labour in the GCC and non-migrant employees employed here have significantly diverged. In the Gulf, there has also been a significant salary difference between skilled and semi-skilled workers. Figure 6 displays the minimum pay for highly skilled and low-skilled workers in various GCC nations. All GCC nations, except Oman, have a minimum income of Rs. 20000 per month for unskilled labour, according to information provided by the Ministry of External Affairs (e-migrate portal) in 2021. In the GCC nations, skilled labour can make at least Rs. 60000 per month. This demonstrates the enormous

salary gap between India and the GCC.

The income information of 56 migrant workers and 69 non-migrant workers are gathered during the survey. According to the survey, emigrant workers make significantly more monthly income than non-migrant workers. According to the data in Table 7, more than 47% of emigrant workers make between Rs. 20,000 and 30,000 per month. Almost 35% of emigrant workers make between Rs. 30000 and 40000. Only 10.9% of these workers make less than Rs. 20,000 per month, and about 8% earn more than Rs. 45,000 per month. On the other hand, 48.38% of non-migrant workers may earn between Rs.10000 and Rs.20,000 per month and about 46.78% of non-emigrant Muslim workers earn less than Rs.10000. Only 4% of non-migrant workers can make more than Rs. 20,000 to Rs. 45000 in a month, whereas it has been discovered that no worker can make more than Rs. 45,000.

**Figure 5**




| | Bahrain | Kuwait | Oman | Qatar | Saudi Arabia | UAE |
|---|---|---|---|---|---|---|
| minimum wages of unskilled labour | 23440 | 20800 | 15300 | 28310 | 29450 | 19050 |
| maximum wages of skilled labour | 70000 | 74000 | 58000 | 80000 | 54000 | 65000 |

Source: Minimum Wages and Allowances for Notified Countries in e-Migrate System, MOEA, Overseas Employment Division, accessed in 2021 and Computed by the authors.

With this, the main driver of the rising emigration rate from India to the GCC countries is the high earnings of unskilled workers or assistants.

**Table 7**

*Average Monthly Wages of Emigrant and Non-Emigrant Workers*

| Wages in Rs. | Percentage of Emigrant workers into the Gulf | Percentage of Non-emigrant Workers |
|---|---|---|
| <10000 | 00 | 46.78 |
| 10001-20000 | 10.90 | 48.38 |
| 20001-30000 | 47.20 | 3.22 |
| 30001-45000 | 34.50 | 1.16 |
| >45000 | 7.40 | 00 |

Source: Field survey, January 2021

**Table 8**

*House Types of Emigrant and Non-Emigrant Workers*

| House types | Percentage of the family of emigrant | Percentage of the family of non-emigrant |
|---|---|---|
| Earthen | 4 | 26 |
| Semi-concrete | 24 | 34 |
| Concrete | 48 | 34 |
| Multi-storied | 22 | 6 |
| Palatial | 2 | 0 |

Source: Field survey, January 2021

**House Types**

The design and layout of a home ultimately reflect the family's economic situation. The survey found that Muslim immigrants' residences are of a much higher standard than those of local non-emigrant workers. 48% of the 50 emigrant worker households examined (Table 8) had concrete homes, whereas 24% had semi-concrete homes. Only 4% of families live in earthen homes, compared to about 22% of emigrant households that live in multi-story buildings. Only 2% of migrant worker households reside in wealthy homes. On the other hand, roughly 34% of non-migrant households have homes that are made of concrete or semi-concrete. Only 6% of non-migrant households have multi-story structures, and nearly 24% live in earthen structures. There is not a single non-immigrant working family that possesses a mansion.

**Monthly Savings Status**

Table 9 shows the savings status of emigrant and non-emigrant workers. Savings refers to the net surplus of funds for an individual or household after all the regular expenses and obligations have been done. The amount of savings reflects a family's financial security and saturation. Rich and wise people typically have funds set aside for the future. According to the survey, 48% of emigrant worker households save more than Rs. 100,000 monthly. 38% of families have a monthly savings

capacity of Rs. 5000–10,000. Only 4% of emigrant worker families can save less than Rs. 2000 per month, compared to 10% who can only hold between Rs. 2000 and Rs. 5000 per month. However, non-emigrant Muslim workers' families find it difficult to save much money for the future. Around 44% of these households save less than Rs. 2000 monthly. Families of non-migrant employees save an average of 26% of Rs 2001-5000 and 6% of Rs 5001-10000 monthly. Only 6% of families hold more than Rs. 100,000, and 18% of these households cannot save anything for the future.

## Problems Faced by the Emigrant Workers

Unlike the many advantages of migrating to the GCC nations, local employees must deal with challenges before, during, or after emigration. Table 10 shows that roughly 45% of migrant workers had issues with their passports and concerns with their agencies. Most migrant labourers are from lower-income households. Thus, they must overcome significant challenges while saving the initial monies required for emigration to GCC nations. Approximately 85.71% of migrant employees experienced issues paying the initial cost of their migration. Additionally, several migrants believe that the standard of living and incomes in Gulf nations are steadily declining.

**Table 9**

*Savings Status of the Families of Emigrant and Non-Migrant Workers*

| Savings amount in Rs. | Percentage of Households of Emigrant Workers | Percentage of Households of Non-migrant Workers |
|---|---|---|
| NIL | 0 | 18 |
| <2000 | 4 | 44 |
| 2001-5000 | 10 | 26 |
| 5001-10000 | 38 | 6 |
| >10000 | 48 | 6 |

Source: Field survey, January 2021

**Table 10**

*Problems Faced by the Emigrant Workers (Total 56 Workers)*

| Agency and Passport related issues | Problems related to initial expenditure | Decreasing wages of labour | Decreasing quality of work | Others |
|---|---|---|---|---|
| 25 (44.46) | 48 (85.71) | 11 (19.64) | 19 (33.92) | 2 (3.57) |

Source: Field survey, January 2021. Numbers in the parentheses indicate the percentage

## Findings, Conclusion and Suggestions

### *Major Findings*

From the above explanation, the major findings of the study can be listed below:

- Gulf migration is becoming increasingly common in the region and a solution to the current unemployment issues.
- Hindus continue to express little interest in visiting the GCC nations, likely due to their unique cultural faith. Muslims, however, are always prepared to travel to the Gulf. Most of the time, Gulf nations favour immigrant Muslims.
- Most Muslim labourers in India lack the education and skills necessary for high-paying positions.
- Muslim labourers primarily work in the Gulf's lower-skilled, minimum-wage jobs. Even though their pay was far higher than they had previously earned from their former work.
- These are remittances that workers receive and spend on things like child care, housing construction, land purchases, and more.
- Gulf migration tends to determine the nature of the society and economy of the area.
- Labour shortages often affect the activities where the workers were previously involved.
- On the negative side of migration, it is observed that workers have to face difficulties regarding migration costs.
- Working conditions and wages in the Gulf are decreasing continuously daily.

### *Conclusion*

Being a developing nation, India is the major source of migrant workers in the Gulf. Academics, scholars, and decision-makers have become aware of the rising Muslim emigration in West Bengal during the past few decades. It is seen that Muslim workers from various parts of West Bengal want to migrate to multiple Gulf nations. However, there is a lack of block-wise data on migrant Muslim workers from West Bengal. The fact that Muslims predominate in every Gulf nation is one of the causes. The culture is very reminiscent of that of Muslim migrant labourers. The labourers can stay and work in greater comfort in these nations. Muslim labourers are typically preferred in Gulf nations. The workers' lower levels of education and skill are likely another factor. Finding good work with good incomes in India and overseas is nearly hard for them. These workers are prohibited from entering various European and American nations. Therefore, Gulf is the greatest choice if they want to work elsewhere.

Their emigration to the Gulf significantly impacts the economy of these workers' families. The families' standard of living is rising. Their financial saturation allows them to take advantage of nearly all modern amenities. They were relatively

underprivileged and had a subpar standard of living before moving to the Gulf. In contrast, non-migrant employees and their families must deal with several financial and social challenges. Most of the time, they cannot make enough money to meet their needs. As a result, there has been a noticeable disparity in the financial situation and family structure of migrant and non-migrant workers. Apart from that, the workers who do not want to go abroad or who have not had a chance abroad remain unskilled and less technically developed in most cases.

Therefore, in comparison to Muslim families of non-emigrant workers in the Falta block, it can be argued that Muslim families with migrant workers into the Gulf are more progressive and financially saturated. The majority of the migrant workers need more education and technical expertise. According to the survey, most migrant workers in the Gulf are unskilled. Most of these employees initially struggled to gather the money required for departure. According to the report, they occasionally encounter challenges obtaining passports and visas from the appropriate agencies. However, they are determined to settle in the Gulf States at all costs. Interestingly, without having proper education and technical skills, the Muslim workers of the block eventually managed to earn much more money than the rest of the workers.

### *Suggestions*

Muslims play a significant role in determining West Bengal's socioeconomic condition because they are the second-largest group there. Though it is not widely documented, West Bengali Muslims are marginalised. The government must, therefore, carefully monitor the recent role of Muslims in Gulf migration. Thus, information about Muslim immigrants' backgrounds, employment status, issues, and prospects is crucial for their growth.

The government should closely monitor the process of leaving the area. Numerous fictitious agencies are operating in the region and have committed multiple frauds. The government should take action to ensure the well-being of migrant workers. The government should publish a list of scam agencies to make people aware. Checking passports and visas should be simpler and more familiar to the staff. The government should keep a careful eye on the organisations in charge of immigration. The government should encourage technical education in rural and remote locations because most employment is unskilled. It is important to record information about commerce and religious exodus from India so that researchers can access it and develop fresh ideas for the welfare of the migrants.

According to the Sachar Committee Report, Muslims are a marginalised community in India, particularly in West Bengal. Muslims significantly lag behind other groups in terms of socioeconomic and

demographic statistics. However, Muslims can progress, change their socioeconomic standing, and reduce poverty with remittances from the GCC nations. The government ought to support workers who want to immigrate to the GCC but cannot do so because they lack the necessary start-up money. The government may offer these workers brief loans with low interest rates.

**Acknowledgement:** Thanks to Aslam Molla and Asmaul Sk for their tremendous hard work throughout the data collection process. The study was only possible with their assistance.

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POPULATION GEOGRAPHY
ISSN 0256-5331
UGC-CARE Listed Volume 46(1) June 2024

***Geo-Reflections***

# Geography of Happiness

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**To cite this article:** Krishan, G. (2024). Geography of happiness. *Population Geography*, *46*(1), 161–167.

## Abstract

This paper presents a novel geographic perspective on happiness, drawing on recent advancements in positive psychology. It traces the evolution of Applied Psychology, from psychotherapy to logotherapy, and explores the complexities of defining and measuring happiness. The paper challenges the idea of universal happiness, instead focusing on the unique Geography of Happiness, which illuminates the substance, source, and style of happiness across different parts of the world. It concludes that sustained happiness depends on an individual's adaptability to their geographic location and the aesthetic arrangement of their life's elements.

***Keywords:*** happiness, positive psychology, applied psychology, geography of happiness

## Introduction

**Is God happy**? Kolakowski (2009) poses this provocative question in his book. He argues that happiness is elusive if one is born in a state where neighbours curse geography and whose philosophers and writers echo the sentiments of the generals and ministers. He further contends that the concept of happiness cannot apply to God as long as there is pain and death in the world, and by extension, it cannot apply to humans either. This perspective starkly contrasts the 'Geography of Happiness' concept we explore in this paper, highlighting the diverse views on the relationship between happiness and geography.

[1] Published posthumously

Kolakowski thus pronounces unhappiness inevitable and situates it within the parameters of geography, polity, and mortality. Buddha proclaimed the same but adduced different reasons. For him, human suffering is attributed to endless cravings, yearnings, and longings, which can be seen as a form of attachment to worldly desires.

The recent advancements in the discipline of Psychology strike a different note. This is observed in the emergence of the concept of happiness linked to the theme of positive psychology, a term first coined by Maslow (1954) in his book *Motivation and Personality*. In the same mode, Allport (1955) wondered in his book *Becoming* why there were no theories based on the study of healthy human beings and matters that make life worth living. Csikszentmihalyi (1990) is credited for giving the idea of 'flow', a state of complete absorption in an activity, for ensuring personal happiness, in his book *The Psychology of Optimal Experience*. 'Flow' is a mental state where a person is fully immersed in a feeling of energised focus, full involvement, and enjoyment in the activity process.

Seligman (2002) carried the same theme further in his book Authentic Happiness. He exhorted that psychology should be as interested in building the best things in life as much in repairing the worst. This is the basic condition for ensuring happiness.

The above observations testify to an evolving paradigm of happiness in Psychology. A parallel development is also noticed in the modes of treatment adopted in Psychiatry, which is psychology in practice. The chart below presents a personal view of the practice of Applied Psychology as its mode of treatment transits over time.

**Evolutionary Stages of Applied Psychology – A Personal View**

| | | |
|---|---|---|
| Psychotherapy | – | Listen to the heart. |
| Neurotherapy | – | Treat the brain with anti-depressants. |
| Psychokinetic-therapy | – | Heal the soul/positive psychology. |
| Logotherapy | – | Define your meaning of life and chase it. |

The implicit message is that applied psychology has been striving to do what is needed by calling on the human heart, brain, and soul.

**Defining Happiness**

Happiness generates a state of mind that is difficult to describe. This is the universal problem of defining any abstract concept. Even Seligman (2002, p. 249), the pioneer in the field of happiology, felt contended with mentioning the three dimensions of a happy life, viz. pleasant life, which successfully pursues positive emotions; good life, which is full of altruism, and meaningful life, which harnesses one's virtues and strengths for a noble cause, in place of offering a precise definition of happiness. Haybron (2008) distinguishes between psychological happiness and prudential happiness. The former

represents a profound state of mind while the latter refers to a state of overall wellbeing; the former is an emotion, the latter its ecology. Wren-Lewis (2010) believes that happiness represents how well we do. Simply put, happiness is often equated with subjective well-being in the discipline's literature.

**Criteria to Measure Happiness**

Every culture uses more words to describe negative emotional states of mind than positive ones. That is why capturing all the nuances of happiness while reflecting on it is so difficult. This has all the attendant problems related to its measurement.

To that effect, criteria selection depends upon the working rather than a holistic definition of happiness one adopts.

The Gallup International Research Institute tried to compare the relative degree of happiness in developed countries vis-a-vis developing ones. The criteria chosen were meant to measure the level of satisfaction with one's: i) country of domicile, ii) nature of job, iii) quality of family life and iv) concern for finances. Developed countries scored much higher on the happiness index than developing ones, but their concern for finances was found to be much more stressful.

The first World Happiness Report was released in April 2012 based on a UN High-level meeting on "Wellbeing and Happiness: Defining a New Economic Paradigm" that reviewed related evidence from the emerging science of happiness and presented the available global data on national happiness, showing that the quality of people's lives can be coherently, reliably, and validly assessed by various subjective well-being measures, collectively referred to then and in subsequent reports as "happiness." The latest 2024 report, a partnership among Gallup, the Oxford Wellbeing Research Centre, the UN Sustainable Development Solutions Network and the World Happiness Report's Editorial Board, is in the public domain.

Andrian White of the University of Leicester, United Kingdom, referred to people's happiness in different countries and the overall living conditions obtained therein. He observes that happy countries are healthy, wealthy, and wise. Among 178 countries put under the scanner, Denmark was placed on the top, the United States at the rank of 23, China at 82, and India at 125.

Using 'subjective wellbeing' as the basis, the University of Michigan's World Values Survey asked the respondents, ' Taking all things together, would you say you are very happy, or rather happy, not very happy, or not at all happy? ' This amounts to seeking impressionistic expression for subjective well-being. The results were not authentic, and Nigeria, Puerto Rico, or Mexico could occupy one of the top positions on the happiness ladder.

The fact is that it is difficult to devise a common yardstick to measure happiness. The very concept and sources of happiness are subject to the cultural ecology, economic

capacity, environmental milieu, and governance quality of a given society, among other things. This can be easily confirmed by taking even a bird' s-eye view of the scenario as represented by some select countries. The observations herein are primarily from the book '*The Geography of Bliss*' by Weiner (2008), borrowing not only ideas but also literary expressions at places. These are the finest in their original form. The desired originality is disclaimed in this section of the paper. A deep and wide gratitude to him is placed on record.

## Sources of Happiness Differ by Country

### *United States*

Pursuing happiness is vital to the nation's constitution. The people put this mandate into practice by chasing happiness and being mobile. Moving westward is their instinctive frontier spirit. On reaching California, they will not stop there. Why not hop over the Pacific and go further beyond?

Mobility in search of happiness takes another form, too. They go on hunting for and moving into bigger, brighter houses over successive phases of their life. An average American is said to have changed over a dozen residences in their lifetime. They are constantly in search of paradise. Since paradise is a moving target, their pursuit of happiness is unending.

### *India*

Indians are happy if their heads can hold two contradictory thoughts about action without exploding.

They can combine ultra-modernity with Paleozoic spirituality. No wonder the westerns come in search of happiness here. Thanks to Osho and others of his clan.

Indians consider this world a Maya (illusion) but stretch its operational meaning in the opposite direction. They have no hesitation in chasing *Maya* (wealth) in its worldly connotation.

In India, one observes the best and worst of humanity, the ridiculous and sublime, the profane and profound, and above all, happy-unhappy and unhappy-happy people. Hence, everything about India is true, and its opposite is also true.

Naturally, Indians' happiness lies in their capacity to live with two opposites concurrently. They enjoy a constant war between their inner and outer spaces.

### *United Kingdom*

The British are suspicious of happiness. A self-help book will probably proclaim, in their case, I am not O.K., and you are even less O.K. Life is not about happiness for them; it is just muddling through or getting by.

The British do possess latent happiness. Taxing one per cent heavily may be a source of happiness for 99 per cent of others—no wonder the British Government has set up a Department of Happiness.

A pub or public house is a venue of happiness through self-service and long conversations, but again, people are economical with their emotions, if not their pockets.

British reserve is proverbial. For them, happiness is not an uninterrupted series of pleasure moments. To them, Freud's decision to die of cancer while continuing psycho-analyzing his abnormal patients does make sense.

***Switzerland***

The Swiss are near the pinnacle of the happiness pyramid, which is understandable. The country they inhabit is a brand name. Kashmir is said to be the Switzerland of India, Singapore of Asia, and Costa Rica of Central America.

In Swiss parlance, happiness is this: Not longing to be somewhere else, not searching for a job, and not being someone else.

Indeed, the Swiss are deeply rooted in place. Their passports include the name of their native place, even though they may not have visited it. To them, a sense of belonging imparts happiness.

Their happiness also lies in being functional, remaining in the middle without swinging between great highs and terrible lows, and ensuring cleanliness even at the dirtiest sites. Swiss toilets are rated as the cleanest in the world.

For the Swiss, envy is the enemy of happiness. Hence, they live the mantra of enjoyment. This combines joy with contentment, not to flash themselves on the stage or in the street. They cherish affluence but hate to talk about money. Moreover, their happiness lies with a super-quality chocolate between the teeth.

***Thailand***

Just as the Eskimos or Inuits have many words for snow and Icelanders for ice, the Thais have several synonyms for a smile. For them, a smile is at the core of happiness. They believe that happy people have no reason to think.

No wonder, after a coup in 2004, the junta announced that its official policy would not focus on economic growth but on people's happiness. After the 2004 tsunami, no one blamed the government. They said that it happened.

In that light, introspection and happiness are allergic to each other. Any thinking about happiness is going to make Thais unhappy.

***Bhutan***

The nation’s anthem proclaims thus: As the doctrine of Lord Buddha flourishes, may the sun of peace and happiness shine upon people. Happiness is a government policy. King Wangchuk first floated the idea of Gross National Happiness as a substitute for Gross National Product in 1973.

Bhutan has more monks than soldiers. It is a land of sumptuous tranquillity. Happiness is deemed as a synonym for compassion.

To Bhutanese, self-happiness makes no sense; in the Buddhist tradition, they believe in happiness for all. The country is devoid of self-help books in bookstores. For them, happiness is relational rather than rational.

### *Iceland*

It consistently ranks among the highest in the world on the happiness scoreboard.

Icelanders describe their country as an ice cube, sub-polar in climate and tiny. If the emerging global warming is going to make our planet a hot hell, Icelanders will equate it with a lovely paradise.

Why do cold climates produce happier people than warm ones? In warm places, life is easy, and people can get along without help. In cold areas, cooperation with others is something one cannot do without. If necessity is the mother of invention, interdependence is the mother of affection.

The country remains dark for six months in a year. Anyone sad because of darkness died long ago. Those who survived had a genetic immunity to darkness. Hence, this is the survival of the apt.

Everyone in Iceland is creative. They are still waiting for a person who is not a poet, writer, painter, or musician. They carry a natural sense of style.

Icelanders don't attach a stigma to their failure. They admire the inability of those who failed with good intentions. Success in future is reserved for them. In a sense, Iceland is a nation of born-again, though not in a karmic sense.

Happiness is not a function of hard, cold logic but of creativity, which allows one to imagine a virtual reality and facilitates self-transformation.

### Happiness Geography

We may try to respond here to a simple curiosity: What does geography have to do with happiness? A joint reference to the two will likely be a mystery to a layperson. One may surmise that it could be an enquiry into the influence of geographical factors like landscape, climate, weather, sunshine or the waxing phase of the moon on an individual's happiness. This is to go by the popular perception of geography. This may be partly true. But then it is to miss a variety of perspectives the discipline harnesses for understanding any dimension of reality.

A fundamental concern of geography is to find out how things, phenomena, and processes differ from one area to another. In that pursuit, a geographer will explore how the degree and sources of happiness vary from one part of the world to another. As described in the previous section, this perspective of spatial differentiation was harnessed to identify the avenues of happiness in select countries.

Geography equally values the role of a place's nature in causing happiness or otherwise. Any aesthetic or spatial arrangement, such as a garden or respect of a landscape like the trijunction of a seafront, forested hill, or meandering stream, is likely to generate happiness. That is how tourist places are developed to meet such a human urge.

In brief, geography deals with happiness in ways distinctive and adds to the knowledge produced by

other social sciences, especially Psychology.

## Concluding Remarks

To me, as a geographer, sustainable happiness lies in adaptation to every change in the geography of one's life. Don't interrupt yourself to take stock of your happiness. Just remain in flow.

'Know thyself' may not be the best advice after all. A pinch of self-delusion is an important ingredient in the happiness recipe. Research has confirmed that happy people remember more good moments than occur.

The genuine happiness lies in an aesthetic arrangement of different flowers in the bouquet of one's life. For that, one has to cultivate an expertise in ikebana.

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POPULATION GEOGRAPHY
ISSN 0256-5331
UGC-CARE Listed Volume 46(1) June 2024

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POPULATION GEOGRAPHY
ISSN 0256-5331
UGC-CARE Listed Volume 46(1) June 2024

## STATEMENT OF OWNERSHIP AND OTHER PARTICULARS ABOUT POPULATION GEOGRAPHY

| | |
|---|---|
| Place of Publication | Department of Geography, Panjab University, Chandigarh |
| Periodicity of Publication | Biannual (June and December) |
| Printer's name | Sharp Printing & Desigining |
| Nationality | Indian |
| Address | #23, Village Dhanas, Chandigarh-160014 |
| Publisher's name | Nina Singh |
| Nationality | Indian |
| Address | M-423, Orchid Island, Sec-51, Gurugram-122018 |
| Editor's Name | Nina Singh |
| Nationality | Indian |
| Address | M-423, Orchid Island, Sec-51, Gurugram-122018 |
| Names and addresses of individuals who own the journal and partners, sharing more than one per cent of the total capital | Association of Population Geographers of India |

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Dated: June 2024 Signature of Publisher

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**Narrative in-text citation:** (i) Krishan and Singh (2020) found . . ., (ii) Aron et al. (2019), Dillard (2020), and Thestrup (2010)

**Parenthetical in-text citation:** (i) A positive association was found . . . (Krishan & Singh, 2020), ii) (Aron et al., 2019; Dillard, 2020; Thestrup, 2010)

**Reference list entry:** Krishan, G., & Singh, N. (2020).

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POPULATION GEOGRAPHY
ISSN 0256-5331 Volume 46(1) June 2024

**A UGC-CARE Listed Biannual Refereed Journal**

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