

# Topics

- **Squalus hima,**
- **fox nuts**
- **Marine Protected zone**
- **India' population dynamics**
- **Population change**
- **Mains**



By saurabh Pandey





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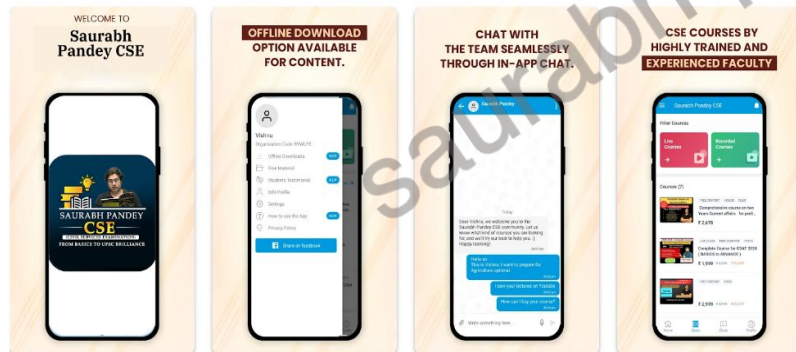
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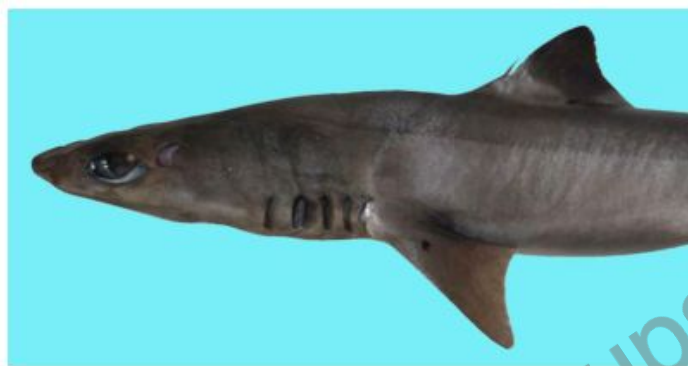
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## New species of dogfish shark discovered in Kerala harbour

Scientists from the Zoological Survey of India have discovered a new species of deep-water dogfish shark, *Squalus hima*, from the Sakthikulangara fishing harbour in Kerala. *Squalus* is a genus of dogfish sharks in the family Squalidae, commonly known as spurdogs, and are characterised by smooth dorsal fin spines. The discovery, made by a team of scientists led by scientist Bineesh K. K, was published in the journal *Records of the Zoological Survey of India*. The shark species from the genus *Squalus* and *Centrophorus* are often exploited for their liver oil which is in high demand in pharmaceutical industry, Dr. Bineesh said.

# **Squalus hima,**

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# fox nuts



- Makhanas are also known as fox nuts, Euryale ferox, lotus seeds, gorgon nuts and phool makhana.
- *makhana* are a part of the lotus flower.
- Makhanas are derived from lotus seeds. Lotus develops seed pods, and each pod contains approximately 20 seeds that mature within 40 days.
- The flower that's known for its beauty has a lot to offer, including lotus seeds or *makhana*.
- *Makhana* is highly produced in the state of Bihar in India, Korea and Japan along with a few parts of eastern Russia.



**Makhanas are rich in nutrients and are a highly potent source of manganese, potassium, magnesium, thiamine, protein, and phosphorus.**

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## Canada marks out protected zone to shield its oceans

**Agence France-Presse**

MONTREAL

Canada said on Thursday that it had designated the country's largest marine protected zone off the coast of Vancouver, as it moves to shield a third of its oceans by the end of the decade.

The 1,33,000-square-kilometer zone was announced in a joint statement by Canada's department of fisheries and oceans and leaders of four First Nations.

"Today we are taking a giant step forward in protecting Canada's oceans," said the department's Minister Diane Lebovitch.

The new marine protected area brings Canada "halfway to our goal of conserving 30% of our oceans by 2030", Ms. Lebovitch said.

"The ocean has taken care of us, and we must look after it as well," said Judith Sayer of the Nuuchah-nulth nation.

Canada is moving closer to meeting a historic commitment made by the world's nations at the Montreal Biodiversity Summit in December 2022.

The zone is the result of an agreement signed in January 2023 by Ottawa and the Nuuchah-nulth, Haida, Quatsino and Pacheedaht nations. The area is home to more than dozens species of fish, seabirds, invertebrate and marine mammals, including killer whales, sea otters and dolphins.

NGO Oceana Canada hailed the move as a "significant step toward preserving marine biodiversity" by preventing activities

## Marine Protected zone

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# India's demographic journey of hits and misses



As we observe World Population Day on July 11, there is much to look at in India's demographic journey over the decades. It was in 1989 that the United Nations established the day after Dr. K.C. Zachariah, a renowned demographer, had proposed the concept of a 'World Population Day'. The world population had touched five billion in 1987 and challenges such as poverty, health and gender inequality were plaguing the world, developing countries in particular.

The decades of the 1960s and 1970s were scary as the global population was growing at a yearly rate of 2%. For India, there was a prediction of doom. This meant that widespread poverty, hunger and deaths were soon to follow in the next decades. However, despite the predictions, the next decades told a different story altogether. Global fertility rates declined rapidly. Due to improvements in living conditions and medical infrastructure, life expectancy increased. In India too, fertility rates began to fall since the 1970s and at present is below the replacement level. India's progress in many health parameters has been outstanding. There have been significant reductions in maternal and child mortality.

In 2015, the UN adopted the Sustainable Development Goals (SDGs) which were soon recognised as important metrics in assessing the progress of nations. With 2030, the target year, drawing closer, India's progress in the SDGs should be understood particularly in light of its population dynamics.

## India's population dynamics

Three components, namely fertility, mortality, and migration, play a pivotal role in shaping India's demographic landscape. India has made significant strides in reducing its fertility. According to the National Family Health Survey (NFHS)-5, India's total fertility rate (TFR) decreased from 3.4 to 2 between 1992 and 2021, dropping below the replacement level of 2.1. There has been a significant drop in the mortality rate as well. The average life expectancy of Indians has also increased over time. With this, India is experiencing a demographic shift, towards an ageing population. According to the 2011 Census, individuals aged 60 years and above constituted 8.6% of the total population. The figure is projected to rise up to 19.5% by 2050. But what really does these changing dynamics signify?

India's population dynamics is intertwined with its 'development' scenario. The reduction in fertility signifies a transition toward smaller family norms. This can reduce the proportion of the dependent population and result in a demographic dividend – a period where the working-age population is larger than the dependent population. India can harness the potential of its young workforce by creating employment. The decline in mortality and increase in life expectancy are reflections of a robust health-care system and increased living



**Paramita Majumdar**

doctoral fellow in population studies at the International Institute for Population Sciences (IIPS), Mumbai



**Nitin Kumar**

independent researcher and a Legislative Assistant to Members of Parliament (LAMP) Fellow (2023-24), New Delhi

From pulling back from the brink of a demographic disaster to striving to reach the target year of 2030 for the Sustainable Development Goals, there is much to look at in the country

standards. The issue of population ageing, however, requires a long-term plan – focusing on geriatric care and providing social security benefits. Migration and urbanisation are also critical issues. Rapid rural to urban migration is posing a threat to the existing urban infrastructure. Among all these, gender equality also finds an important place. Women labour force participation, which is straggling, their notable absence from political representation and their unending plight within society are the silent issues which can sabotage India's path to 2030.

With six years in hand to meet the targets, India's road to 2030 crosses the path with its population dynamics. Population issues such as gender equality and socio-cultural divides cannot be ignored in the journey to achieve SDGs. It is only with a thorough understanding that India will be able to achieve a 'development' which is sustainable in its truest sense.

## The country's SDG journey

'Development' in the simplest way means ensuring the basic requirements of food, shelter and health for all. 'No poverty, Zero Hunger and Good Health' are the three most important SDGs which form the core of 'development'. India's journey from the brink of a demographic disaster to striving towards the 2030 goal of 'leaving no one behind' has seen a couple of hits and misses.

India made great leaps towards the goal of eradicating poverty. The proportion of the population living below the poverty line reduced from 48% to 10% between 1990 and 2019. The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) that came into effect in 2006 played a critical role in addressing rural poverty. The Janani Suraksha Yojana of 2005 – it provides cash benefits to pregnant women – not only accentuated institutional deliveries but also saved poor families from hefty health expenditures.

In his controversial book, *The Population Bomb* (1968), Paul R. Ehrlich raised serious questions about India's ability to feed its population in the years to come. With the Green Revolution, India became self-sufficient in crop production and averted a catastrophe. The proportion of the population suffering from hunger reduced from 18.3% in 2001 to 16.6% in 2021. However, India's nutrition picture is not completely rosy. India contributes a third of the global burden of malnutrition. Though the Indian government launched the Prime Minister's Overarching Scheme for Holistic Nourishment (POSHAN) Abhiyaan in 2018, it will still require a miracle to fulfil the target of 'Zero Hunger' by 2030.

Health is one sector in India where progress made has been remarkable. All the critical mortality indicators have seen steady declines. The Maternal Mortality Rate (MMR) decreased

from 384.4 in 2000 to 102.7 in 2020. The mortality rate for children under five reduced significantly post 2000s. The infant mortality rate also reduced from 66.7 deaths per 1,000 live births in 2000 to 25.5 deaths per 1,000 live births in 2021. Although India is still not near reaching

the targets, it seems to be on the right track. These achievements show that there has been a significant improvement in the quality and coverage of health care.

Despite these achievements, India's road towards 2030 is not easy. According to Oxfam, the top 10% of India's population holds 77% of the national wealth. If the fruits of

development are not equitably distributed and if development does not percolate to the poorest of the poor and the wealth scenario remains so skewed as it is now, 'sustainable development' can never be achieved in its truest sense. Absolute growth in GDP numbers has limited importance for a country where the top 1% holds 40% of the total wealth. Hunger and nutrition is another sector in crisis. In the Global Hunger Index (2023), India's rank was 111 out of 125 countries. In terms of nutrition, stunting, wasting and underweight among children below five years and anaemia among women pose serious challenges. India's epidemiological trajectory shows that the country has a double burden of communicable and non-communicable diseases (NCD). This is a serious challenge for India which also combats the early onset of NCDs and the rising health needs of the elderly.

## What needs looking into

For India to achieve the SDGs, the changing population dynamics has to be acknowledged while forming policies. India needs to address income inequality, harness its demographic dividend by creating job opportunities for the youth of India and address changing health needs. NCDs, which incur high out-of-pocket expenditures, are catastrophic for some families. India needs a stronger safety net to save these families from slipping into utter poverty. The nutrition scenario should be set right by strengthening programmes. This will require an increase in budgetary allocation for the health and nutrition sectors. Another, but often missed, paradigm of this entire development discussion is gender equality. A gender equal approach and empowerment of vulnerable women can solve most issues and propel India's progress in the SDGs.

India still has a long journey to cover in order to meet all the targets of the SDGs. This will require multi-sectoral collaboration and political will. India's progress in SDGs is directly proportional to the well-being of its population and the route to progress lies in a better understanding of its population dynamics and addressing the issues.



- **India's population dynamics** Three components, namely fertility, mortality, and migration, play a pivotal role in shaping India's demographic landscape.
- **India has made significant strides in reducing its fertility.**
- **According to the National Family Health Survey (NFHS)-5, India's total fertility rate (TFR) decreased from 3.4 to 2 between 1992 and 2021, dropping below the replacement level of 2.1.**
- **There has been a significant drop in the mortality rate as well.**

- **The average life expectancy of Indians has also increased over time. With this, India is experiencing a demographic shift, towards an ageing population.**
- **According to the 2011 Census, individuals aged 60 years and above constituted 8.6% of the total population.**



- **The figure India's population dynamics is intertwined with its 'development' scenario. The reduction in fertility signifies a transition toward smaller family norms.**
- **This can reduce the proportion of the dependent population and result in a demographic dividend — a period where the working-age population is larger than the dependent population.**
- **India can harness the potential of its young workforce by creating employment.**
- **The decline in mortality and increase in life expectancy are reflections of a robust health-care system and increased living standards.**

- **The issue of population ageing, however, requires a long-term plan — focusing on geriatric care and providing social security benefits.**
- **Migration and urbanisation are also critical issues.**
- **Rapid rural to urban migration is posing a threat to the existing urban infrastructure.**
- **Among all these, gender equality also finds an important place.**
- **Women labour force participation, which is straggling, their notable absence from political representation and their unending plight within society are the silent issues which can sabotage India's path to 2030.**

- **‘Development’ in the simplest way means ensuring the basic requirements of food, shelter and health for all.**
- **‘No Poverty, Zero Hunger and Good Health’ are the three most important SDGs which form the core of ‘development’.**
- **India’s journey from the brink of a demographic disaster to striving towards the 2030 goal of ‘leaving no one behind’ has seen a couple of hits and misses.**
- **India made great leaps towards the goal of eradicating poverty.**
- **The proportion of the population living below the poverty line reduced from 48% to 10% between 1990 and 2019.**

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# A case of people versus population



July 11 has been observed as World Population Day since 1989 after the global population crossed the five billion mark. The population is now estimated to be 8.1 billion, with India as the most populous nation (1.44 billion), which is slightly more than China's.

This writer wrote the article, "Myths about Population Growth", which was published in this daily on World Population Day ('World Population Day' page, July 11, 1997) – when India crossed the 100 crore mark. The article showed how the doomsday predictions of Malthus, 200 years ago, or that of his present-day followers in the West, that population growth would overtake food production, never came true and never will in the future. The aim of this article is to analyse what has changed in 27 years.

## Changes in India

Let us look at some of the major socio-economic changes in India over 27 years.

First, the population has grown 44% from 100 crore to 144 crore, but the annual growth rate of the population has fallen sharply – from nearly 2% to below 1%. This is because the number of births per woman (total fertility rate or TFR) has fallen from 3.4 to 2, just below the "replacement level" of 2.1.

Second, the per capita GDP of Indians grew six times, from \$400 to \$2,400. The average life span of an Indian has increased from 61 years to 70 years.

Third, Indians living below the multi-dimensional poverty line decreased from 43% to 11%. However, 11% of 144 crore is still a very large number of 16 crore people.

The 16 crore people below the poverty line are not distributed evenly across the country. Just four States, namely, Uttar Pradesh: (5.4 crore out of 23.6 crore), Bihar (4.2 crore out of 12.7 crore), Madhya Pradesh (2.52 crore out of 8.7 crore) and Jharkhand (1.1 crore out of 4 crore) account for 83% of the national total of people below the poverty line, while accounting for only 34 % of India's total population. How to address this persisting disparity in socio-economic growth



**S. Ramasundaram**

a retired Indian Administrative Service (IAS) officer and a United States-trained demographer

It is the welfare of the average citizen which matters and not macro-level population numbers

and poverty reduction among Indian States is among the top priorities of the central and State governments and beyond the scope of this article.

## Impact of climate change

But a far more serious issue facing the people of India is the adverse effects of climate change which do not recognise national boundaries. This is where the population versus people dichotomy becomes apparent. The debate on historical emissions (advanced by developing countries) versus current emissions (advanced by the developed world) is closely linked to the population versus people divergence. This is because the per capita consumption of both natural resources and manufactured products directly correlates with the per capita income of the people.

The Organisation for Economic Co-operation and Development (OECD) countries with a per capita income of \$40,000 and a total population of 1.39 billion, together produce and consume \$55.6 trillion worth of natural resources and manufactured goods. In comparison, India, with a per capita GDP of \$2,400 and a population of 1.44 billion, produces and consumes just \$3.5 trillion worth of natural resources and manufactured goods. In other words, the OECD countries with a population slightly less than that of India consume nearly 16 times of what the whole of India consumes. This has been the major cause of global warming over the past few decades, resulting in unpredictable weather changes. In turn this has adversely affected the poor in developing nations more severely than people in developed nations with much better housing and civic infrastructure.

With 11% of its people still below the poverty line, India will continue to accord priority to economic growth over climate change mitigation measures, and rightly so. That responsibility lies majorly with the OECD countries, and now increasingly with China. Successive Indian governments have negotiated hard at global

forums on India's right to grow economically to alleviate poverty as early as possible.

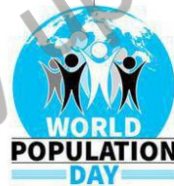
## Global South and growth

The Narendra Modi government has articulated this even more forcefully by expanding the definition of the Circular Economy framework in the G-20 New Delhi Declaration of September 2023: "In order to endeavour to decouple our economic growth from environmental degradation and enhance sustainable

consumption and production, including primary resource consumption while supporting economic growth, we acknowledge the critical role played by circular economy, extended producer responsibility and resource efficiency in achieving sustainable development".

This is an explicit statement of intent to maintain the economic growth of the Global South nations, a term used for all developing nations as a group. India is looked upon by the nations of the Global South in their efforts to maintain economic growth in their respective nations as the first priority, followed by measures to achieve net zero. India has fixed the year 2070 to achieve this, compared to the European Union's target of reaching net zero by 2050. But India would strive for zero poverty within the next decade.

The next few decades will see developing nations focusing on eradicating persistent poverty among their people rather than responding to population growth doomsday "experts" who have so far not been proved right. As Tamil poet C. Subramanian Bharati said nearly 100 years ago, "*Thani oruvanukku unavillai enil, inda jagaththinai azhithiduvom* (even if one person does not have food to eat, we will destroy the world") So, it is the welfare of average citizen which matters and not population numbers at the macro level.



# Population changes

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## **Impact of climate change**

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- **The next few decades will see developing nations focusing on eradicating persistent poverty among their people rather than responding to population growth doomsday**

- **The population today is more centred in urban areas.**
- **By 2030, it is estimated that two-third of the people will inhabit urban spaces, which will put a strain on infrastructure and amenities.**
- **This, in turn, could compromise the quality of life of urban citizens.**
- **Women's health and rights** The theme of this world population day is 'women's sexual and reproductive health and reproductive rights', marking the 30th anniversary of the International Conference on Population and Development (ICPD).
- **This gives us an opportunity to accelerate efforts to realise the ICPD's programme of action**

- **World population day has obvious significance for India.**
- **The most populated country in the world with a median age of 28 years could help balance the population-deficit regions.**
- **Lowering fertility levels and rising longevity also transforms the size and composition of households.**
- **There will soon be an uneven distribution of children and the elderly within households, which will have implications for inequality, an important concern for India.**

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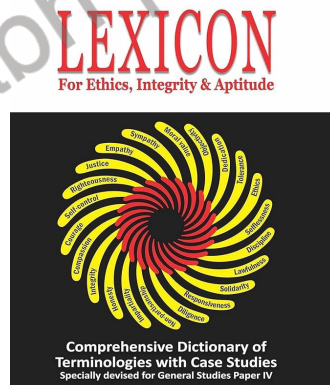
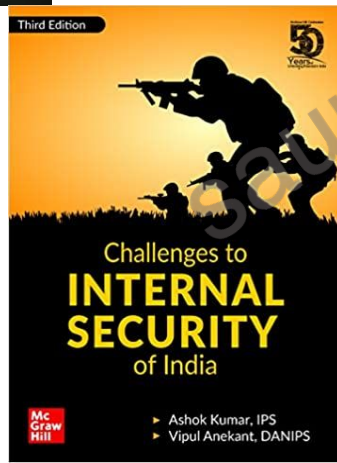
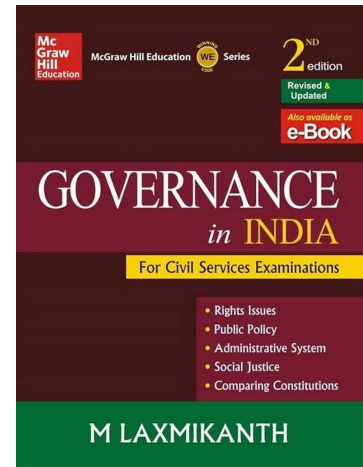
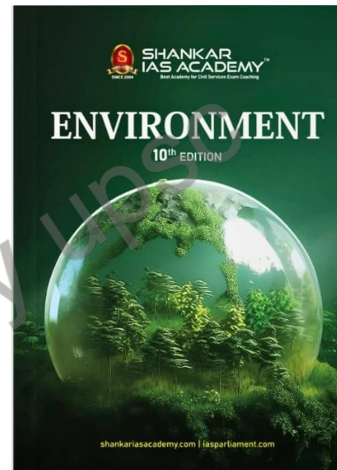
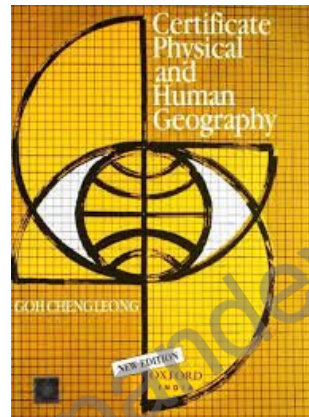
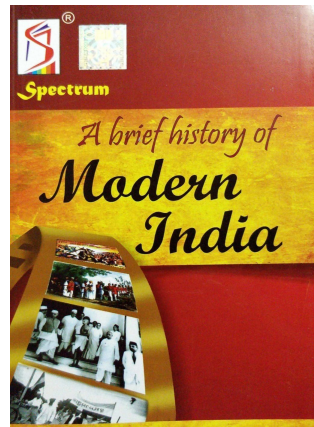
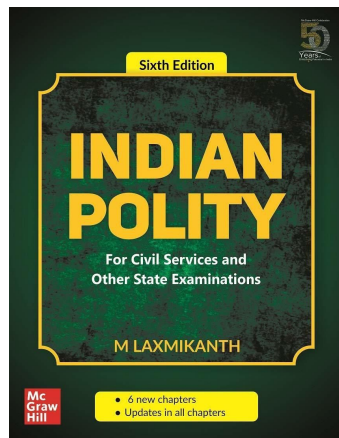
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