

Wednesday, September 28, 2022

# Daily Current Affairs



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# India's Declining 'Total Fertility Rate' (TFR)

(GS-1)

Source: The National Herald, 28 September 2022



NATIONAL HERALD



नवजीवन

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INDIA

## Fertility rate declines by 20 per cent in India, downturn steeper in rural India: SRS data

The General Fertility Rate (GFR) has declined in India by 20% over the past decade. GFR refers to the number of children born per 1,000 women in a year in the reproductive age group of 15-49 years



NH Web Desk · Published: 27 Sep 2022, 11:02 AM

Engagement: 225

### Reasons for Decline in TFR:

- Rising Women Empowerment and women education to greater autonomy and decision making.
- Rise in use of Contraceptives.
- Rising family planning
- Government Efforts to reduce population.
- Active role of public policy and civil society's greater role.

### Significance of Declining TFR:

- ✓ Population Stabilisation.
- ✓ Accelerated Economic Growth.
- ✓ Also seen worrying trends like rise in **women sterilization, decline in sex ratio etc.**

### Concerns of Lower TFR:

TFR lower than **2.1** children per woman — indicates that a generation is not producing enough children to replace itself, eventually leading to an outright reduction in population. Declining TFR will result in **rising dependent population (old population) as seen in Japan.**

### Current News:

- The General Fertility Rate (GFR) has declined in India by **20% over the past decade.**
- Total Fertility Rate (TFR) for the country has come down to **2.0 in 2020 from 2.1 in 2019.**
- India's under 5 mortality rate has also significantly declined by from 35 per 1,000 live births in 2019 to 32 per 1,000 live births in 2020.

### What is GFR?

GFR refers to the number of children born **per 1,000 women in a year in the reproductive age group of 15-49 years.**

### What is TFR?

The total fertility rate (TFR) of a population is the average number of children that would be born to a woman over her lifetime if she were to live to the end of her **child-bearing years and give birth to children in alignment with the prevailing age-specific fertility rates.**

At present, the TFR of a rural woman is **2.2 at the national level** which is higher than that of an urban woman (**1.6**).

**TFR of about 2.1 children per woman is called Replacement-level fertility. TFR lower than 2.1 children per woman — indicates that a generation is not producing enough children to replace itself, eventually leading to an outright reduction in population.**

## Govt. app to capture data on groundwater levels

**The Hindu Bureau**  
NEW DELHI

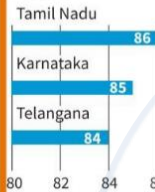
With the rapidly declining water table threatening to push many regions into drought, the Union government on Tuesday launched a mobile application – Jaldoot – jointly developed by the Rural Development and Panchayati Raj Ministries to monitor the groundwater levels across the country.

The application was launched by Minister of State for Rural Development Faggan Singh Kulaste in the presence of Ministers Sadhvi Niranjan Jyoti and Kapil Moreshwar Patil.

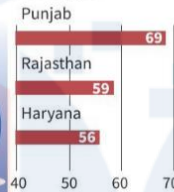
### Rise and fall

The Central Ground Water Board measured the groundwater level in wells in November 2021 against the decadal mean of November (2011-2020)

Top 3 major States where % of water level in wells increased



Bottom 3 major States where % of water level in wells dipped



Source: PIB

The app will be used to capture the water levels of two or three open wells in every village twice a year, from May 1 to 31 during the

pre-monsoon time and from October 1 to 31.

**CONTINUED ON**  
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## Impacts of lowering of groundwater levels:

- Lowering of the water table.
- Reduction of water in **streams and lakes**.
- Subsidence of land.
- Increased cost for water extraction.
- Contamination of groundwater.
- Constraints in food supply.
- Limitations to **biodiversity and creation of sinkholes**.

## Current News:

The Union Govt launched a mobile application - **JAL DOOT**: jointly developed by **Rural Development and Panchayati Raj Ministry** to monitor the groundwater level across the country.

## Reasons for groundwater depletion:

- For the purpose of **agriculture and irrigation of crops**.
- Industrial requirements.
- Inadequate restoration of groundwater.
- Limited storage facility.
- Subsidies on electricity and high MSP for water-intensive crops.
- Water contamination.
- Deforestation, unscientific methods of agriculture, chemical effluents from industries.
- Natural causes include **uneven rainfall and climate change** that are hindering the process of groundwater recharge.

## DEPLETING RESOURCES

Annual replenishable ground water resources in India

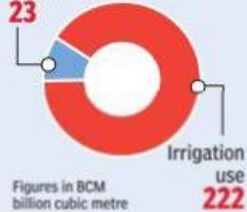
**433**

(1 cubic metre = 1000 litres)

**245 BCM** of ground water extracted annually for different use

Domestic and industrial use

**23**



### SITUATION IN STATES

State	Extraction	Irrigation	Domestic+Industrial
Punjab	34.88	34.17	0.71
Haryana	13.05	12.35	0.71
Karnataka	9.41	8.59	0.82
West Bengal	10.69	9.72	0.97
Maharashtra	17.18	16.15	1.03
Madhya Pradesh	18.83	17.48	1.35
Bihar	11.95	10.25	1.70
Rajasthan	14.84	13.13	1.71
Tamil Nadu	14.93	13.17	1.76
Uttar Pradesh	52.78	48.74	4.04



**40**  
PERCENT

of India's water supply - is being depleted at unsustainable rates.

India is currently ranked **120** out of **122** countries in the water quality index

Only half of the rural population has access to **safely managed water** - far behind neighbours, such as China and Bangladesh

Only **one-third** of India's wastewater is currently treated, leading to the high incidence of waterborne diseases

WORLD RESOURCES INSTITUTE SOURCE: COMPOSITE WATER MANAGEMENT INDEX - NITI/AAYOG | JUNE 17, 2018

©AULabs ALJAZERA

## GROUND WATER SITUATION



Total no. of assessment units

2017: **6,881**

2020: **6,965**

### 2017 vs 2020

	No. of units	% of total
Safe	4,310	62.6
2020	4,427	63.6

### Semi-critical

2017	972	14.1
2020	1,057	15.2

### Critical

2017	313	4.6
2020	270	3.9

### Over-exploited

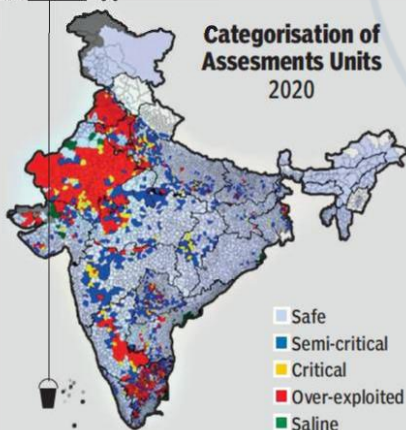
2017	1,186	17.2
2020	1,114	16

### Saline

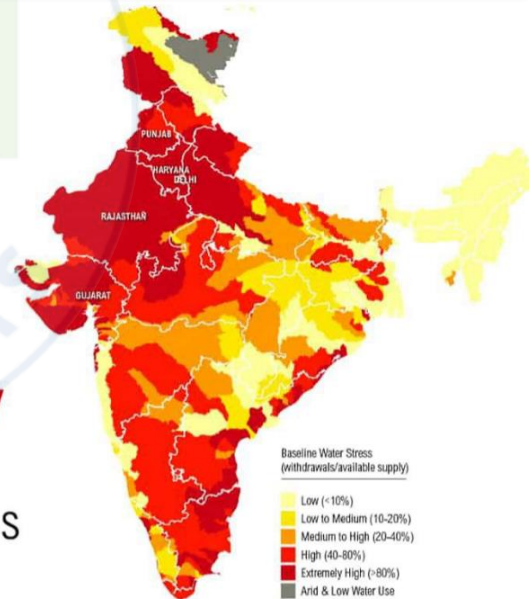
2017	100	1.5
2020	97	1.3

Categorisation of Assessments Units 2020

- Safe
- Semi-critical
- Critical
- Over-exploited
- Saline



**54%** of India Faces **High to Extremely High** Water Stress



## Warming of oceans: A reason why hurricanes are getting stronger, faster

AS EARTH'S climate warms, storms are undergoing rapid intensification, growing from relatively weak tropical storms to Category 3 or higher hurricanes in under 24 hours, sometimes stunning forecasters and giving residents little time to prepare.

One instance was seen on Tuesday, when Hurricane Ian, which was a tropical storm with heavy rain and winds of 73 mph early on Monday, hit western Cuba on Tuesday as a major hurricane.

### Warmer oceans, higher winds

More than 90 per cent of the excess heat from human-caused global warming over the past 50 years has been absorbed by the oceans. Since 1901, sea surface temperatures have risen by an average of 0.14 degrees Fahrenheit per decade, according to data from the US National Oceanic and Atmospheric Administration (NOAA).

Storms gather strength over the ocean, and the warmer the water, the more power they pick up. A 2020 satellite image analysis showed that the likelihood of a hurricane strengthening into a Category 3 storm or higher, with sustained winds above 110 mph, has increased by about 8 per cent a decade since 1979.

### Winds intensify more rapidly

Warmer oceans also make the rate of intensification more rapid, said Kerry A Emanuel, a meteorologist and hurricane expert at the Massachusetts Institute of Technology. Researchers have found that the likelihood of a hurricane undergoing rapid intensification has increased to 5 per cent from 1 per cent since the 1980s.

### It is not just warmer oceans

Several elements other than ocean temperatures affect hurricanes, and scientists are less certain about other climate effects.



Sheared palms in Cuba Tuesday after Hurricane Ian made landfall. Reuters

One of those elements is vertical wind shear, or a measure of how much the wind changes in speed or direction at increasing heights in the atmosphere. Strong vertical wind shear can inhibit the development of hurricanes by tilting the structure of a storm and by forcing cool, dry air into its core.

A 2019 study in *Nature Scientific Reports* said warming temperatures may lead to weakening vertical wind shear, allowing hurricanes approaching the East Coast of the United States to intensify more rapidly. However, the study's findings were localised.

### Short notice raises stakes

The increase in the number of hurricanes that intensify quickly and unpredictably presents a problem for forecasters.

If an evacuation order is issued too early, there is the risk of unnecessarily sending thousands scrambling.

Make the call too late, though, and there's no time for people to escape.

## WARMING OF OCEANS

- More than **90% of excess heat from human caused global warming over the past 50 years have been absorbed by the oceans.**
- Sea surface temperature has risen by **0.14 degree Fahrenheit per decade since 1901.**
- STORMS gather strength over the ocean and the warmer the ocean, the more powerful are the storms.
- Warmer oceans results in more intensification of winds.

## Important Practice Question From Mains Perspective:

Why does more powerful cyclones are formed over the Bay of Bengal than that over the Arabian sea? Do you see any change in trend.

# Rise In Employment In India

(Prelims / GS-3)

Source: The Hindu, 28 September 2022



## Jobs grew in final quarter of last fiscal, manufacturing is largest contributor: survey

Estimated employment in nine non-farm sectors rose from 3.14 crore during September-December 2021 to 3.18 crore in January-March 2022, says Labour Minister Bhupender Yadav; marginal increase in participation of women workers

The Hindu Bureau  
NEW DELHI

**M**anufacturing continues to be the largest institutional employer in the country, employing about 38.5% of the workers, according to the fourth round (January-March 2022) of the Quarterly Employment Survey (QES), which is a part of the All India Quarterly Establishment based Employment Survey (AQEES).

The survey, which was released by Union Labour Minister Bhupender Yadav here on Tuesday, estimated that around 3.18 crore workers were employed in about 5.31 lakh establishments between January and March. It claimed an increase of about four lakh workers compared with the third round of QES, which was done for the last three months of 2021.

Education, manufacturing, trade and financial services together accounted for 84% of the total estimated

### Rise in jobs

An estimated total of 3.18 crore workers were found to be engaged in 5.31 lakh establishments during the 4th round (January-March, 2022) of the Quarterly Employment Survey, compared to a total of 3.14 crores in the third quarter



ed units. "Manufacturing sector accounts for the largest percentage (38.5%) of the total number of workers, followed by education sector with 21.7%, IT/BPO sector with 12% and health sector 10.6%," the survey said. Almost 80% of the establishments engaged 10 to 99 workers. About 12% of the establishments reporting fewer than 10 workers. Only 1.4% of the establishments surveyed reported

at least 500 workers. "Such large establishments were mostly in the IT/ BPO sector and in the health sector," the report said.

The participation of women workers witnessed a marginal increase from 31.6% in the third quarter to 31.8% in the fourth quarter report. However, women workers constituted about 52% of the workforce in the health sector, while the corresponding per-

centages in education, financial services and IT/ BPO sectors stood at 44%, 41% and 36%, respectively.

"It is noteworthy that in financial services, women far outnumber males among self-employed persons," the report added.

The survey said 86.4% of the workers were regular employees, and 8.7% were contractual employees followed by casual employees (2.3%) and self-employed

(2%). "The share of fixed term employees in the establishments was found to be the least (0.7%) over all," the survey said.

releasing the report, Mr. Yadav said employment was showing an increasing trend and estimated employment rose from 3.14 crore in the third quarter (September-December 2021) to 3.18 crore in the fourth quarter (January-March 2022). "It is important to mention here that the total employment in these nine selected sectors taken collectively was reported as 2.37 crore in the sixth economic census (2013-14)," he said.

The Labour Bureau had taken up AQEES to provide quarterly estimates about employment and related variables of establishments in both organised and unorganised segments of nine sectors - manufacturing, construction, trade, transport, education, health, accommodation and restaurant, IT / BPO and financial services.

**Quarterly Employment Survey**, which is a part of **All India Quarterly Establishment based Employment Survey** taken up by the **Labour Bureau** informs that

- ❑ **3.18 crore** workers were employed in **5.31 lakh** establishments between January and March.
- ❑ Education, manufacturing, trade and financial sectors together accounted for **84% of the total estimated units**.
- ❑ Manufacturing sector accounts for the largest percentage of total number of workers.
- ❑ Participation of women workers witnessed a **marginal increase**.
- ❑ In financial sectors, women far outnumber males among self employment.
- ❑ The survey said **86.4%** of the workers were regular workers.

## Important Practice Question From Mains Perspective:

There is greater need to push for manufacturing sector in India to end the distress of unemployment. Discuss.

(Refer to 16 Sept current affairs analysis on 'Should India chose manufacturing over services').

# Deployment of Artillery In Northern Border (GS-3)

Source: The Hindu, 28 September 2022



## Army deploys medium, long-range weapons across northern border

**Dinakar Peri**  
NEW DELHI

Since the standoff with China along the Line of Actual Control (LAC) in Eastern Ladakh in May 2020, the Army has deployed its entire range of medium-range artillery guns and long-range rockets in the region to augment its long range fire power as part of the reorientation towards the northern borders. The Army is now in the process of procuring another 100 K9-Vajra howitzers, which has already been approved by the Defence Ministry.

The Regiment of Artillery is also in the process of inducting loitering mutations, while it is also looking at procuring tactical Unmanned Aerial Vehicles (UAV). "Induction of Dhanush, K-9 Vajra and M777 Ultra Light Howitzers



The K9 Vajra Tank on the Rajpath. R.V. MOORTHY

(ULH) has enhanced reach of artillery firepower. Operationalisation of Pinaka Multi-Rocket Launch System (MRLS) has added punch to long range capability of artillery firepower," a defence source said. The Regiment is celebrating the 196th Gunners Day on September 28.

The source added that in the next five years, majority of these inductions should near completion,

barring any slippages in delivery schedules. On this note, the source stressed on the need to upscale the capacities and capabilities of the domestic industry and the need to evolve a "conglomerate or consortium culture".

The Army plans to convert all its artillery regiments to medium range by converting it to 155 mm standard. The process of completing the medium-

sation process is likely to be achieved sometime around 2040, the source stated. Further, the Regiment of Artillery is looking at procuring tactical UAVs, unlike the Medium Altitude Long Endurance UAVs operated by the Army Aviation, to enable Observation Post (OP) officers to better direct fire power and also to carry out post strike damage assessment at long ranges.

Ground based surveillance has limitations and so we are looking at mini-UAVs of two types which are capable of vertical take-off and landing, sources explained. These include UAVs capable with range of 15-20 km and and endurance of upto two hours and those with slightly longer range of of 80km with endurance of four hours.

- Indian Army deploys medium, long ranged weapon across Northern Border.
- **Regiment of Artillery is in process of inducting**
  1. Dhanush.
  2. K-9 Vajra.
  3. M777 Ultra Light Howitzers.
  4. Loitering **mutations**.
- It is also Looking at procuring tactical UAVs.
- It has operationalized **Pinaka** Multi Rocket Launch System.

# Supreme Court Judgement On EWS Reservation

(Prelims / GS-2)

Source: The Hindu, 28 September 2022



## SC reserves verdict on petition against EWS reservation

**The Hindu Bureau**  
NEW DELHI

A five-judge Bench of the Supreme Court led by Chief Justice of India (CJI) U.U. Lalit on Tuesday reserved for judgment petitions challenging the validity of the 103rd Constitutional Amendment which provides 10% reservation in government jobs and educational institutions to the economically weaker sections or EWS, but excludes the 'poorest of poor' among Scheduled Castes, Scheduled Tribes and Other Backward Classes from its ambit.

The Bench heard marathon arguments for seven days on the vital issue whether the EWS quota, solely based on economic criterion, violated the basic structure of the Constitution. The petitioner argued that the amendment was contrary to the equality code. The court asked the Centre whether the reservation encroached on the opportunities of merit-based candidates.

The government maintained that the 10% quota was not an addition to the



50% ceiling on reservation. It said the quota was an "independent compartment". The court had questioned whether it would take a piece of the pie from the 50% available to non-reserved or open category who compete purely on the basis of merit. The court had also questioned the exclusion of backward classes.

Dr. Mohan Gopal, in his rejoinder, said this was the first time that being a member of the forward classes was made a pre-requisite for getting government assistance. Advocate Kaleeswaram Raj submitted that fundamental rights are individualistic and the government's justification for excluding SC, ST and OBC on the ground that they already take benefit of the 50% quota does not hold water.

## Indra Sawhney & Others vs Union of India, 1992

- ❑ The Supreme Court while upholding the **27% quota for backward classes**, struck down the government notification reserving **10% government jobs for economically backward classes** among the higher castes.
- ❑ SC in the same case also upheld the principle that the combined reservation beneficiaries should **not exceed 50% of India's population**.
- ❑ The concept of '**creamy layer**' also gained currency through this judgment and provision that reservation for backward classes should be confined to initial appointments only and not extend to promotions.

## What does it mean by judgement reserved?

It means that the **court has decided it needs time to consider the facts and details of the case before drawing a verdict**. At this stage, the court has heard the arguments of counsels from both sides of the case and is taking its time to consider information and deliberate on the verdict.



# QUAD boosting India's Trade And Investment

(GS-2 / GS-3 / PSIR)

Source: The Hindu, 28 September 2022



## Moody's sees Quad lifting India's trade, investment flows

Rating firm flags country's 'relatively protectionist' approach, regulatory and infrastructure constraints as key determinants of extent of gains

The Hindu Bureau  
NEW DELHI

India's membership of the Quadrilateral Security Dialogue will help it tap greater trade and investment flows as economic ties deepen among members seeking to cut their reliance on China, but India's protectionist stance and 'weak' business climate could constrain these gains, Moody's Investors Service said on Tuesday.

"India is poised to become a growing destination market for goods from the other Quad countries, including commodities, machinery and chemicals," the rating agency said in a note on geopolitical risks stemming from the Quad alliance. "The U.S. and Japan will continue to be major sources of foreign direct investment (FDI) in services, telecommunications and software, while Australia's presence will grow as a result of a free-trade agreement with India," it added.

Trade and investment gains would accrue to India, Moody's observed, adding that regulatory and infrastructure constraints, however, remained. The magnitude of the trade flow shifts would also depend on improvements in India's business climate and the level of investment



**Trade winds:** Moody's sees the Quad continuing to drive long-term supply-chain shifts toward Southeast Asia and India. PH

attractiveness, which 'remained weak' compared with that of other Asia Pacific and Quad economies.

"India also stands out as a relatively protectionist market... reflected in its high weighted average import tariff," Moody's said.

Still, as economies diversify production of critical products and technologies, the Quad would continue to drive some long-term supply-chain shifts toward Southeast Asia and India, it forecast.

"These shifts may include greater Australian exports of commodities including copper, energy and agricultural goods to these economies. Financial services companies in the U.S., Japan and Australia will benefit from the shifts, which will also support India's industrial and capital market development."

India stood to benefit from Quad-related supply chain shifts by raising trade with member economies and diversifying sources of imports, Moody's said.

"For India, the costs of pivoting from China toward Quad members as priority markets for trade growth will be relatively low, given that only a small share of its exports currently go to China. As reflected in its reluctance to join the RCEP trade agreement, India is keen to reduce its dependence on imports from China while expanding its market access to Australia, Japan and the U.S.," Moody's said.

"A lack of cohesion between Quad members... exemplified by India opting out of the 'IPEF'... lar, may also b... to find comm... 19 / 22 ground, the firm..."

## About the article:

This article discusses on how **India's membership of QUAD has elevated its ranks by lifting trade and investment** flow prospects as economic ties depend among the members, which also seeks or cut their reliance on China. It discusses the constraints such as **India's protectionist approach, regulatory and infrastructure constraints** as the main determinants to limit its extent of gains.

## Practice Question From Mains Perspective:

- Discuss how India's membership of QUAD will help it tap greater trade and investment flows.
- India's protectionist approach to market will limit its gains in trade and investment flows. Critically examine the statement.

**Daily MCQ for APSC CCE Prelims**

In which one of the following states are Namchik Namphuk coalfields located?

- A. Arunachal Pradesh
- B. Meghalaya
- C. Manipur
- D. Mizoram

**Ans. A. Arunachal Pradesh**

Namchik - Namphuk coal field is located in Changlang district of Arunachal Pradesh.

**Daily MCQ for APSC CCE Prelims**

A number is 20 more than its  $\frac{1}{5}$  part. The number is

A. 100

C. 20

B. 25

D. 5

**Solution: B. 25**

- Suppose the number is X
- Given,  $X = \frac{X}{5} + 20$
- $\Rightarrow X - \frac{X}{5} = 20$
- Solving, we get,  $X = \Rightarrow \frac{20 \times 5}{4} = 25$