

### THE VISION INDIA@2047: INDIA TO BECOME \$30-TRILLION ECONOMY BY 2047

#### Why in News?

- India is estimated to be a \$30 trillion developed economy by 2047, preliminary results from the Centre's vision document - The Vision India@2047, which is being prepared by NITI Aayog have shown.
- The document is likely to be released by the Indian PM after going through some fine-tuning before the draft vision document is ready by December.

#### India's Vision and Progress Towards 2047:

- **In his 2021 Independence Day speech**, the Indian PM paid homage to the freedom fighters and shared his vision for **Amrit Kaal and 2047**, when the country would celebrate **100 years of independence**.

<b>CURRENTLY NO.!</b>		
GDP in \$ tn	2022	2023
United States	25.5	27.9
China	17.9	17.7
Japan	4.2	4.4
Germany	4.1	4.2
<b>India</b>	<b>3.4</b>	<b>3.7</b>

- He had given a call to make India a **developed nation by 2047** - **Viksit Bharat@2047** - and had urged CMs of states to work towards it with a **Team India** approach.
- Elaborating more on the goals for 2047, **the Union Budget 2023-2024 re-emphasised that Jan Bhagidari** through Sabka Saath, Sabka Prayas is essential and delineated the **Saptarishi principles**:
  - Inclusive Development;
  - Reaching the Last Mile;
  - Infrastructure and Investment;
  - Unleashing the Potential;
  - Green Growth;
  - Youth Power;
  - Financial Sector.
- The vision document will also detail the **roadmap where India will be in 2030 and in 2047**.

#### Preliminary Results from the Vision India@2047:

Indicator	Unit	2030	2040	2047
GDP at current prices	\$ trillion	6.7	16.1	29
Per capita GDP at current prices	\$	4,418	10,021	17,590
Exports	\$ trillion	1.6	4.6	8.7
Imports	\$ trillion	1.9	5.9	12.1
Investment	₹ trillion	195.5	591.1	1,273.4
Savings	₹ trillion	207.8	649.4	1,339.7

Source: NITI Aayog

The economy will need to post an annual average economic growth of 9.2% between 2030-2040, 8.8% between 2040-2047 and 9%

between 2030 to 2047.

- The preliminary results predict that **India's exports** will be valued at \$8.67 trillion in 2047 while its **imports** will be valued at \$12.12 trillion.
- India's apex policy think tank (Niti Aayog) also predicts **India's average life expectancy** to jump to 71.8 from 67.2 in 2021 and its **literacy rate** to 89.8% from 77.8% in 2021.

## WHAT IS PHOTOCOPYING?

Photocopying technology has revolutionised the way we copy, print, and distribute textual material.



### About Photocopying:

- It is a set of **techniques with which to duplicate some content** using, among other things, light. However, the contemporary colloquial use of the word 'photocopying' refers almost exclusively to xerography.
- Both the word 'xerography' and the name 'Xerox' come from the Greek root-word 'xero', meaning 'dry'.
- This is because xerography is a type of **photocopying method whose process doesn't involve messy liquid chemicals**.
- Xerographic machines are in ubiquitous use around the world today to quickly and cheaply reproduce printed material.

### How does xerography work?

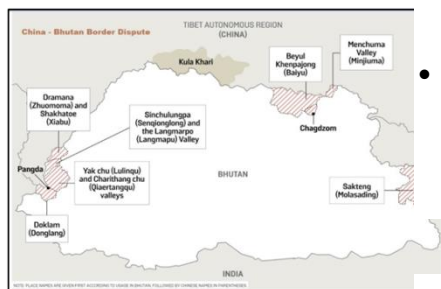
- Xerography has a few basic elements.
  - **Photoconductive surface:** A surface coated with a photoconductive material. Such a material, when **exposed to light**, allows **electrons to flow through** it (i.e., conducts electricity) but blocks them when it's dark.

- This surface is **negatively charged** by placing a thin, **negatively charged** wire with a high voltage next to it.
- Then, the sheet of paper to be copied is illuminated with a bright light. The darker parts of the paper – where something is printed, i.e. – don't reflect the light whereas the unmarked parts do.
- This reflected light is carried by lenses and mirrors to fall on the photoconductive surface.
- In the parts of the surface where light falls, the photoconductive material will become conductive and allow the electrons near its surface to dissipate downwards (into a grounding).
- So the parts that remain negatively charged at the end of this step will correspond to parts of the **paper-to-be-copied** (TBC) where something was printed.
- Next, a powdery **substance called toner is applied to the surface**.
- The toner is positively charged, so it will settle where negative charge persists on the surface.
- The surface then transfers the pattern of toner on it to a sheet of paper. The paper **has a stronger negative charge** that causes the toner to jump.
- Finally, the toner is heated so that it melts and fuses with the paper. This is the paper that rolls out of the photocopying machine, the whole process having been completed in a few seconds.
- In practice, a rotating drum is used instead of a flat surface, and the paper TBC is illuminated by a flashing or stroboscopic light or a moving scanner.

## CHINA-BHUTAN BOUNDARY TALKS AND ITS SIGNIFICANCE

### Why in news?

- China and Bhutan held their 25th round of boundary talks in Beijing.
- Both the countries signed a Cooperation Agreement on the Responsibilities and Functions of the Joint Technical Team (JTT) on the Delimitation and Demarcation of the Bhutan-China



Boundary.

- This advances their 3-Step Roadmap initiated in 2021 for border resolution, building on the positive momentum since their last talks in 2016.

### China - Bhutan Border Dispute

- Bhutan shares a 477 km-long border with China, which claims certain territories from Bhutan:
  - **In the north** –Pasam-lung and Jakar-lung valleys; and
    - Both of these places are culturally vital for Bhutan.
  - **In the west** -Doklam, Dramana, and Shakhatoe, Yak Chu and Charithang Chu, and Sinchulungpa and Langmarpo valleys.
    - These places are pasture-rich and strategically located in the Bhutan-India-China trijunction, lying precariously close to India’s Siliguri Corridor.
  - In 2020, China made new claims on Bhutan’s East in the Sakteng sanctuary.
    - Surprisingly, there has been no mention of Eastern Bhutan in the previous rounds of boundary negotiations held between the two countries.
    - Hence, addition of Eastern Bhutan in the list of disputed territories has baffled Bhutan.
    - This eastern sector of Bhutan has a large Bhutanese population, traditional Dzongs (Medieval fortified monastery) and two Bhutanese districts since time immemorial.

## News Summary: China-Bhutan boundary talks and its significance

### Why are the recent talks significant?

- The Boundary talks between Bhutan and China were held after a gap of seven years and indicate significant progress.
- Bhutan and the Tibetan Autonomous Region share a contiguous border to Bhutan’s north and west of about 470 km.
- Since 1984, Bhutan and China had held 24 rounds of talks to resolve the disputes until 2016.
- But the 25th round appeared to have been held up after the Doklam Standoff between Indian and Chinese armies in 2017, and then the COVID-19 pandemic in 2019-2021.
- However, the two sides used the pause to hold talks at other levels in rapid succession, especially after China threatened to open a new front for a border dispute to Bhutan’s east.
- Since then, the Expert Group of diplomats on both sides met in 2021 to agree on a **3-step roadmap**, and the first boundary delimitation technical talks were held in August 2023.

### What is the 3-Step Roadmap?

- Bhutan and China do not have diplomatic ties, as Bhutan has avoided diplomatic relations with all the United Nations Security Council permanent members.
  - The 3-Step Roadmap involves:
    - agreeing to the border on the table;
    - then visiting the sites on the ground; and
    - then formally demarcating the boundary.
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## WHAT IS AN IMPROVISED EXPLOSIVE DEVICE (IED)?

The Kerala Police chief confirmed that an Improvised Explosive Device (IED) was used in the multiple blasts that took place at the convention centre of a Christian religious group in Kochi recently.



### About Improvised Explosive Device (IED):

- An IED is a type of **unconventional explosive weapon** that can take any form and be **activated in a variety of ways**.
  - IEDs are **used by criminals, vandals, terrorists, suicide bombers, and insurgents**.
  - Because they are improvised, IEDs can **come in many forms**, ranging from a **small pipe bomb to a sophisticated device** capable of causing massive damage and loss of life.
  - The **extent of damage** caused by an IED **depends on its size, construction, and placement**, and whether it incorporates a high explosive or propellant.
  - The **term IED came into common usage during the Iraq War** that began in 2003.
  - **Elements of an IED:**
    - It consists of a variety of components that include **an initiator, switch, main charge, power source, and container**.
    - IEDs may be **surrounded by or packed with** additional materials or “**enhancements**” such as **nails, glass, or metal fragments** designed to **increase the amount of shrapnel propelled by the explosion**.
    - An IED can be **initiated by a variety of methods**, depending on the intended target.
  - **Materials used as explosives in IEDs:**
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- Many commonly available materials, such as **fertiliser, gunpowder, and hydrogen peroxide**, are used as explosive materials in IEDs.
  - **Explosives contain fuel and an oxidizer**, which provides the oxygen needed to sustain the reaction.
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## WHAT IS TOLL OPERATE TRANSFER (TOT) MODEL?

The National Highways Authority of India (NHAI) recently awarded two highway monetisation projects worth Rs 6,584 in the toll, operate, and transfer (TOT) mode.



### About the Toll Operate Transfer (TOT) Model:

- In 2016, the Cabinet Committee on Economic Affairs (CCEA) **authorised the National Highway Authority of India (NHAI) to monetise public-funded national highway projects** and approved the ToT model.
  - In the TOT model, **public-funded projects, operational for two years, are put up for bidding**, wherein the **right of collection and appropriation of fees is assigned for a predetermined concession period (30 years) to concessionaires** (developers or investors) **against the upfront payment of a lump sum amount to NHAI**.
  - Such **assignment of rights shall be based on the toll revenue potential of the identified NH projects**.
  - **Operation & Maintenance (O&M) obligations** of such projects shall be **with the concessionaire** till the completion of the concession period.
  - The **concessionaires for such projects shall be appointed through a transparent and uniform procurement process** within the ambit of a pre-defined and approved implementation framework.
  - It will **help in the utilisation of the corpus** (generated from proceeds of such project monetisation) **by the Government** to meet fund requirements for **future development and O&M of highways** in the country, including in unviable geographies.
  - TOT model has been developed to **encourage private participation in Highway sector**.
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## EXERCISE KAZIND-2023

Recently, the Indian Army and Indian Air Force contingent, comprising 120 personnel, departed to take part in the Joint Military 'Exercise KAZIND-2023' which will be conducted at Otar, Kazakhstan, from October 30th to November 11th, 2023.



### About Exercise KAZIND-2023:

- It is the 7th edition of Kazind exercise.
- The Joint Exercise between India and Kazakhstan was instituted as 'Exercise PRABAL DOSTYK' in the year 2016.
- After the **second edition**, the Exercise was upgraded to a company-level exercise and renamed as 'Exercise KAZIND'.
- The Exercise has been further upgraded as a **Bi-service Exercise** this year by including the Air Force component.
- In this edition of the Exercise, both sides will practise conduct of **Counter Terrorism operations in a sub-conventional environment** under United Nations mandate.
- The contingents will jointly rehearse various tactical drills to include Raid, Search and Destroy Operations, Small Team Insertion and Extraction operations, etc.
- The scope of the Exercise also includes conduct of **Counter Unmanned Aerial System Operations**.

### Significance

- 'It will provide an opportunity for both sides to gain insight into the tactics, battle drills, and procedures of each other, which is a prerequisite while operating under the ambit of the United Nations.
- The joint training will develop the **necessary skills, resilience, and coordination** to conduct joint military operations in Semi-Urban and Urban environments.
- Both sides will get a chance to practise drills on a wide spectrum of combat skills and mutually learn from each other.
- The exercise will provide an opportunity for the contingents to exchange views and share best practices.

## MAHABALI TUG

Indian Navy recently commissioned Mahabali Tug Shoft Shipyard Pvt. Ltd., Gujarat.



### About the Mahabali Tug:

- It is a **25-ton Bollard Pull (BP) Tug**.
- This vessel, a creation of **Shoft Shipyard** located in Bharuch, Gujarat, is **one of three such tugs commissioned as part of a collaborative effort between the Ministry of Defence and the Shipyard.**

- It has been constructed **in accordance with the classification rules set forth by the Indian Register of Shipping (IRS).**
- It will assume a crucial role in **aiding naval ships and submarines during berthing and unberthing operations, as well as in navigating through confined waters.**
- It is **equipped to enhance firefighting capabilities for ships both alongside and at anchorage.**
- It is also **outfitted for limited Search and Rescue Operations.**

### Key Facts about the Indian Register of Shipping (IRS):

- Indian Register of Shipping (IRS) is an **international ship classification society providing ship classification and certification as well as technical inspection services.**
- The **not for profit** entity was **founded in 1975.**
- It is a **member of the International Association of Classification Societies (IACS),** which represents classification societies worldwide.
- **IRClass Systems and Solutions Ltd. (ISSPL)** is an organisation **promoted by the IRS** and was set up in 2014.
- The **two companies, IRS and ISSPL, form the brand IRCLASS,** which provides survey, inspection, and certification services to the maritime and industrial sectors.
- **IRCLASS is committed to promoting safe and environmentally friendly engineering practises** through its services to the business community.



## AMANGARH TIGER RESERVE

The tiger population at the Amangarh Tiger Reserve has increased from 21 mature tigers and six cubs in 2021 to 28 mature tigers and four cubs now.



### About Amangarh Tiger Reserve:

- **Location:**

- It is located in Amangarh, in **Bijnor district**, in the state of **Uttar Pradesh**.

- It is situated **in the Terai region** and covers an area of around 578 sq km.
- It shares its boundaries with **Jim Corbett National Park** of Uttarakhand.
- It was **originally part of the Jim Corbett National Park**, and after the state of **Uttarakhand** was carved out of **Uttar Pradesh**, Jim Corbett went to Uttarakhand, and **Amangarh remained in Uttar Pradesh**.
- It was declared a tiger reserve in 2012.

**Flora:** The vegetation of the tiger reserve is a combination of **grasslands, wetlands, and dense forest**.

- **Fauna:**

- **Mammals:** Tiger, Elephant, Swamp Deer, Sambar, Cheetal, Hog Deer, Kakar, Langur, Sloth Bear, Porcupine, Otter.
- **Birds:** Hornbill, Red Jungle Fowl, Pea Fowl, Bengal Florican, Fishing Eagle, Serpent Eagle, Osprey, Woodpeckers, Shama, Indian Pitta, Paradise Flycatcher, Orioles, Emerald Dove.
- **Reptiles:** Monitor Lizard, Turtles, Python, Gangetic Dolphin, Mugger, Gharia etc.