

INDIA-AUSTRALIA ECONOMIC COOPERATION AND TRADE AGREEMENT (IND- AUS ECTA)

GS Paper - 2 - International Treaties & Agreements - Government Policies & Interventions - Groupings & Agreements Involving India and/or Affecting India's Interests



WHY IN NEWS?

Recently, India signed a historic trade agreement with Australia, the **India-Australia Economic Cooperation and Trade Agreement (Ind- Aus ECTA)**.

- In February 2022, **India and Australia announced** that they were going to sign such an agreement.
- The negotiations for India-Australia ECTA were formally re-launched in September 2021 and concluded on a fast-track basis by the end of March 2022.

WHAT IS THE ECONOMIC COOPERATION AND TRADE AGREEMENT?

- It is the first **Free Trade Agreement (FTA)** that India has signed with a major developed country in over a decade.
 - In February, **India signed an FTA with the UAE** and is currently working on FTAs with **Israel**, Canada, **UK** and the **European Union**.
- The Agreement encompasses cooperation across the entire gamut of **bilateral economic and commercial relations between the two friendly countries**, and covers areas like:
 - Trade in Goods, Rules of Origin.
 - Trade in Services.
 - Technical Barriers to Trade (TBT).
 - **Sanitary and Phytosanitary (SPS)** measures.
 - Dispute Settlement, Movement of Natural Persons.
 - Telecom, Customs Procedures.
 - Pharmaceutical products, and Cooperation in other Areas.
- ECTA **provides for an institutional mechanism to encourage and improve trade** between the two countries.

- The ECTA between India and Australia **covers almost all the tariff lines dealt in by India and Australia respectively.**
 - India will benefit from **preferential market access provided by Australia on 100% of its tariff lines.**
 - This includes all the **labour-intensive sectors of export interest to India** such as Gems and Jewellery, Textiles, leather, footwear, furniture etc.
 - On the other hand, **India will be offering preferential access to Australia on over 70% of its tariff lines**, including lines of export interest to Australia which are primarily raw materials and intermediaries such as coal, mineral ores and wines etc.
- Under the agreement, **Indian graduates from STEM (Science, Technology, Engineering and Mathematics) will be granted extended post-study work visas.**
 - Australia will also set up a programme to grant visas to young Indians looking to pursue working holidays in Australia.

WHAT IS THE SIGNIFICANCE OF THE AGREEMENT?

- It will provide **zero-duty access to 96% of India's exports** to Australia including shipments from key sectors such as engineering goods, gems and jewellery, textiles, apparel and leather.
- It will **boost bilateral trade in goods and services to USD 45-50 billion over five years**, up from around USD 27 billion, and generate over one million jobs in India, according to a government estimate.
- It will also **give about 85% of Australia's exports zero-duty access to the Indian market**, including coal, sheep meat and wool, and lower duty access on Australian wines, almonds, lentils, and certain fruits.

WHAT ARE FREE TRADE AGREEMENTS?

- It is a **pact between two or more nations to reduce barriers** to imports and exports among them.
- Under a free trade policy, goods and services can be bought and sold across international borders with little or no government tariffs, quotas, subsidies, or prohibitions to inhibit their exchange.
- The concept of **free trade is the opposite of trade protectionism or economic isolationism.**
- FTAs can be categorised as Preferential Trade Agreement, **Comprehensive Economic Cooperation Agreement (CECA)**, **Comprehensive Economic Partnership Agreement (CEPA)**.

HOW HAS BEEN THE INDIA- AUSTRALIA TRADE RELATION SO FAR?

- India and Australia **enjoy excellent bilateral relations that have undergone transformational evolution** in recent years, developing along a positive track, into a friendly partnership.
- This is a special partnership characterised by shared values of **pluralistic, parliamentary democracies, Commonwealth traditions, expanding economic engagement, long standing people-to-people ties and increasing high level interaction.**
- The India-Australia Comprehensive Strategic Partnership initiated during the **India-Australia Leaders' Virtual Summit** held in June 2020 is the cornerstone of India-Australia multi-faceted bilateral relations.

- Growing India-Australia economic and commercial relations **contribute to the stability and strength of a rapidly diversifying and deepening bilateral relationship** between the two countries.
- India and Australia have been each other's important trading partners.
 - **Australia is the 17th largest trading partner of India** and India is **Australia's 9th largest trading partner.**
 - India-Australia bilateral trade for both merchandise and services is valued at **USD 27.5 billion in 2021.**
 - India's merchandise exports to Australia grew 135% between 2019 and 2021. India's exports consist primarily of a broad-based basket largely of finished products and were **USD 6.9 billion in 2021.**
 - India's merchandise imports from Australia were **USD 15.1 billion in 2021**, consisting largely of raw materials, minerals and intermediate goods.
- India and Australia are partners in the trilateral **Supply Chain Resilience Initiative (SCRI)** arrangement along with Japan which seeks to enhance the resilience of supply chains in the **Indo-Pacific Region.**
- Further, India and Australia are also members of the **QUAD grouping (India, the US, Australia and Japan)**, also comprising the US, and Japan, to further enhance cooperation and develop partnership across several issues of common concern.

WAY FORWARD

- **Shared values, shared interests, shared geography and shared objectives are the bedrock of deepening India-Australia ties** and the cooperation and coordination between the two countries have picked up momentum in recent years.
- Both India and Australia share a **vision of a free, open, inclusive and rules-based Indo-Pacific region** and cooperative use of the seas by adherence to international law including the **United Nations Convention on the Law of the Sea (UNCLOS)** and peaceful resolution of disputes rather than through unilateral or coercive actions.
- The India-Australia ECTA **will further cement the already deep, close and strategic relations between the two countries** and will significantly enhance bilateral trade in goods and services, create new employment opportunities, raise living standards, and improve the general welfare of the peoples of the two countries.

Source:PIB

INDIAN PRESIDENT FOR THE FIRST TIME VISITED TURKMENISTAN

GS Paper - 2 - Groupings & Agreements Involving India and/or Affecting India's Interests - Global Groupings - India and its Neighbourhood



WHY IN NEWS?

Recently, the **Indian President for the first time visited Turkmenistan**, where he signed four agreements, including in financial intelligence and disaster management and agreed to expand bilateral trade and energy cooperation to further strengthen the multifaceted partnership.

- Earlier, a Memorandum of Understanding (MoU) was signed between India and Turkmenistan on **Cooperation in the field of Disaster Management.**

WHAT ARE THE HIGHLIGHTS OF THE BILATERAL MEET?

- Highlighted the significance of the **International North South Transport Corridor (INSTC)** and the **Ashgabat Agreement** on International Transport and Transit Corridor.
- The **Chabahar port** built by India in Iran could be used to improve trade between India and Central Asia.
- Discussing the **Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline**, India suggested that issues related to the security of the pipeline and key business principles may be addressed in Technical and Expert level meetings.
- India expressed its **readiness to partner with Turkmenistan in its drive towards digitalisation** and noted that **Space can be another area of mutually beneficial cooperation.**
- Underlined the importance of **holding regular cultural events** in each other's territory since both countries share centuries-old civilisational and cultural linkages.
- Emphasised on the **need for both countries to cooperate closely on the effective management of the Covid-19 pandemic** that has affected their population.

- Agreed to further enhance cooperation under the framework flowing from the **India-Central Asia Summit**.
- India thanked Turkmenistan for **its support to India's permanent membership in a reformed and expanded UN Security Council** as well as for India's initiatives as a non-permanent member of UNSC for the period of 2021-22.
- Both share a broad 'regional consensus' on the issues related to **Afghanistan**, which includes formation of a truly representative and inclusive government, combating terrorism and drug trafficking, central role of the UN, providing immediate humanitarian assistance for the people of Afghanistan and preserving the rights of women, children and other national ethnic groups and minorities.

WHAT ARE THE KEY POINTS OF INDIA -TURKMENISTAN RELATIONS?

- Turkmenistan shares **borders with Kazakhstan in the north, Uzbekistan in the north and North-east, Iran in the South and Afghanistan** in the Southeast.
- India's '**Connect Central Asia**' policy 2012 envisages deeper mutual relations with the region and energy linkage is an important component of the policy.
- India has joined the Ashgabat agreement, which envisages setting up of an international transport and transit corridor linking central Asia with the Persian Gulf to significantly ramp up trade and investment.
- India considers the **TAPI pipeline (Turkmenistan, Afghanistan, Pakistan and India)** a 'key pillar' in its economic relations with Turkmenistan.
- **In 2015, Hindi Chair was established** in Azadi Institute of World languages, Ashgabat where Hindi is being taught to university students.
- India provides **training for Turkmen nationals under ITEC (Indian Technical and Economic Cooperation) programme**.
- Turkmenistan supports India's permanent position in the **UN Security Council**.
- Turkmenistan is a USD 40 billion plus economy, but the bilateral trade with India is below its potential. India can increase its economic presence in Turkmenistan, particularly in the **Information and communication technologies (ICT) sector**. This would help maintain the future balance of trade.
- Recently, the 3rd meeting of the **India-Central Asia Dialogue** was held in New Delhi.
 - It is a ministerial-level dialogue between India and the **Central Asian** countries namely **Kazakhstan, Kyrgyzstan**, Tajikistan, Turkmenistan and Uzbekistan.
- Turkmenistan possesses very large reserves of natural gas.
- Turkmenistan is **also strategically placed in Central Asia and connectivity is something on which India feel a partnership with Turkmenistan will pay dividends**.

VANNIYAKULA KSHATRIYA COMMUNITY

GS Paper - 2 - Issues Related to SCs & STs - Indian Constitution - Judgements & Cases - Fundamental Rights



WHY IN NEWS?

Recently, the Supreme Court struck down the 10.5% internal reservation to [Vanniyakula Kshatriya community in Tamil Nadu](#).

WHAT DID THE SUPREME COURT HELD?

- The Supreme Court held that 10.5% internal reservation to Vanniyakula Kshatriya community **violates the fundamental rights of equality, non-discrimination and equal opportunity** of 115 other **Most Backward Communities (MBCs) and De-Notified Communities (DNCs)** in Tamil Nadu.
- The allotment of 10.5% reservation to a single community from within the **total Most Backward Classes (MBC) quota of 20% in the State**, leaving only 9.5% to 115 other communities in the MBC category, was **without "substantial basis"**.
- Further, the court said there was **no assessment or analysis done prior to the 2021 Act** to back the claim that the Vanniyakula Kshatriyas were relatively more backward than the other MBCs and DNCs.
- The court underscored that while **caste can be the starting point for internal reservation, it is incumbent on the State government to justify the reasonableness of the decision**.
- Though the court held the 2021 Act and its **percentages of reservation unconstitutional**, it upheld the **legislative competence of the State** to enact a law sub-classifying and apportioning percentages within identified backward classes.

WHAT IS VANNIYAKULA KSHATRIYA RESERVATION?

- Reservation in Tamil Nadu **comprises 69% under a 1994 Act** protected under the **Ninth Schedule of the Constitution**.
 - Out of the 69%, backward classes, including Christians and Muslims, get 30%, MBCs get 20%, Scheduled Castes 18%, and Scheduled Tribes 1%
- The Vanniyakula Kshatriya reservation was provided under the State within the reservation for the **Most Backward Classes and Denotified Communities Act, 2021**.
- Vanniyakula Kshatriya (including **Vanniar, Vanniya, Vannia Gounder, Gounder or Kander, Padayachi, Palli and Agnikula Kshatriya**) community.
- The **second Tamil Nadu Backward Commission in 1983**, held that the population of Vanniyakula Kshatriyas was found to be 13.01% of the State's total population.
- Therefore, provision of **10.5% reservation to a community with a population of 13.01% could not be called disproportionate**.

WHAT IS THE NINTH SCHEDULE OF THE INDIAN CONSTITUTION?

- The Ninth Schedule was added by the **first amendment to the Indian Constitution**.
- It was introduced on **10th May 1951** by the **Jawaharlal Nehru Government** to protect land reform laws from being challenged in the courts on the grounds of violation of fundamental rights.
- It was created by the **new Article 31B**.
 - Article 31B also has a retrospective operation which means that if laws are inserted in the **Ninth Schedule** after they are **declared unconstitutional**, they are considered to have been in the Schedule since their commencement, and thus valid.
- While most of the laws protected under the **Schedule concern agriculture/land issues, the list includes other subjects**.
- Although **Article 31B excludes judicial review**, the apex court has said in the past that even laws under the Ninth Schedule would be open to scrutiny if they violated Fundamental Rights or the basic structure of the Constitution.

Source:TH

HUMAN GENOME AND ITS SIGNIFICANCE

GS Paper - 3 - Biotechnology - Scientific Innovations & Discoveries - Indigenization of Technology

**GENE
VERSUS
GENOME**

A gene is a part of a DNA molecule	The genome is the total DNA in a cell
Hereditary element of genetic information	All set of nuclear DNA
Encodes protein synthesis	Encodes both proteins and regulatory elements for protein synthesis
Length is about a few hundreds of bases	Length of the genome of a higher organism is about billion base pairs
A higher organism has about thousands of genes	Each organism has only one genome
Variations of the gene named alleles can be naturally selected	Horizontal gene transfer & duplication cause large variations in the genome

WHY IN NEWS?

Scientists had **published the map of the human genome for the first time** nearly two decades ago which was hailed as a breakthrough.

- In 2003, scientists got the breakthrough, but it was incomplete as about **8% of the human DNA was left unsequenced.**
- Now for the first time, a large team has accounted for completing the 8% picture of the human genome.
- In 2020, the Ministry of Science and Technology had approved an ambitious gene-mapping project called the **Genome India Project (GIP).**

WHAT IS GENOME?

- A **genome** refers to **all of the genetic material in an organism**, and the human genome is mostly the same in all people, but a very small part of the DNA does vary between one individual and another.
- Every organism's genetic code is contained in its **Deoxyribose Nucleic Acid (DNA)**, the building blocks of life.
- The discovery that DNA is **structured as a "double helix" by James Watson and Francis Crick in 1953**, started the quest for understanding how genes dictate life, its traits, and what causes diseases.

- Each genome contains all of the information needed to build and maintain that organism.
- In humans, a copy of the entire genome contains more than 3 billion DNA base pairs.

What is the Difference between Genome and Gene? /

What was the Breakthrough for the First time?

- The genetic sequence was made available in 2003 from the **Human Genome Project**.
 - **Human Genome Project** is an **international collaboration** between 1990 and 2003, containing information from a region of the human genome known as the **euchromatin**.
 - Here, the chromosome is rich in genes, and the DNA encodes for protein.
- The 8% that was left out was in the **area called heterochromatin, which is a smaller portion of the genome**, and does not produce protein.
- There were **at least two key reasons why heterochromatin was given lower priority**.
 - **First:** This part of the genome was thought to be “**junk DNA**”, because it had no clear function.
 - **Second:** The euchromatin contained more genes that were simpler to sequence with the tools available at the time.
- Now, the fully sequenced genome is the **result of the efforts of a global collaboration called the Telomere-2-Telomere (T2T) project**.
 - The invention of new methods of DNA sequencing and computational analysis helped complete the reading of the remaining 8% of the genome.

WHAT IS IN THE 8%?

- The new reference genome, called **T2T-CHM13**, includes **highly repetitive DNA sequences found in and around the telomeres** (structures at the ends of chromosomes) and the centromeres (at the middle section of each chromosome).
- The new sequence also reveals **long stretches of DNA that are duplicated in the genome and are known to play important roles in evolution and disease**.
- The findings have **revealed a large number of genetic variations**, and these variations appear in large part within these repeated sequences.
- Many of the **newly revealed regions have important functions in the genome** even if they do not include active genes.

WHAT IS THE SIGNIFICANCE OF THIS BREAKTHROUGH?

- **Make Easier the Study of Genetic Variation:**
 - A complete human genome **makes it easier to study genetic variation** between individuals or between populations.
- **Can be used for reference while Studying the Genome:**
 - By constructing a complete human genome, **scientists can use it for reference while studying the genome of various individuals**.
 - It would **help them understand which variations**, if any, might be responsible for disease.

○ Study Provide More Accurate Information:

- The T2T consortium used the now-complete genome sequence as a reference to discover more than 2 million additional variants in the human genome.

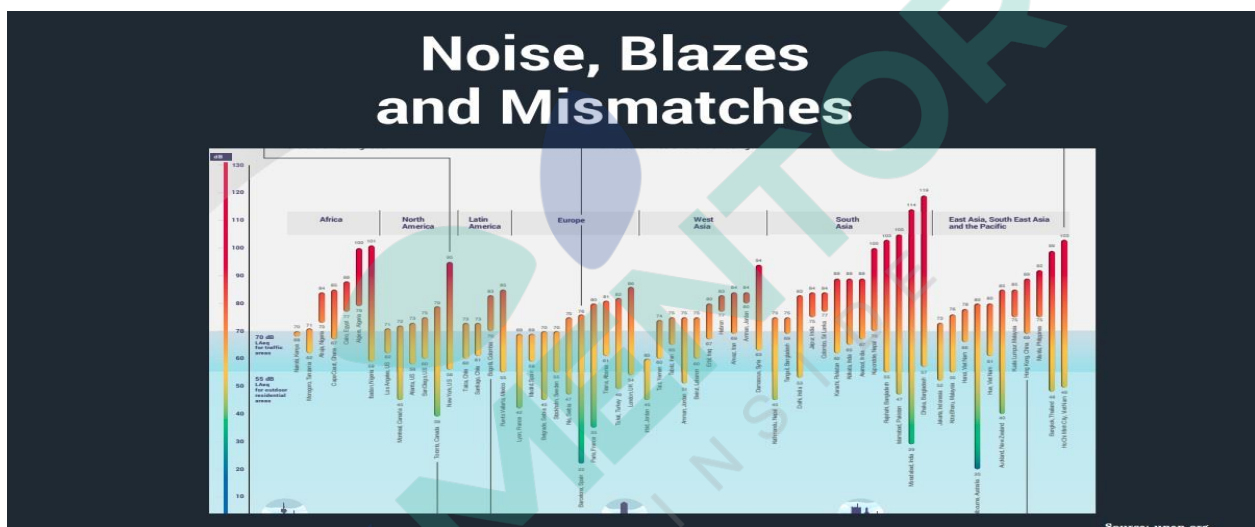
○ Complement the Standard Human Reference Genome:

- The new T2T reference genome will complement the standard human reference genome, known as Genome Reference Consortium build 38 (GRCh38), which originated from the Human Genome Project and has been updated since

Source:IE

ANNUAL FRONTIERS REPORT 2022

GS Paper - 3 - Conservation - Environmental Pollution & Degradation



WHY IN NEWS?

Recently released [United Nations Environment Programme](#) report titled [Annual Frontiers Report 2022](#) became controversial on account of the mention of a single city, Moradabad of Uttar Pradesh.

- The Frontiers report identifies and offers solutions to three environmental issues: urban noise pollution, wildfires and phenological shifts that merit attention and action from governments and the public at large to address the triple planetary crisis of climate change, pollution and biodiversity loss.

WHAT WAS THE CONTROVERSY?

- The report compiles studies about noise levels in several cities around the world and illustrates a subset of 61 cities and the range of dB (decibel) levels that have been measured.
- **Delhi, Jaipur, Kolkata, Asansol and Moradabad** are the five Indian cities mentioned in this list.
- **Moradabad in Uttar Pradesh** was shown as having a dB range from 29 to 114.
 - At a maximum value of 114, it was the **second-noisiest city in the list**.
 - While **road traffic, industry and high population density** are well-known factors associated with high dB levels, the inclusion of Moradabad appeared strange because similar studies in the past had never suggested it to be an unusually noisy city.
- The **first was Dhaka, Bangladesh** at a maximum value of 119 dB.

WHY ARE MEASUREMENTS OF NOISE IMPORTANT?

- Fulfil the WHO Guidelines:
 - The latest 2018 **World Health Organization (WHO)** guidelines established a health-protective recommendation for road traffic noise levels of 53 dB.
- Adverse Effects on Public Health:
 - The **Frontiers report compiled a host of evidence**, including the adverse effects of noise on public health, which range from mild and temporary distress to severe and chronic physical impairment.
 - Estimates suggest that in **Europe 22 million and 6.5 million people suffer from chronic noise annoyance** and sleep disturbance, respectively.
 - The **elderly, pregnant women and shift workers** are among those at risk of noise-induced sleep disturbance.
 - **Noise-induced awakenings** can trigger a **range of physiological and psychological stress** responses because sleep is necessary for hormonal regulation and cardiovascular functioning.
 - **Traffic noise exposure** is a **risk factor for the development of cardiovascular and metabolic disorders** such as elevated blood pressure, arterial hypertension, coronary heart disease and diabetes.
 - **Long-term exposure to environmental noise contributes** to 48,000 new cases of ischemic heart disease and causes 12,000 premature deaths annually in Europe.

WHAT IS INDIA DOING ABOUT NOISE POLLUTION?

- The **Central Pollution Control Board (CPCB)** is mandated to track noise levels, set standards as well as ensure, via their State units, that sources of excessive noise are controlled.
- The **agency has a manual monitoring system** where sensors are installed in major cities and few cities have the facility to track noise levels in real time.

WHAT ARE THE LAWS RELATED TO NOISE POLLUTION IN INDIA?

- Noise pollution is regulated separately under the **Noise Pollution (Regulation and Control) Rules, 2000.**
- Earlier, **noise pollution and its sources** were addressed under the **Air (Prevention and Control of Pollution) Act, 1981.**
- Additionally, **noise standards for motor vehicles, air-conditioners, refrigerators, diesel generators** and certain types of construction equipment are prescribed under the **Environment (Protection) Rules, 1986.**
- **Noise emanating from industry** is regulated by **State Pollution Control Boards / Pollution Control Committees (SPCBs / PCCs)** for states / Union territories under the Air (Prevention and Control of Pollution) Act, 1981.