



SIPRI Yearbook 2022

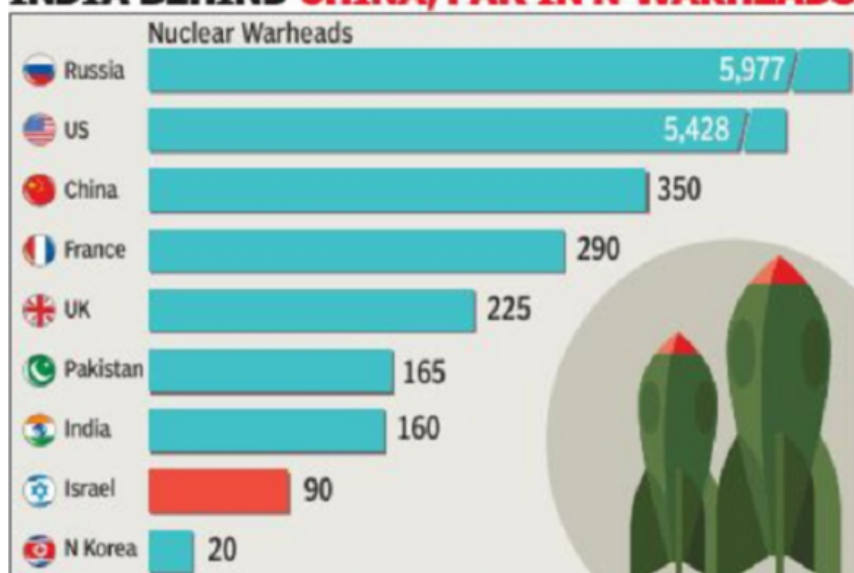
For Prelims: Highlights of the Report

For Mains: Need for Military Spending and associated Concerns

Why in News?

Recently, the [Stockholm International Peace Research Institute \(SIPRI\)](#) launched the findings of SIPRI Yearbook 2022, which assesses the current state of armaments, disarmament and international security.

// INDIA BEHIND CHINA, PAK IN N-WARHEADS



What is SIPRI?

- The SIPRI is an **independent international institute** dedicated to research into conflict, armaments, arms control and disarmament.
- **Established in 1966 at Stockholm**, SIPRI provides data, analysis and recommendations, based on open sources, to policymakers, researchers, media and the interested public.

What are the Key Highlights?

- **Nuclear warheads:**
 - **Global Scenario:**

- The nine nuclear-armed states—the **United States, Russia, the United Kingdom, France, China, India, Pakistan, Israel and the Democratic People’s Republic of Korea (North Korea)**—continue to modernize their nuclear arsenals and **although the total number of nuclear weapons declined slightly between January 2021 and January 2022**, the number will **probably increase in the next decade**.
- **India**
 - India had **160 nuclear warheads** as of January 2022 and it appears to be expanding its nuclear arsenal.
 - Nuclear warheads are the explosive head of a missile or torpedo that uses nuclear energy.
 - India’s nuclear stockpile increased from 156 in January 2021 to 160 in January 2022.
- **China**
 - **China** had **350 nuclear warheads** in January 2021 as well as January 2022.
 - India does not share official data on its nuclear arsenal.
- **Russia and the USA** together possess over **90%** of all nuclear weapons.
- **Importers of Major Arms:**
 - SIPRI identified 164 states as importers of major arms in 2016-20.
 - **Country Wise:**
 - The five largest arms importers were **Saudi Arabia, India, Egypt, Australia and China**, which together accounted for 36% of total arms imports.
 - **Region wise:**
 - The region that received the largest volume of major arms supplies in 2016-20 was Asia and Oceania, accounting for 42% of the global total, followed by the Middle East, which received 33%.
- **Suppliers of Major Arms:**
 - The five largest suppliers in 2016-20 - the **United States, Russia, France, Germany and China** - accounted for 76% of the total volume of exports of major arms.

What are the Several Landmarks in the Nuclear Diplomacy?

- **Treaty on the Prohibition of Nuclear Weapons (TPNW):**
 - After receiving the required 50 ratifications, the [Treaty on the Prohibition of Nuclear Weapons \(TPNW\)](#) entered into force in January 2021.
- **New START:**
 - US-Russian arms control agreement New START was extended for five years.
- **Joint Comprehensive Plan of Action (JCPOA):**
 - The start of talks on the USA rejoining, and Iran returning to compliance with the Iran nuclear deal, the **Joint Comprehensive Plan of Action (JCPOA)**.
- **Treaty on the Non-Proliferation of Nuclear Weapons:**
 - Nuclear-armed permanent members (P5) of the [United Nations Security Council](#) reaffirmed their commitment to complying with non-proliferation, disarmament, and arms control agreements and pledges as well as their obligations under the 1968 Treaty on the Non-Proliferation of Nuclear Weapons.

What are the Hindrances in Nuclear Diplomacy?

- All P5 members **continue to expand or modernize their nuclear arsenals** and appear to be increasing the salience of nuclear weapons in their military strategies.
- Russia has **even made open threats** about possible nuclear weapon use in the context of the war in Ukraine.
- **Bilateral Russia-USA strategic stability talks have stalled because of the war**, and none of the other nuclear-armed states are pursuing arms control negotiations.
- Moreover, the **P5 members of UNSC have voiced opposition to the TPNW**, and the JCPOA negotiations have not yet reached a resolution.

[Source: TH](#)

National e-Governance Service Delivery Assessment 2021

For Prelims: NeSDA 2021, e-Governance, Darbar move

For Mains: Service Delivery, Use of Public Resources, Efficient Governance

Why in News?

Ministry of Personnel, Public Grievances and Pensions releases the second edition of the **National e-Governance Service Delivery Assessment 2021, NeSDA 2021**.

- **J&K tops among UTs in e-Governance services delivery**, saves around Rs 200 crore annually that was incurred in carriage of physical files during the Annual Darbar move between the two capital cities of Jammu and Srinagar.

What is NeSDA 2021?

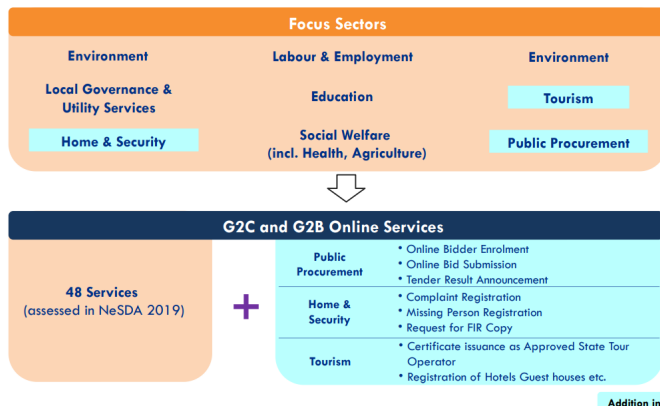
▪ About:

- For Digital Government excellence, **the National e-Governance Service Delivery Assessment (NeSDA) initiative** has been undertaken **by the Department of Administrative Reforms & Public Grievances (DARPG)**.
- **NeSDA was launched in August 2018**, based on the Online Service Index (OSI) of UNDESA eGovernment Survey (UN E-Government Survey 2020 by the United Nations Department of Economic and Social Affairs, since 2001).
- **This is the second edition of NeSDA**, the **first edition** was launched in **2019**.

▪ NeSDA Framework:

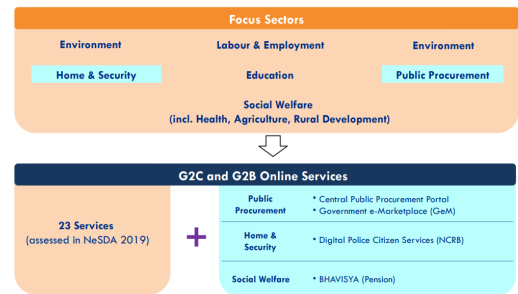
- The framework covers **six sectors**, viz. Finance, Labour & Employment, Education, Local Government & Utilities, Social Welfare (including Agriculture & Health) and Environment (including Fire) sectors.
 - The framework covers services under G2B (Government to Businesses) and G2C (Government to Citizens) segments, in these six sectors.
- During NeSDA 2021, additional 6 mandatory services at State / UT level and 4 services at Central Ministry level would be evaluated.
- The NeSDA framework primarily assessed all the service portals (State/UT and Central Ministry service portals) on 7 key parameters. In NeSDA 2021, the framework has been enhanced to include additional 6 parameters.
 - The portals assessed were classified into one of two categories.
 - State/UT/Central Ministry Portal, the designated portal of the respective government that provides a single window access to information and service links, is the first category.
 - The second category comprises of the State/UT/Central Ministry Services Portals which focus on the digital delivery of services and provide service-related information.

NeSDA 2021 Focus Sectors & Services – States / UTs



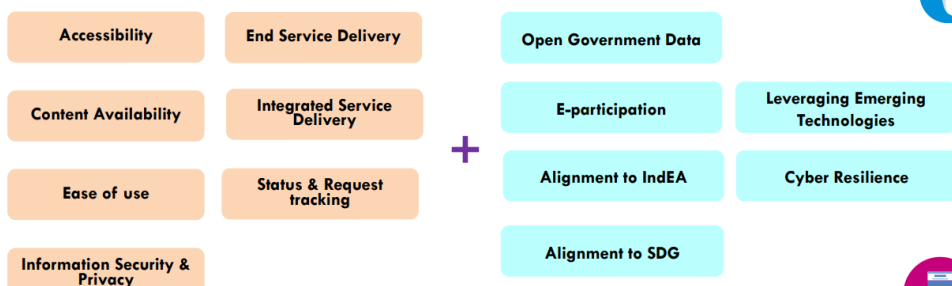
Addition in NeSDA 2021

NeSDA 2021 Focus Sectors & Services – Central Ministries



Addition in NeSDA 2021

NeSDA 2021 Framework - Assessment Parameters



Addition in NeSDA 2021

NeSDA 2021 Assessment:

- Among the Central Ministry Services Portals, scores have improved for 6 portals while among States and UTs, scores have improved for 28 of the State / UT Portals and for 22 of the State / UT Services Portals.
- In the category of State/UT portal, among group A states- Kerala became a front runner and the progress was made by Tamil Nadu followed by Punjab.
- Among group B states- Odisha being at top followed by Uttar Pradesh and Bihar.
- Among North-Eastern states Nagaland, Meghalaya and Assam are at top.
- Among UTs, J&K topped followed by A&N, Puducherry, Delhi and Chandigarh.

What is J&K Annual Darbar Move?

- On 30th June 2021, the 149-year-old tradition in Jammu & Kashmir known as the Darbar Move, came to an end. The Darbar Move was a biannual practice in which the government functions for six months each in the two capitals of Srinagar and Jammu.

- The tradition of switching capitals was started in 1872 by Maharaja Ranbir Singh.
- To compensate for the governance facilitation due to the end of Darbar Move, the government of UT of J&K and Government of India focused on e-governance and separate secretariat for both Jammu and Kashmir.

[Source: PIB](#)

Law Against Demolition Drives

For Prelims: Article 300A, 44th Amendment, UDHR, Article 25, Article 21, ICESCR, fundamental right, Supreme Court, Bachan Singh vs State of Punjab (1980) , Vishaka vs State of Rajasthan (1997), Puttaswamy vs Union of India (2017)

For Mains: Law Against Demolition Drives, Judgements & Cases

Why in News?

The nation has been **witnessing a frenzy of demolition drives** for the past few weeks. **Article 300A of the Indian Constitution categorically states** “No person shall be deprived of his property save by the authority of law”.

- This idea of serving ‘justice’, quick and cold, through bulldozers emanated in Uttar Pradesh. In the wake of protests against the [Citizenship \(Amendment\) Act, 2019](#) the Uttar Pradesh government passed orders to recover damages from those who were allegedly involved in destroying public property.
 - The State government claims that these demolitions are in response to illegal encroachments.
 - However, the fact that these arbitrary demolitions are being carried out against the alleged rioters of one particular community and in the immediate aftermath of the riots shows that their purpose seems to be to impose collective punishment.

How are Such Demolition Drives Problematic?

- **Right to Adequate Housing:**
 - The right to housing is a **fundamental right** recognized under [Article 21 of the Indian Constitution](#).
- **ICESCR:**
 - Article 11.1 of the **International Covenant on Economic, Social and Cultural Rights (ICESCR)** recognises “the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions”.
 - Furthermore, under Article 11.1, **countries are under an obligation to take “appropriate steps”** to ensure the realisation of these rights such as the right to adequate housing.
 - The rights recognised under ICESCR **can be restricted by States** only if the limitations are determined by law in a manner compatible with the nature of these rights and solely to promote society’s general welfare.
 - However, **any limitation imposed on the rights given in the Covenant** such

as the right to adequate housing cannot lead to the destruction of these rights.

- The ICESCR specifically **recognizes this in Article 5.**

▪ **International Human Rights Law Framework:**

- It is also a **well-documented right under the international human rights law framework**, which is binding on India.
 - For instance, **Article 25 of the [Universal Declaration of Human Rights \(UDHR\)](#)** states that “everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care’.
- Besides, **international law also prohibits arbitrary interference** in an individual’s right to property.
 - For instance, **Article 12 of the UDHR states that “no one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation”.**
 - Article 12 also stipulates that **“everyone has the right to the protection of the law against such interference or attacks”.**

▪ **ICCPR:**

- Article 17 of the International Covenant on Civil and Political Rights (ICCPR) also **provides that everyone has the right to own property alone as well as in association with others** and that no one shall be arbitrarily deprived of his property.
 - Thus, **arbitrary interference** with an individual’s property is a **gross violation of the ICCPR.**

What are the Related Supreme Court Judgements?

▪ **[Olga Tellis & Ors. v. Bombay Municipal Corporation & Ors \(1985\):](#)**

- In this Judgement, the **Supreme Court ruled that eviction of pavement dwellers using unreasonable force**, without giving them a chance to explain, is unconstitutional.
 - It is a violation of their **[right to livelihood.](#)**

▪ **Maneka Gandhi vs Union of India (1978):**

- In this Case, the **Supreme Court, while interpreting the scope of Article 21** of the Constitution, stated that the **“due process of law” is an integral part of “procedure established by law”**, explaining that such procedure must be fair, just and reasonable.
 - If the procedure prescribed by law is fanciful, oppressive and arbitrary in nature then it **should not be considered procedure at all** and thus not all the requirements of Article 21 would be satisfied.

▪ **Municipal Corpn., Ludhiana v. Inderjit Singh (2008):**

- In this case, the apex court **categorically stated that if the requirement of giving notice is provided under a municipal legislation**, then this requirement must be necessarily complied with.
- The Apex Court of the country has made it **unambiguously clear that no authority can directly proceed with demolitions**, even of illegal constructions, without providing notice and an opportunity of being heard to the occupant.

▪ **Other Important Judgements:**

- The **Supreme Court** in cases like [Bachan Singh vs State of Punjab \(1980\)](#) , [Vishaka vs State of Rajasthan \(1997\)](#), and recently in the famous [Puttaswamy vs Union of India \(2017\)](#) has laid down the principle that the **fundamental rights guaranteed under the Constitution must be read and interpreted in a manner** which would enhance their conformity with international human rights law.

Way Forward

- As the custodian of India’s constitutional order, it **is high time that the judiciary acted and imposed necessary checks on the unbridled exercise** of power by the executive.
 - **Courts should use international law to counter** the nationalist-populist discourse.
- Any justification for a demolition drive, as a penal consequence to a criminal act **is totally against established canons of criminal justice.**
 - The conduct of demolition drives, as a retaliatory measure, even with the avowed object to curb violence is a **clear act of subversion of the principle of rule of law.**

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. Which Article of the Constitution of India safeguards one's right to marry the person of one's choice? (2019)

- (a) Article 19
- (b) Article 21
- (c) Article 25
- (d) Article 29

Ans: (b)

Exp:

- The right to marry is a component of the right to life under Article 21 of the Constitution of India which states that "No person shall be deprived of his life and personal liberty except according to the procedure established by law".

[Source: TH](#)

Jal Jeevan Mission

For Prelims: Jal Jeevan Mission (Rural and urban)

For Mains: Significance of Jal Jeevan Mission in development of Rural India

Why in news?

Recently, the Centre announced that over **50% of rural households have access to tap water supply.**



Nari Shakti for New India

**JAL JEEVAN MISSION:
TRANSFORMING LIVES,
EMPOWERING WOMEN**



Rural women **no longer have to walk** extra miles to get water



Enhanced their quality of life & saved time for better care for their family



Given time & opportunity for education, **especially for young girls**



50% rural households connected with tap water connections



What is Jal Jeevan Mission?

▪ **About:**

- **Launched in 2019**, it envisages **supply of 55 litres of water per person per day to every rural household through Functional Household Tap Connections (FHTC) by 2024.**
- JJM looks to create a jan andolan for water, thereby making it everyone's priority.
- It **comes under Jal Shakti Ministry.**

▪ **Aims:**

- The mission ensures **functionality of existing water supply systems and water connections**, water quality monitoring and testing as well as sustainable agriculture.
- It also ensures conjunctive use of conserved water; drinking water source augmentation, drinking water supply system, **grey water treatment and its reuse.**

▪ **Features:**

- JJM focuses on **integrated demand and supply-side management** of water at the local level.
- Creation of **local infrastructure for source sustainability measures** as mandatory elements, like rainwater harvesting, groundwater recharge and management of household wastewater for reuse, is undertaken in convergence with other government programmes/schemes.
- The Mission is **based on a community approach** to water and includes extensive Information, Education and Communication as a key component of the mission.

▪ **Implementation:**

- Paani Samitis plan, implement, manage, operate and maintain village water supply

systems.

- These consist of 10-15 members, with at least 50% women members and other members from [Self-Help Groups](#), [Accredited Social and Health Workers](#), [Anganwadi](#) teachers, etc.
 - The committees prepare a one-time village action plan, merging all available village resources. The plan is approved in a [Gram Sabha](#) before implementation.
- **Funding Pattern:**
- The fund sharing pattern between the Centre and states is 90:10 for Himalayan and North-Eastern States, 50:50 for other states, and 100% for Union Territories.

What has been the JJM's Performance so far?

- As per the [JJM dashboard](#), around 9.65 crore households (**50.38%**) have tap water connections across the nation as of 10th June, 2022.
- At the State level, **Goa, Telangana and Haryana** have achieved **100%** tap connectivity to all households in the State.
- Union territories like **Puducherry, the Andaman and Nicobar Islands, Dadra & Nagar Haveli and Daman & Diu** have also provided **100 %** of their households with tap water connections.
- **States with over 90 % FHTC (Functional Household toilet coverage) coverage** are (approximate figures are in brackets) – Punjab at 99.72 %, Gujarat at 95.91 %, Himachal Pradesh at 93.05% and Bihar at 92.74%.
- **States with the least FHTC coverage are** — Rajasthan at 24.87 %, Chhattisgarh at 23.10 %, Jharkhand at 20.57% and Uttar Pradesh at 13.86%.

What is Jal Jeevan Mission(Urban)?

- In the [Budget 2021-22](#), [Jal Jeevan Mission \(Urban\)](#) has been announced under the **Housing and Urban Affairs Ministry to provide universal coverage of water supply to all households** through functional taps in all statutory towns in accordance with [Sustainable Development Goal- 6](#).
- It complements the [Jal Jeevan Mission \(Rural\)](#) which envisages supply of 55 litres of water per person per day to every rural household through **Functional Household Tap Connections (FHTC) by 2024**.
- **Objectives of Jal Jeevan Mission (Urban):**
 - Securing tap and sewer connections
 - Rejuvenation of water bodies
 - creating circular water economy

[Source: TH](#)

Biomass Co-Firing

For Prelims: Biomass and its Benefits, Decarbonization, Green House Gas

For Mains: Biomass Co-Firing, Significance and Challenges

Why in News?

Unavailability of Biomass Pellets of agricultural residues is slowing down the implementation of the Ministry of Powers' direction to [Co-Fire biomass with coal](#) in thermal power plants.

- The Union Ministry of Power, while presenting the [Union Budget in February 2022](#), mandated 5-10 % co-firing at every thermal power plant in the country.
- Biomass Pellets are a popular type of biomass fuel, generally made from **wood wastes, agricultural biomass, commercial grasses and forestry residues**.

What is Biomass?

- **About:**
 - Biomass is **plant or animal material used as fuel to produce electricity or heat**. Examples are wood, energy crops and waste from forests, yards, or farms.
 - Biomass has **always been an important energy source** for the country considering the benefits it offers.
- **Benefits:**
 - It is **renewable, widely available, carbon-neutral and has the potential to provide significant employment** in the rural areas.
 - It is also capable of providing firm energy. About 32% of the total primary energy use in the country is still derived from biomass and more than 70% of the country's population depends upon it for its energy needs.
- **Biomass power & cogeneration programme:**
 - **About:**
 - Initiated by the Ministry of New and Renewable Energy.
 - For efficient utilization of biomass, bagasse based cogeneration in sugar mills and biomass power generation have been taken up under the programme.
 - Biomass materials used for power generation include Rice husk, straw, cotton stalk, coconut shells, soya husk, de-oiled cakes, coffee waste, jute wastes, groundnut shells, saw dust etc.
 - **Objective:**
 - Promoting technologies for optimum use of the country's biomass resources for grid power generation.

What is Biomass Co-firing?

- **About:**
 - Biomass co-firing is **the practice of substituting a part of the fuel with biomass at [coal thermal plants](#)**.
 - Biomass co-firing stands for adding biomass as a partial substitute fuel in high efficiency coal boilers.
 - **Coal and biomass are combusted together in boilers** that have been designed to burn coal. For this purpose, the existing coal power plant has to be partly reconstructed and retrofitted.
 - Co-firing is **an option to convert biomass to electricity, in an efficient and clean way**, and to reduce [GHG \(Green house Gases\) emissions](#) of the power plant.
 - Biomass co-firing is **a globally accepted cost-effective method for [decarbonising a coal fleet](#)**.
 - India is a country **where biomass is usually burnt on the field which reflects apathy towards resolving the problem of clean coal** using a very simple solution that is readily available.
- **Significance:**
 - Biomass co-firing is an effective way to curb emissions from open burning of crop residue, it also decarbonises the process of electricity generation using coal.

- Substituting 5-7 % of coal with biomass in coal-based power plants **can save 38 million tonnes of carbon dioxide emissions.**
- It can help cut emissions from combustion of fossil fuels, address India's burgeoning problem of farm stubble burning to some extent, reduce waste burden while also creating jobs in rural areas.
- India has large biomass availability as well as rapid growth in coal-fired capacity.
- **Challenges:**
 - Substituting 5-7% of coal with biomass in coal-based power plants can save 38 million tonnes of carbon dioxide emissions, but the existing **infrastructure is not robust enough** to turn this into reality.
 - Around 95,000-96,000 tonnes of biomass pellets are required per day for co-firing, But **India's pellet manufacturing capacity is 7,000 tonnes per day at present** despite a surplus 228 million tonnes of agricultural residue available in the country.
 - This huge gap is due to the **seasonal availability and unreliable supply of biomass pellets** to the utility.
 - It is challenging **to store biomass pellets for long durations at the plant sites since they absorb moisture from air quickly**, rendering them useless for co-firing.
 - Only pellets **with up to 14% of moisture** can be used for combustion along with coal.

What are the other Related Initiatives?

- [National Mission on use of Biomass in Coal Based Thermal Power Plants](#)
- [Carbon Capture and Storage](#)
- [Coal Beneficiation](#)

Way Forward

- Platforms need to be established **to ensure farmers have an intrinsic role in this business model of pellet manufacturing** and co-firing in power plants.
- To exploit co-firing potential without adverse environmental impact, **emerging economies need technology and policy preparation.**
- Sustainability indicators for bioenergy, including protection of soil and water resources, biodiversity, land allocation and tenure, and food prices, **need to be integrated into policy measures.**

[Source: DTE](#)

Tree Transplantation

For Prelims: CAG, Tree Transplantation Methodology

For Mains: Conservation, Impact of failure of the tree transplantation on environment

Why in News?

Recently, Comptroller and Auditor-General of India (CAG) in its audit report showed that only **54%** of the transplanted plants by the **Brihanmumbai Municipal Corporation (BMC), Maharashtra** have

survived.

- The audit revealed that Mumbai's transplanted tree survival percentage was considerably below the **national average of 80%**.

What is Tree Transplantation?

- **Transplanting or replanting** is the process of **relocating a plants** from one site to another in an **agricultural field** or **garden**.
- **Tree transplants** allow plants to have longer **growing seasons**.
 - Plants can be **cultivated indoor** at first, then **outside** if the weather conditions are suitable.
- **Tree spade machine** is a specialized kind of machine that mechanizes the transplanting of large plants.
 - Larger trees may require digging, wrapping or boxing of the root ball and then transporting by truck.
- **In October 2020, the Delhi government approved a tree transplantation policy** to prevent felling of trees due to development work in the city.
 - Under the policy, agencies concerned have been asked to transplant 80% trees affected by the projects to a new location.
 - Under this policy, 10 saplings are supposed to be planted in addition to the tree being dug up with the root intact and scientifically transplanted at another location instead of being felled.

What are the Benefits of Tree Transplantation?

- It is a good method to protect young plants from **diseases** and **pests** until they mature.
- This method can avoid the problem of **germination of seeds** by direct planting the plant seedling.
- It is a **relatively convenient but less affordable technique**.
 - Planting a purchased plant immediately in the ground or in a container to grow eliminates a cumbersome stage of our gardening operations.
- Many parks and lakefronts can be **instantly covered with greenery** by transplanting mature trees.
 - Mature trees deliver much **greater eco-services** than saplings.
- The **transplantation of old trees due to development projects can help save them**.

What are the Concerns Associated with Transplantation of Trees?

- CAG in its report has pointed out some concerns regarding low survival rate of the transplanted trees.
 - Transplanted trees **lack proper protection and maintenance**.
 - **Proper infrastructure is not available** to facilitate the process of tree transplantation.
 - **Methodology of plantations** applied by the BMC's appointed contractors are under the question.
 - According to CAG the methodology used in the transplantation is **unscientific**.
- Another problem is that **not all kinds of trees can be transplanted**. While peepal, ficus, semal and sheesham are tolerant to transplantation, trees such as dak, palash, arjun, shahtoot and jhilmil are not.
 - Any tree with a tap root system cannot be transplanted as the root goes deep into the soil, and it is not possible to isolate it without damage.
- **Soil type too, is an important consideration** before transplantation. A tree growing on the Delhi Ridge will not easily acclimatise to soil in the Yamuna floodplain, as the ecosystem is different.

Way Forward

- Appropriate punishment procedures should be adopted by the concerned authority to improve the

productivity and efficiency of the entire process of the transplants of the trees.

- Rs 5.1 lakh fine has been imposed by the BMC to the contractors who have done improper plantations.
- The civic authority must order agencies to employ experienced **horticulturists** for appropriate tree transplantation.
- Technological innovation for better infrastructure is the primary concern to improve the survival of the trees.

[Source: IE](#)

Maya Technique of Maize Fortification

Why in News?

A study has thrown light on how **Maya people** fortified their maize with the chemical process known as '**nixtamalisation**' and also built indoor toilets in pits they dug into the limestone bedrock of the **Yucatan peninsula in Mesoamerica**.



Who were the Mayas?

- The Maya are an **indigenous people of Mexico and Central America** who have continuously inhabited the lands comprising modern-day Yucatan, Quintana Roo, Campeche, Tabasco, and Chiapas in Mexico and southward through Guatemala, Belize, El Salvador and Honduras.
 - The Maya are probably the best-known of the classical civilizations of Mesoamerica.
- The Maya civilization **originated in the Yucatan Peninsula**. Known for its monumental

architecture and an advanced understanding of mathematics and astronomy.

- The rise of the Maya began about 250 CE, and what is known to archaeologists as the Classic Period of Mayan culture **lasted until about 900 CE**. At its height, Mayan civilization **consisted of more than 40 cities, each with a population between 5,000 and 50,000**.
 - But then, suddenly, between 800 and 950 CE, many of the southern cities were abandoned. This period is called the collapse of the Classic Maya civilisations, puzzling modern-day scientists.
- **Special Features:**
 - As early as 1500 BCE the Maya had settled in villages and had developed an agriculture based on the cultivation of **corn (maize), beans, and squash; by 600 CE cassava (sweet manioc)** was also grown.
 - They began to build **ceremonial centres**, and by 200 CE these had developed into cities containing temples, pyramids, palaces, courts for playing ball, and plazas.
 - The **ancient Maya quarried immense quantities of building stone** (usually limestone), which they cut by using harder stones such as chert. They practiced mainly slash-and-burn agriculture, but they used advanced techniques of irrigation and terracing. They also **developed a system of hieroglyphic writing and highly sophisticated calendrical and astronomical systems**.
 - The Maya made paper from the inner bark of wild fig trees and wrote their hieroglyphs on books made from this paper. Those books are called **codices**.
 - The Maya also developed an elaborate and beautiful tradition of **sculpture and relief carving**.
 - **Architectural works and stone inscriptions** and reliefs are the chief sources of knowledge about the early Maya.

What is the Nixtamalisation Technique used by Mayas?

- Nixtamalisation is a method by which the ancient peoples of Mesoamerica like the Maya **used to soak and cook their maize in an alkaline solution** and make it more palatable, nutritious and non-toxic. Nixtamal is derived from the Nahuatl word nextamalli, meaning 'nixtamalised maize dough'.
- Maize is the primary crop of the Americas and has been cultivated in the region for millennia. **Maize, beans and squash** are called the '**Three Sisters**' and formed the basis of diets throughout pre-Columbian North and Mesoamerica.
- The researchers noted that the key **reason for the spread of maize** in the **Americas** was nixtamalisation.
- The process ensures that the maize contains amino acids, calcium and **Vitamin B2**, which can be utilised by the human body. It also eliminates certain mycotoxins (**toxins produced by certain moulds (fungi) and can be found in food**) present in maize.
- Without this treatment, maize-dependent populations were at elevated risk of **pellagra** (Vitamin B2 deficiency), calcium deficiency and mycotoxin poisoning.
- **Nejayote**, wastewater from nixtamalisation, may have been **used to lime the chultunes** while they were used as latrines. This was done to **control odours and inhibit insect** and microorganism growth like it is done today.

[Source: DTE](#)

38th India-Indonesia CORPAT

Why in News?

The **38th India-Indonesia Coordinated Patrol** (IND-INDO CORPAT) is being conducted in the [Andaman Sea](#) and [Straits of Malacca](#).



What are the Key Highlights?

▪ About:

- The two Navies have been carrying out **CORPAT** along their [International Maritime Boundary Line \(IMBL\)](#) since 2002.
- It highlights the mutual trust, synergy and cooperation between the two friendly Navies.
- India and Indonesia have enjoyed especially close relations, covering a wide spectrum of activities and interactions which have strengthened over the years.

▪ Aim:

- It is aimed at keeping the [Indian Ocean Region](#) safe and secure for commercial shipping, international trade and conduct of legitimate maritime activities.
 - As part of Government of India's vision of [SAGAR \(Security And Growth for All in the Region\)](#), the Indian Navy has been proactively engaging with countries in the Indian Ocean Region for coordinated patrols, cooperation in [Exclusive Economic Zone \(EEZ\)](#) surveillance, [passage exercises](#) and bilateral/multilateral exercises.
- CORPATs help build understanding and interoperability between navies, and facilitate institution of measures to prevent and suppress Illegal Unreported Unregulated (IUU) fishing, [drug trafficking](#), **maritime terrorism**, **armed robbery and piracy**.

▪ Other Exercises between India and Indonesia:

- [Samudra Shakti](#): A bilateral maritime exercise.
- [Garuda Shakti](#): A joint military exercise.

[Source: PIB](#)

Regulations Review Authority

Why in News?

The [Regulations Review Authority](#) of the [Reserve Bank of India \(RBI\)](#) has recommended **withdrawal of 714 regulatory instructions which have either become obsolete or redundant**.

- This is part of the **RRA 2.0 recommendations on issues** such as,

- Ease of compliance,
- Reduction of regulatory burden
- Rationalization of reporting mechanism,
- Streamlining instructions and communication.

What are the Recommendations of the RRA?

- Complete elimination of paper-based returns and **has identified 65 regulatory returns which should either be discontinued or merged with other returns** or should be converted into online returns.
- The Review and **revocation of time-barred and old regulations may be taken up for alignment with the recent circulars** and this exercise can be institutionalised in such a manner that **only the current and updated instructions are available in public domain.**
- It has proposed **a periodic review of regulatory or supervisory returns at least once in three years.**
- A separate web page, namely, 'Regulatory Reporting' in the RBI website so that all the information relating to regulatory, supervisory and statutory **returns would be consolidated at a single source on the RBI website.**

What is the Regulations Review Authority?

- **Background:**
 - The RBI earlier set up the first RRA for a period of one year from 1st April, 1999.
 - This is for reviewing the regulations, circulars, reporting systems, based on the feedback from the public, banks and financial institutions.
- **RRA 2.0:**
 - RRA 2.0 seeks to streamline the **regulatory instructions, reducing the compliance burden of the entities under regulations.** The RRA 2.0 will achieve this by **simplifying procedures and reducing reporting requirements** wherever possible.
 - The RBI had set up RRA 2.0 in 2021 year to **reduce the compliance burden on the regulated entities** and streamline regulatory instructions.
- **Terms of Reference of RRA 2.0:**
 - Making **regulatory and supervisory instructions more effective** by removing redundancies and duplications.
 - To **obtain feedback from regulated entities** on simplification of procedures and enhancement of ease of compliance.
 - RRA **will reduce the compliance burden on regulated entities** by streamlining the reporting mechanism; revoking obsolete instructions if necessary.
 - To examine and suggest the changes required in the dissemination process of RBI circulars/ instructions.
 - To **engage internally as well as externally with all regulated entities** and other stakeholders to facilitate the process.

[Source: IE](#)