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Vice President's Three Nation Tour

Vice President of India completed his visit to **Botswana, Malawi and Zimbabwe** from November 1 to 5.

- During the visit various agreements covering a range of areas of cooperation were signed.
- India's relation with Africa has found convergence due to **shared struggle against colonialism, stand against racism and similar post independence developmental issues.**

Importance of Africa for India

- **Economic Engagements**
 - **Trade**
 - India has offered **duty-free market access to Africa's least developed countries** under Duty Free Tariff Preferences scheme.
 - India is also a large market for goods and services generated in Africa. The India-Africa trade is estimated to be around \$70 billion, and it can increase up to \$100 billion in the next 2-3 years.
 - **Assistance**
 - India has been **providing line of credits for various infrastructural projects** in many african countries.
 - During India Africa Forum Summit in 2008 India has committed \$7.5 billion to African infrastructure, covering 137 projects in more than 40 countries.

- **Capacity Building Programmes**
 - India has provided more than **\$1 billion in technical assistance and training to personnel** under the Indian Technical and Economic Cooperation (ITEC) program.
 - India is also implementing **e-Vidya Bharati and e-Arogya Bharati (e-VBAV) in African countries.**
- **Security Engagement**
 - India has participated in nearly all **UN peacekeeping operations in Africa.** India is one of the largest contributor to Peacekeeping mission in Africa.
 - India has **military-to-military cooperation activities, primarily related to the training fields,** with almost one-third of the 54 African nations.
- **Cooperation at Global Level**
 - Both India and Africa's viewpoints **converge on issue of UNSC reform.** India has been providing leadership to Least Developed Countries in World Trade Organization and at climate forums.
 - India's initiative of **International Solar Alliance** has found many takers in Africa and many countries have become part of this initiative.

India Africa Forum Summit

- The India–Africa Forum Summit (IAFS) is the official platform for the **African-Indian relations.**
- It is **held once in every three years beginning from 2008 .**
- India by consistently holding India- Africa Forum Summit (IAFS) in places like New Delhi (2008), Addis Ababa (2011) and New Delhi (2015) has already forged ties with the 54 African states through the African Union (AU).

E-VBAB Network Project

- E-VBAB Network Project is primarily a technological upgrade and extension of the **Pan-African e-Network Project.**
- The Project aims at imparting tele-education and telemedicine by linking educational institutions and hospitals in India with those from the participating African countries.
- The e-VBAB Network Project is completely funded by the Government of India and is open for participation to all our partner countries of India in Africa.

India-Botswana

- India established diplomatic relations with Botswana immediately after its independence in 1966 and opened its diplomatic mission in Gaborone in 1987.
- Botswana is an active member of Southern African Development Community (SADC), South African Customs Union (SACU), WTO and other International organizations.

- Diamonds have a significant role in trade relation between two countries, diamond forms approx. 40% of GDP and almost 70% of its export earnings of Botswana and diamond cutting and polishing industries located in India are heavily dependent on supply of rough diamond from Botswana.

India-Zimbabwe

- During the era of the Munhumutapa Kingdom, Indian merchants established strong links with Zimbabwe, trading in textiles, minerals and metals.
- In the 17th century, a great son of Zimbabwe, Dom Miguel – Prince, Priest and Professor, and heir to the imperial throne of the Mutapas – studied in Goa.
- India supported Zimbabwe's freedom struggle. Former Prime Minister Smt. Indira Gandhi attended Zimbabwe independence celebrations in 1980.

India-Malawi

India established diplomatic ties with Malawi in 1964, the year when Malawi gained its independence.

Ozone Layer is Recovering

A UN study '**Scientific Assessment of Ozone Depletion: 2018**', has shown that the **ozone layer is recovering at a rate of 1-3% per decade**.

- The **stratospheric ozone layer protects life on earth** from harmful UV radiation.
- It prevents damage to the earth's ecosystems and provides protection against **skin cancer**.
- The study shows that years of dangerous depletion caused by the release of harmful chemicals is being reversed.

World Ozone Day

- The theme for **World Ozone Day (16 September) 2018: 'Keep Cool and Carry on: Montreal Protocol'**, is a motivational rallying call urging all of us to carry on with the exemplary work of protecting the ozone layer and the climate under the Montreal Protocol.
- The theme has two connotations – that our work of protecting the ozone layer also protects climate and that the Montreal Protocol is a “cool” treaty, as exemplified by its outstanding success.

Background

- The **1985 Vienna Convention for the Protection of the Ozone Layer** was an international agreement in which United Nations members recognized the fundamental importance of preventing damage to the stratospheric ozone layer.
- The **1987 Montreal Protocol on Substances that Deplete the Ozone Layer** and its succeeding amendments were subsequently negotiated to control the consumption and production of anthropogenic **ozone-depleting substances (ODSs)** and some hydrofluorocarbons (HFCs).
- Ozone depletion is caused by **human-related emissions of ODSs** and the subsequent release of reactive halogen gases, especially chlorine and bromine, in the stratosphere.
- The Montreal Protocol's control of ODSs stimulated the development of replacement substances, firstly hydrochlorofluorocarbons (HCFCs) and then HFCs, in a number of industrial sectors. While HFCs have only a minor effect on stratospheric ozone, some HFCs are powerful greenhouse gases (GHGs).
- **ODSs include chlorofluorocarbons (CFCs), bromine containing halons and methyl bromide, HCFCs, carbon tetrachloride (CCl₄), and methyl chloroform.**
- These ODSs are long-lived (e.g., CFC-12 has a lifetime greater than 100 years) and are also powerful GHGs.
- The adoption of the **2016 Kigali Amendment to the Montreal Protocol** will **phase down** the production and consumption of some **HFCs** and avoid much of the projected global increase and associated climate change.

Findings of the Study

- It found long-term decreases in the atmospheric abundance of controlled ozone-depleting substances and the ongoing recovery of stratospheric ozone.
- It shows that the **Antarctic ozone hole is recovering** while continuing to occur every year.
- As a result of the Montreal Protocol much more severe ozone depletion in the polar regions has been avoided.
- The **Kigali Amendment** is projected to **reduce future global average warming in 2100** due to hydrofluorocarbons (HFCs) from a **baseline of 0.3–0.5°C to less than 0.1°C.**
- There has been an unexpected **increase in global total emissions of CFC-11.**
- The Antarctic ozone hole is expected to gradually close, returning to 1980 levels in the 2060s.
- At projected rates, **Northern Hemisphere** and mid-latitude ozone are scheduled **to heal completely by the 2030s** followed by the **Southern Hemisphere in the 2050s** and **polar regions by 2060.**

- The UN had already hailed the success of the Protocol which banned or phased out ozone depleting chemicals, including CFCs once used in refrigerators and spray cans, but the report said it was the first time that there were emerging indications that the Antarctic ozone hole had diminished in size and depth since 2000.

Conclusion

- For over three decades, the Montreal Protocol has done much more than shrink the ozone hole; it has shown how **environmental governance** can respond to science, and how countries can come together to address a shared vulnerability.
- The same spirit of common cause and greater leadership to implement the Paris Agreement on climate change is the need of the hour.

Kigali Amendment to Montreal Protocol

- On October 15, 2016, with the United States' leadership, 197 countries adopted an amendment to phase down HFCs under the Montreal Protocol in Kigali, Rwanda.
- The Kigali Amendment aims for the **phase-down of hydrofluorocarbons (HFCs)** by cutting their production and consumption.
- The goal is to achieve over 80% reduction in HFC consumption by 2047.
- Given their **zero impact on the depletion of the ozone layer**, **HFCs are currently used as replacements of hydrochlorofluorocarbons (HCFCs) and chlorofluorocarbons (CFCs)** in air conditioning, refrigeration and foam insulation, however they are powerful greenhouse gases.
- The **Kigali Amendment** to the Montreal Protocol is **legally binding** and will come into force from January 1, 2019.
- Under the amendment :
 - developed countries will reduce HFC consumption beginning in 2019.
 - most developing countries will freeze consumption in 2024,
 - some developing countries including **India** with unique circumstances will freeze consumption in 2028.
- The plan also provides financing to certain countries, to help them transition to climate-friendly alternatives.
- With the Kigali Amendment, the Montreal Protocol has become an even more powerful instrument against global warming.

India's Nuclear Triad Complete

Indigenous ballistic missile nuclear submarine INS Arihant achieved a milestone by completing its first deterrence patrol.

- With this, India's **Nuclear Triad** stated in its **Nuclear Doctrine** is now complete.

- With Arihant, India has now entered into a club of nations that have the technological capability to design, build and operate nuclear-powered ballistic missile submarines or **ship submersible ballistic nuclear (SSBNs)**.
- The US, France, Britain, China, and Russia currently have such capabilities.
- The SSBN is the **most dependable platform for a second-strike**. Because they are powered by nuclear reactors, these submarines can stay underwater indefinitely without the enemy detecting it.
- The **second submarine in the series, Arighat** is now undergoing sea trials after which it will be inducted into service.
- Arihant was indigenously made under the Advanced Technology Vessel programme which was launched in the 1990s.

Deterrence Patrol

- Deterrence Patrol means that Arihant was sailing the deep seas carrying ballistic missiles equipped with nuclear warheads.
- A deterrence patrol is meant to deter an adversary from launching a first nuclear-strike since the SSBN can launch a retaliatory strike within minutes.

India's Nuclear Doctrine

- India conducted its **first nuclear test in 1974** and the **second nuclear test in 1998**.
- **India declared herself a nuclear weapon state in 1998 and came forward with Nuclear Doctrine in 2003.**
- India's Nuclear Doctrine consist of the following major points:
 - India will build and maintain **a credible minimum deterrence**.
 - India will follow a **No First Use policy** i.e. **India will use the weapon only in retaliation to a nuclear attack on Indian territory or against Indian forces anywhere.**
 - Nuclear retaliation to a first strike will be massive to inflict unacceptable damage.
 - Retaliatory attacks will be authorized only by the **civilian political leadership through the Nuclear Command Authority.**
 - Nuclear weapons will **not be used against non-nuclear weapon states.**
 - India can retaliate with nuclear weapons in the event of an attack against on it with biological or chemical weapons.
 - India is committed to the goal of a nuclear weapons-free world, through global, verifiable and non-discriminatory disarmament.

Nuclear Triad

Nuclear triad, a three-sided military-force structure consisting of **land-launched nuclear missiles, nuclear-missile-armed submarines, and strategic aircraft with nuclear bombs and missiles.**

Operation Greens

Ministry of Food Processing Industries (MoFPI) has approved the strategy for operationalization of OPERATION GREENS.

- Operation Greens was announced in the Budget speech of 2018-19 with an outlay of Rs 500 crores to stabilize the supply of Tomato, Onion and Potato(TOP) crops.
- Operation Greens wants to replicate the success story of Operation Flood in fruit and vegetables, starting with tomatoes, onions and potatoes.
- NAFED will be the nodal agency to implement these price stabilisation measures.
- The idea behind Operation Greens is to double the income of farmers by the end of 2022.

Major objectives of “Operation Greens”

- Enhancing value realisation of TOP farmers by targeted interventions to strengthen TOP production clusters and their Farmer Producer Organizations, and linking/connecting them with the market.
- Price stabilization for producers and consumers by proper production planning in the TOP clusters and introduction of dual use varieties.
- Reduction in post-harvest losses by the creation of appropriate storage capacity linking consumption centers.
- Increase in food processing capacities and value addition in the TOP value chain with firm linkages with production clusters.
- Setting up of a market intelligence network to collect and collate real time data on demand and supply and price of TOP crops.

Operation Flood (white revolution)

Operation Flood was started by the National Dairy Development Board (NDDB) in the 1970s. The objective of this programme was to create a nationwide milk grid and raise milk production in the country. It has helped India become the largest producer of milk in the world in 2016-17.

Important Facts for Prelims (6th November 2018)

Monkeypox in Central Africa

- A new and emerging contagious disease threat, caused by monkeypox, has been declared a '**public health threat**' in **parts of central Africa**.
- According to World Health Organisation, monkeypox is a **rare viral zoonotic disease** that occurs primarily in **remote parts of central and west Africa, near tropical rainforests**.
- The virus is mostly **transmitted to people from various wild animals such as rodents and primates**, but has **limited secondary spread through human-to-human transmission**.
- There is **no specific treatment or vaccine available** although prior smallpox vaccination was highly effective in preventing monkeypox as well.
- **Human monkeypox was first identified in humans in 1970 in the Democratic Republic of Congo**.
- In **2017, Nigeria experienced the largest documented outbreak**.
- Since May 2018, the virus has been spreading in parts of Africa.
- **It is similar to human smallpox, a disease that was eradicated in 1980. Although monkeypox is much milder than smallpox, it can be fatal.**

Two New Gecko Species

- The **spot-necked day gecko (Cnemaspis Maculicolis)** and **the Anaimudi day gecko (Cnemaspis Anamudiensis)** are the two new gecko species found in India.
 - These two very distinctly-patterned lizards are found only in the higher reaches of the **Agasthyamalai and Annamalai hill ranges in the Western Ghats**.
 - Spot-necked day gecko has bluish-white spots in a distinct 'necklace-pattern' on its nape.
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