



India's Arctic Policy

For Prelims: Arctic Council, Climate Change, Arctic Region, India's Arctic Policy.

For Mains: India's Arctic Policy. Significance of Arctic for India.

Why in News?

Recently, the Ministry of Earth Science has unveiled **India's Arctic Policy**, titled '**India and the Arctic: building a partnership for sustainable development**'.

- India holds one of the 13 positions as the Observer in the [Arctic Council](#).
- The **Arctic Council** is an **intergovernmental body** that promotes research and facilitates cooperation among Arctic countries on issues related to the environmental **protection and sustainable development of the [Arctic region](#)**.

PYQ

Consider the following countries: (2014)

1. Denmark
2. Japan
3. Russian Federation
4. United Kingdom
5. United States of America

Which of the above are the members of the 'Arctic Council'?

- (a) 1, 2 and 3
- (b) 2, 3 and 4
- (c) 1, 4 and 5
- (d) 1, 3 and 5

Ans: (d)

What is the Background?

- India's engagement with the Arctic began when it signed the **Svalbard Treaty in 1920** in Paris between **Norway, the US, Denmark, France, Italy, Japan, the Netherlands, Great Britain, and Ireland, and the British overseas Dominions and Sweden** concerning Spitsbergen.
 - **Spitsbergen** is the largest island of the **Svalbard archipelago**, part of Norway, in the Arctic Ocean.
 - Spitsbergen is the **only permanently inhabited part of Svalbard**. More than 50% of the land is covered in ice year-round. Together with the glaciers, it is mountains and fjords that define the landscape.
- Ever since then, India has been closely monitoring all the developments in the Arctic region.
- India initiated its **Arctic research program in 2007 with a focus on [climate change](#)** in the region.
 - The **objectives included studying** teleconnections between Arctic climate and **Indian monsoon**, to characterise sea ice in the Arctic using satellite data, to estimate the effect on global warming.
- India also **focuses on conducting research on the dynamics and mass budget of Arctic glaciers and [sea-level changes](#)**, carrying out an assessment of the flora and fauna of the Arctic.

What are the Major Provisions of India's Arctic Policy?

- **Six Central Pillars:**
 - Science and research.
 - Environmental protection.
 - Economic and human development.
 - Transportation and connectivity.
 - Governance and international cooperation.
 - National capacity building.
- **Objectives:**
 - It aims to **strengthen national capabilities and competencies** in science and exploration, climate and environmental protection, maritime and economic cooperation with the Arctic region.
 - It seeks to **strengthen institutional and human resource capacities** within the government and academic, research and business institutions through inter-ministerial coordination in pursuit of India's interests in the Arctic.
 - It seeks to **enhance understanding of the impact of climate change in the Arctic region** on India's climate, economic and energy security.
 - It aims to **promote better analysis, prediction and coordinated policymaking on the implications of ice melting** in the Arctic on India's economic, military and strategic interests related to global shipping routes, energy security and exploitation of mineral wealth.
 - It seeks to study the **linkages between polar regions and the [Himalayas](#)** and **deepen the cooperation between India and the countries of the Arctic region** under various Arctic forums, drawing expertise from scientific and traditional knowledge.
 - The policy also seeks to **increase India's participation in the Arctic Council and improve understanding of the complex governance** structures in the Arctic, relevant international laws and geopolitics of the region.
- **Relevance of Arctic for India?**
 - The Arctic region is significant due to the **shipping routes that run through it**.
 - According to an analysis published by the Manohar Parrikar Institute for Defence Studies and Analyses, the adverse effects of the Arctic are not just impacting the availability of mineral and hydrocarbon resources, but also transforming global shipping routes.
 - According to the Ministry of External Affairs, **India can play a constructive role in securing a stable Arctic**.
 - The region **holds immense geopolitical importance as the Arctic is projected to be ice-free by 2050** and world powers making a beeline to exploit the region rich in natural resources.

What is the Arctic?

- The Arctic is a **polar region located at the northernmost part of Earth**.

- Land within the Arctic region has seasonally varying snow and ice cover.
- It consists of the **Arctic Ocean, adjacent seas, and parts of Alaska (United States),** Canada, Finland, Greenland (Denmark), Iceland, Norway, Russia, and Sweden.



Way Forward

- India's Arctic Policy is **timely and is likely to provide a direction to India's policy-makers on contours of India's engagement** with the region.
- It is the **first step towards developing a whole-of-government approach** on India's engagement with the region.
- The Policy is also likely to **raise awareness about the Arctic within India and vice-versa** through conduct of programmes, seminars and events in India and in the Arctic.
- However, India must also officially appoint an **'Arctic ambassador/representative' who will represent and voice India's perspectives on Arctic affairs.**
- Constituting a dedicated expert committee to plan, monitor, steer, implement and review India's Arctic policy **may help streamline the country's approach in a better manner.**

PYQ

The term 'IndARC', sometimes seen in the news, is the name of (2015)

- (a) an indigenously developed radar system inducted into Indian Defence
- (b) India's satellite to provide services to the countries of Indian Ocean Rim

(c) a scientific establishment set up by India in Antarctic region

(d) India's underwater observatory to scientifically study the Arctic region

Ans: (d)

[Source: IE](#)

Draft National Tourism Policy

For Prelims: Tourism in India, Schemes Related to tourism, Draft National Tourism Policy.

For Mains: Government Policies & Interventions, Significance and Challenges related to Tourism in India.

Why in News

Recently, the Government has prepared the **Draft National Tourism Policy** focusing on **Green, and digital tourism** and has been sent to the industry partners, state governments, other allied ministries for feedback, before it is sent for approval.

- Earlier, the Ministry of Tourism has formulated [three draft strategies](#) with roadmaps for promoting Medical and Wellness Tourism, for development of Rural Tourism and for promotion of MICE Industry in India.

What are the Key Points of the Draft Policy?

- **Industry Status to Sector:**
 - To promote investment in the tourism sector, the document mentions granting of industry status to the sector, along with formally **granting infrastructure status to hotels**.
- **Five Key Areas:**
 - Five key areas would be given significant focus in the next 10 years — **green tourism, digital tourism, destination management, skilling the hospitality sector and supporting tourism-related to [Micro, Small and Medium Enterprises \(MSMEs\)](#)**.
- **Relief Measures and Taxation Breaks:**
 - The industry, which has been the worst sufferer over the last two years of the **pandemic**, had sent multiple representations to the government representatives for relief measures as well as taxation breaks.
- **Offers Framework Conditions:**
 - The draft policy **doesn't deal with specific operational issues, but offers framework conditions to help the sector**, especially in the wake of the pandemic.
 - The **overall mission and vision is being laid out to improve the experience of tourists**, foreign as well as local.

What is the Scenario of Tourism in India?

- **About:**
 - **India attracted a lot of travellers in the past** due to its fabled wealth. Visit of [Hieun-](#)

tsang, a devout Chinese Buddhist is an example of this.

- **Pilgrim Travel got a boost** when Emperors like Ashoka and Harsha started building rest houses for pilgrims.
- Arthashastra' pointing out **the importance of the travel infrastructure for the state, which played an important role** in the past.
- Post-Independence, Tourism continuously **remained part of the [Five Year Plans \(FYP\)](#)**.
 - Different forms of Tourism like **Business Tourism, Health Tourism, and Wildlife Tourism etc. were introduced** in India after seventh FYP.

▪ **Status:**

- India's Tourism is ranked at 10th position in terms of its contribution to World **[GDP \(Gross Domestic Product\)](#)** in the World Travel and Tourism Council's report in 2019.
 - During 2019, contribution of travel & tourism to GDP was 6.8% of the total economy, ~ Rs. 13,68,100 crore (USD 194.30 billion).
- India as of now in 2021 has 40 sites listed under '**[World Heritage List](#)**', 6th most highest (32 cultural, 7 natural and 1 mixed site) in the world.
 - **[Dholavira](#)** and **[Ramappa Temple \(Telangana\)](#)** are the latest ones.
- In FY20, the tourism sector in India accounted for **39 million jobs, which was 8.0% of the total employment in the country**. By 2029, it is expected to account for about 53 million jobs.

▪ **Significance:**

- **Service Sector:**
 - It gives **a push to the service sector**. A large number of businesses engaged in the service sector such as airlines, hotel, surface transportation, etc. grows with the growth of the tourism industry.
- **Foreign Exchange:**
 - Foreign Travellers help India in getting **[Foreign Exchange](#)**.
 - The foreign exchange earnings from 2016 to 2019 grew at a CAGR of 7% but dipped in 2020 due to the **[COVID-19 pandemic](#)**.
- **Preservation of National Heritage:**
 - Tourism helps in **preservation of National Heritage and Environment** by bringing in focus the importance of sites and the need to preserve them.
- **Renewal of Cultural Pride:**
 - Tourist spots being appreciated globally **instils a sense of pride among Indian residents**.
- **Infrastructural Development:**
 - Now-a-days, it is ensured that **Travelers do not face any problem; multiple use infrastructures are getting developed** at several tourist places.
- **Recognition:**
 - It helps in **bringing India on the global map of tourism**, earning appreciation, recognition and initiates cultural exchange.
- **Promotes Cultural Diplomacy:**
 - Tourism as **a form of soft power, helps in promoting cultural diplomacy**, people to people connect and thereby promotes friendship and cooperation between India and other countries.

▪ **Challenges:**

- **Lacking in Infrastructure:**
 - Tourists in India **still face many infrastructure related problems** like inadequate roads, water, sewer, hotels and telecommunications etc.
- **Safety and security:**
 - Safety and security of tourists, especially of the foreign tourists, is a **major hurdle to tourism development**. Attacks on foreign nationals raise questions about India's ability to welcome tourists from far away countries.
- **Lack of skilled manpower:**
 - Lack of skilled manpower is another challenge to the Tourism Industry in India.
- **Absence of basic amenities:**
 - Absence of basic amenities like drinking water, well maintained toilets, first aid, cafeteria etc. at tourist places.
- **Seasonality:**
 - Seasonality in Tourism, with the busy season being limited to six months from

October to March and heavy rush in November and December.

▪ **Related Initiatives:**

- **Swadesh Darshan Scheme:** Under it, the Ministry of Tourism provides Central Financial Assistance (CFA) to State Governments/Union Territory Administrations for infrastructure development of 13 identified theme based circuits.
- **National Mission on Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive:**
 - PRASAD Scheme was launched by the Ministry of Tourism in the year 2014-15 with the objective of holistic development of identified pilgrimage destinations.
- **Iconic Tourist Sites:**
 - Buddhist Sites at [Bodhgaya](#), [Ajanta & Ellora](#) have been identified to be developed as **Iconic Tourist Sites** (aimed at enhancing India's soft power).
- **Buddhist Conclave:**
 - Buddhist Conclave is organised every alternate year with the objective of promoting India as a Buddhist Destination and major markets around the globe.
- **Dekho Apna Desh' Initiative:**
 - It was launched by the Ministry of Tourism in 2020 to encourage the citizens to travel widely within the country thus enabling the development of Domestic Tourism tourist facilities and infrastructure.

Way Forward

- Faster development of all sorts of **infrastructure (physical, social and digital) is a need of the hour.**
- Safety of **tourists is a priority.** An official guide system can be launched for tourists.
- Indian Residents **should be motivated to treat tourists** well, so that tourists don't face any type of fraud.
- Promotion of other forms of **Tourism like Medical Tourism, Adventure Tourism etc. to solve the problem of seasonality.** Off-season concession is another solution.
- India's size and massive natural, geographic, **cultural and artistic diversity offers enormous opportunities.** The Indian Tourism industry should play on that.

[Source: IE](#)

Disaster Management Plan of Ministry of Panchayati Raj

For Prelims: Disaster Management Plan of Ministry of Panchayati Raj (DMP-MoPR), Disaster Management Plan, Disaster Management Act 2005, National Disaster Management Policy 2009, National Disaster Management Authority, Panchayati Raj Institutions

For Mains: Disaster Management Plan of Ministry of Panchayati Raj (DMP-MoPR) and its significance, India's Efforts in Managing Disaster and vulnerability of India

Why in News?

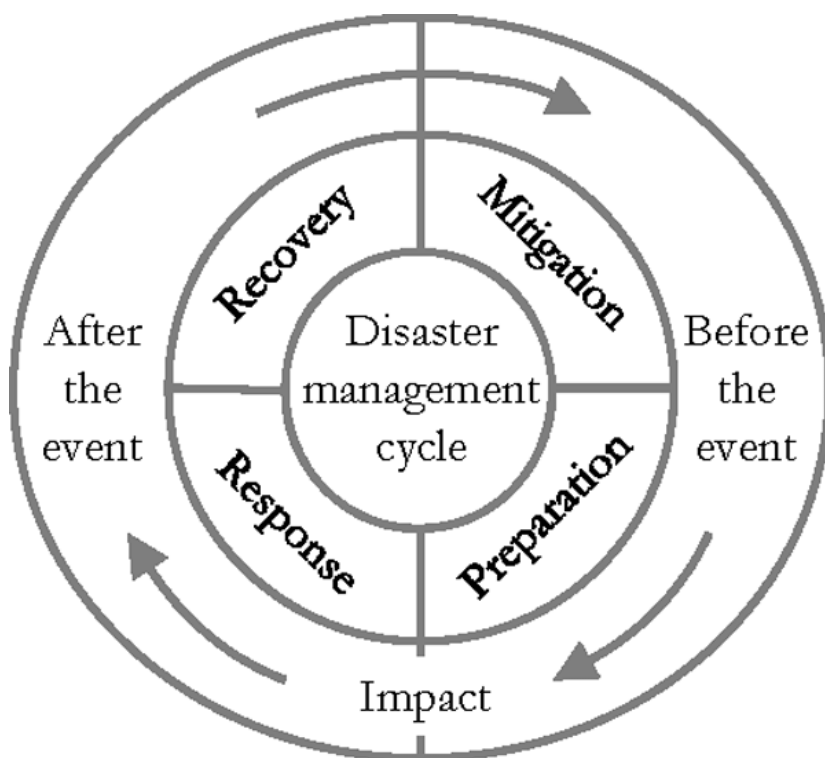
Recently, the Union Minister of Rural Development & Panchayati Raj released the [Disaster Management Plan of the Ministry of Panchayati Raj \(DMP-MoPR\)](#).

What is the DMP-MoPR?

- It has been prepared with a **larger perspective of community-based planning** starting from **Village to District Panchayat level**.
- Under the Plan, every Indian village would have a “**Village Disaster Management Plan**” and every **Panchayat** would have their Disaster Management Plan.
- The aim is to **build disaster resilience at the grassroots level** among the Panchayats and **establish a framework to align the disaster management measures** in rural areas to that of the [National Disaster Management Authority](#).
- It incorporates many innovations in addition to being in compliance with [Disaster Management Act 2005](#), [National Disaster Management Policy 2009](#), and guidelines issued by **National Disaster Management Authority**.

What will be covered under the Disaster Management Plan?

- It comprehensively **covers areas such as**:
 - **Institutional arrangement** for Disaster Management.
 - Hazard Risk, Vulnerability and Capacity **Analysis**.
 - **Coherence of Disaster Risk Management** across Resilient Development and [Climate Change](#) Action.
 - Disaster Specific Preventive and Mitigation Measures-Responsibility Framework.
 - Mainstreaming of **Community Based Disaster Management Plan** of Villages and Panchayats and so on.



What is the Need for such a Plan?

- India has been **vulnerable, in varying degrees**, to many **natural as well as human-made disasters** on account of its unique geo-climatic and socio-economic conditions.
 - A natural disaster includes [earthquakes](#), [floods](#), [landslides](#), [cyclones](#), [tsunami](#), [urban flood](#), [droughts](#).
 - A man-made disaster can be **nuclear**, [biological and chemical](#).
- Different parts of the country are highly vulnerable to **cyclones, floods, droughts, earthquakes, landslides, etc.**

What is the Significance of this Step?

- **Helpful in Managing Disasters Comprehensively:**

- The convergent and collective actions to envision, plan and implement community-based disaster management plans, would be a **game changer in managing disasters comprehensively**.
 - All stakeholders including [Panchayati Raj Institutions \(PRI\)](#), elected representatives and functionaries of Panchayats etc. would participate in planning, implementation, monitoring and evaluation of the plan.
 - The involvement of the community is the **key factor in any disaster preparedness strategy** and active participation of the community is vital to carry out and sustain the activities relating to disaster management in rural areas.
- **Ensure Participatory Planning Process:**
 - This **plan would be extremely useful for ensuring a participatory planning process** for DMPs which is integrated with **Gram Panchayat Development Plan (GPDP)** for addressing disasters across the country and initiate a new era of community-based disaster management, convergence and collective action with programs and schemes of different Ministries / Departments.

What are India's Efforts in Managing Disaster?

- **Establishment of National Disaster Reaction Force (NDRF):**
 - India **consciously developed DM as a holistic approach**, not just reacting after a disaster but also integrating disaster preparedness, mitigation, and **Disaster Risk Reduction (DRR)** into plans and policies.
 - India has increasingly mitigated and responded to all types of disasters, including with the establishment of its [National Disaster Reaction Force \(NDRF\)](#), the world's largest rapid reaction force dedicated to disaster response.
- **India's Role as a Foreign Disaster Relief:**
 - India is also an **emerging donor** that has provided a **substantial amount of foreign disaster relief**, as well as **foreign development assistance**, to other countries.
 - **India's foreign humanitarian assistance** has increasingly included its military assets, primarily deploying naval ships or aircraft to deliver relief.
 - In line with its diplomatic policy of **"Neighbourhood First,"** many of the recipient countries have been in the region of **South and Southeast Asia**.
 - In the last two decades, **India has given foreign humanitarian assistance bilaterally** to Afghanistan, Bangladesh, Bhutan, Maldives, Myanmar, Nepal, Pakistan, the Philippines, Sri Lanka, and others.
- **Contribution to Regional Disaster Preparedness:**
 - As part of its neighbourhood development efforts, **India also contributes to regional disaster preparedness and capacity building efforts**.
 - Within the context of the [Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation \(BIMSTEC\)](#), India has hosted DM Exercises that allow NDRF to demonstrate for counterparts from partner states the techniques developed to respond to various disasters.
 - Other **NDRF and Indian Armed Forces exercises** have brought India's first responders into contact with those from states in the [South Asian Association for Regional Cooperation \(SAARC\)](#) and the [Shanghai Cooperation Organisation \(SCO\)](#).
- **Managing Climate Change related Disaster:**
 - Globally, disasters in the last two decades have **predominantly been climate-related disasters**, of which **floods are the most frequently** occurring type of disaster and **storms are the second most deadly type of disaster** (surpassed by earthquakes).
 - India has adopted the [Sendai Framework for DRR](#), the [Sustainable Development Goals \(2015-2030\)](#), and the [Paris Agreement on Climate Change](#), all of which make clear the connections among DRR, Climate Change Adaptation (CCA), and sustainable development.
 - India **participates in several multilateral organisations** that address these and other issues that benefit from multinational coordination.

[Source: PIB](#)

Issues with PMFBY

For Prelims: Pradhan Mantri Fasal Bima Yojana Scheme, States opting out of PMFBY.

For Mains: Government Policies & Interventions, E-Technology in the Aid of Farmers, Issues in PMFBY, Direct and indirect subsidies.

Why in News?

Maharashtra is the latest state to threaten to withdraw from the [Pradhan Mantri Fasal Bhima Yojna \(PMFBY\)](#) if the changes suggested by it were not taken into consideration.

- **Gujarat, Bihar, West Bengal, Andhra Pradesh, Telangana and Jharkhand** have opted out of the scheme because of **low claim ratio and financial constraints**.

What is PMFBY?

- It is a central-state scheme, introduced in the **2016-17 kharif season**.
- It aims **to cushion farmers against crop loss**.
- The central and state governments pay more than 95% of the premium amount while **the farmer bears 1.5-5% of the premium**.
- As extensive usage of technology is used to settle the claims of farmers within a stipulated time period, **farmers are required to fill loss reports online which are validated by insurance companies before the compensation amount is paid** directly in their accounts.
- Prior to 2020, **the scheme was mandatory for farmers who availed institutional finance**, but that was changed and made voluntary for all farmers.

What are the Issues in PMFBY?

- **Financial Constraints of States:** **The financial constraints of the state governments and low claim ratio during normal seasons are the major reasons** for non-implementation of the Scheme by these States.
 - States are **unable to deal with a situation** where insurance companies compensate farmers less than the premium they have collected from them and the Centre.
 - The State governments **failed to release funds on time** leading to delays in releasing insurance compensation.
 - This defeats the very purpose of the scheme which is to provide timely financial assistance to the farming community.
- **Claim Settlement Issues:** Many **farmers are dissatisfied with both the level of compensation** and delays in settlement.
 - The role and power of Insurance companies is significant. In many cases, **it didn't investigate losses** due to a localised calamity and, therefore, did not pay the claims.
- **Implementation Issues:** Insurance companies **have shown no interest in bidding** for clusters that are prone to crop loss.
 - Further, it is in the nature of the insurance business for entities to make money when crop failures are low and vice-versa.
- **Identification Issues:** Currently the **PMFBY scheme doesn't distinguish between large and small farmers** and thus raises the issue of identification. Small farmers are the most vulnerable class.

What changes has the Maharashtra government proposed?

- **Share in Premium:**
 - Maharashtra has proposed a share in **premium collected from insurance companies during a non-payout or normal year.**
- **Beed Model:**
 - It called for the **Beed model**, which was first experimented during kharif 2020,
 - under this model, **insurance companies provide cover to an extent of 110% of the premium collected.**
 - In case the compensation amount exceeds this, **the state government will bridge the amount.**
 - In case the compensation amount is less than the premium collected, **the company will refund 80%** of the funds to the state government and keep 20% for its administrative expenses.
 - The model was **implemented by the government-run Agricultural Insurance Company.**
- **Accountability for Insurance Companies:**
 - The state has also sought **more accountability from insurance companies.**
 - Farm leaders have asked for **necessary infrastructure to be set up while implementing the scheme**, and the usage of technology to help eradicate human interference.

Way Forward

- Insurance companies **should bid for a cluster for about three years, so that they get a better chance to handle** both good and bad years. The bids should be closed before the onset of the kharif/rabi season.
- Instead of paying subsidies under this, **the state government should invest that money in a new insurance model.**
- The Beed model will reduce the state's subsidy burden but it has to be seen if it is benefitting the farmers.

PYQ

With reference to "Aam Admi Bima Yojana", consider the following statements: (2011)

1. The member insured under the scheme must be the head of the family or an earning member of the family in a rural landless house hold.
2. The member insured must be in the age group of 30 to 65 years.
3. There is a provision for free scholarship for up to two children of the insured who are studying between classes 9 and 12

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (c)

World Happiness Report 2022

Why in News?

Recently, the [World Happiness Report 2022](#) was published by the [United Nations Sustainable Development Solutions Network](#).

- This year marks the **10th anniversary of the World Happiness Report**.

What is the World Happiness Report?

- Published since 2012, the **World Happiness Report is based on two key ideas**:
 - **Happiness or life evaluation** measured through opinion surveys and
 - **Identifying key elements** that determine well-being and life evaluation across countries.
- The report **usually ranks 150 countries** based on several factors such as [real GDP per capita](#), **social support, healthy life expectancy, freedom to make life choices, generosity and perceptions of corruption**.
 - This year, the **report ranked 146 countries**.
- Every year, **each variable measures a populated-weighted average score** on a scale of 0-10 that is tracked over a period of time and further compared with other countries.
- This year, countries which **ranked in the top 10 last year, moved upwards and downwards**.

What about the Performance of the Countries?

- **Top Performers**:
 - **Finland** has been named the **world's happiest country** for the fifth year running followed by **Denmark**.
 - The biggest gains in happiness have taken place in **Serbia, Bulgaria and Romania**.
- **Worst Performers**:
 - **Afghanistan was ranked as the unhappiest nation**, followed by Lebanon, Zimbabwe, Rwanda and Botswana, respectively.
- **India's Performance**:
 - **India saw a marginal improvement** in its ranking, jumping **three spots to 136, from 139** a year ago.

What is the Sustainable Development Solutions Network?

- The SDSN, launched in 2012, **mobilises global scientific and technological expertise** to promote practical problem solving for the **Sustainable Development Goals (SDGs)** and the **Paris Climate Agreement**.
- It was established under the **auspices of the [United Nations Secretary-General](#)**.
- The **SDSN and the Bertelsmann Stiftung** have been publishing the annual [Sustainable Development Goals \(SDGs\) Index & Dashboards Global Report](#) since 2016.

PYQ

The Global Competitiveness Report is published by the (2019)

- (a) International Monetary Fund
- (b) United Nations Conference on Trade and Development
- (c) World Economic Forum
- (d) World Bank

Ans: (c)

[Source: TH](#)

Kamikaze Drone

Why in News

Recently, the US announced USD 800 million in new military aid for Ukraine, including 800 additional Stinger anti-aircraft missiles, 9,000 antitank weapons, 100 tactical drones including **Kamikaze or suicide drones**.

- Kamikaze are unmanned aircraft that **are part of the tranche of weapons that are being sent by the US to [Ukraine to assist their fight against Russia](#)**.

What are Kamikaze drones?



- **About:**

- Also called Switchblade drones, these are **small unmanned aircraft that are packed**

with explosives that can be flown directly at a tank or a group of troops that are destroyed when it hits the target and explodes.

- They are called **Switchblade because their bladelike wings spring out on launch.**
- The drones have **the capability of going past traditional defences to strike its targets and also cost a fraction of what the larger counterparts do.**
- These small lethal drones **are difficult to detect on radar**, and they can even be programmed to hit targets **without human intervention**, based on facial recognition.
- **Countries Possess such Drones:**
 - Although the Kamikaze might be the most advanced form of this genre of drones, **Russia, China, Israel, Iran and Turkey** all have some version of it.

What are its Specifications?

- **Light Weight:**
 - Weighing just five-and-a-half pounds, including its small warhead, the Switchblade can be taken into battle in a backpack and **fly up to 7 miles to hit a target.**
- **Can Adjust Blast Radius:**
 - The Switchblade has a feature **that allows the operator to adjust the blast radius.** So, it can kill the driver of a vehicle but not a passenger, for example. The weapon can be “waived off” up to two seconds before impact.
 - A **blast radius** is the distance from the source that will be affected when an explosion occurs.
- **Cameras for Centralised View of Area of Operation:**
 - The Switchblade also has cameras that show a target seconds before impact.
 - The drone cruises at 63 miles per hour and provides “operators with real-time video downlinks for a centralised view of the area of operation”.

PYQ

Consider the following activities: (2020)

1. Spraying pesticides on a crop field
2. Inspecting the craters of active volcanoes
3. Collecting breath samples from spouting whales for DNA analysis

At the present level of technology, which of the above activities can be successfully carried out by using drones?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (d)

Source: IE

PDF Refernece URL: <https://www.drishtias.com/current-affairs-news-analysis-editorials/news-analysis/19-03-2022/print>