

18th June, 2024

1. The Last Continent Must Remain a Pristine Wilderness GS 3 (Environment)

- **Why in News:** The 46th Antarctic Treaty Consultative Meeting (ATCM-46) in Kochi highlighted the complexities of regulating tourism in Antarctica, an area governed by international consensus and facing rapid environmental changes

● Controversy Surrounding Antarctic Tourism:

- **Introduction to the Issue:** Antarctic tourism has surged since the 1990s, with tourist numbers exceeding 1,00,000 in the 2022-23 season. The growth, driven by interest in adventure travel, poses significant environmental threats.

- **Environmental Concerns:** Increased human presence disrupts wildlife, damages ecosystems, and risks introducing invasive species. Tourism also contributes to pollution and carbon footprints, exacerbating climate change impacts on vulnerable ecosystems.

- **Balance Between Benefits and Risks:** While tourism offers educational and economic benefits, it also pressures the balance between scientific research, responsible tourism, and environmental protection.

● Global Governance and Policy Implications:

- **Gaps in Regulatory Framework:** The Antarctic Treaty (1961) and the Madrid Protocol provide broad guidelines but lack specific tourism regulations. The International Association of Antarctica Tour Operators (IAATO) currently self-regulates, which many view as insufficient.

- **Challenges of International Consensus:** ATCM requires unanimous agreement for decisions, often hampering effective regulation. National interests and differing interpretations of Antarctic principles further complicate governance.

- **Recent Developments:** ATCM-46 made progress by establishing a working group to develop a comprehensive regulatory framework. However, significant challenges remain in achieving consensus and implementing effective measures.

● Challenges of Implementation and Ensuring Inclusivity:

- **Historical Challenges:** Efforts to regulate tourism have been debated since the 1960s. A proposed tourism annex in 1991 failed, leading to reliance on IAATO. Fragmented approaches have resulted in non-binding guidelines rather than comprehensive regulation.

- **Consensus Rule Limitations:** Unanimous approval is required, leading to "decision making by non-decision making" where unregulated activities continue. Proposals such as banning permanent tourism facilities have failed due to lack of consensus.

- **India's Role:** India emphasized the need to address tourism impacts on research and conservation. Despite international challenges, India enacted its own Antarctic Law in 2022, advocating for robust environmental protection and monitoring.

The last continent must remain a pristine wilderness +

The 46th Antarctic Treaty Consultative Meeting (ATCM-46), that was held in Kochi, Kerala last month, highlighted the ongoing debate on Antarctic tourism. While the meeting sought to bring a regulatory framework, it ultimately fell short of a definitive solution. This reflects the complex challenges of managing tourism in a region governed by international consensus and where the environment is rapidly changing.

Since the early 1990s, Antarctic tourism has witnessed a dramatic surge in tourist numbers, which have exploded from a few thousand to over 1,00,000 in the 2022-23 season. The International Association of Antarctica Tour Operators (IAATO) estimates a figure of 1,00,000 tourists in 2022-23. The United States and China account for more than 40% of tourists to the Antarctic. This growth is attributed to increased global interest in adventure travel and a desire to experience Antarctica's unique landscapes and wildlife. Tourism typically entails on multi-day expeditions on small to medium-sized ships, with some opting for larger cruise or fly-and-boat operations. Activities range from wildlife observation and photography to mountaineering, skiing and hiking.

Antarctic tourism offers educational and economic benefits but also raises significant environmental concerns. Increased human presence disrupts wildlife, damages fragile ecosystems, and risks introducing invasive species. Ship traffic pollutes pristine waters, and tourism adds to the global carbon footprint. Climate change exacerbates these issues by opening new areas for tourism while increasing ecosystem vulnerability. The balance between scientific research, responsible tourism, and environmental protection is under intense pressure.

Gaps in the regulatory framework
The current governance framework for Antarctic tourism is fragmented and lacks clear regulations. The Antarctic Treaty, that came into force in 1961, prioritises peaceful use and scientific research. While the Madrid Protocol offers broad

Environmental guidelines, it lacks specific tourism regulations. The responsibility for day-to-day management falls largely on the IAATO, a self-regulatory industry body. Many believe IAATO's guidelines are inadequate to address the growing environmental pressures.

The ATCM is the primary platform for international cooperation on Antarctic issues. Despite recognising the need for a comprehensive tourism regulatory framework, the ATCM-46 failed to reach a consensus. Unanimous agreement from all consultative parties is required for decisions, often slowing action and allowing national interests to impede progress. While some countries push for strong regulations, others prioritise economic benefits or interpret Antarctic principles differently. The current geopolitical climate further complicates international cooperation on Antarctic governance.

Despite the limitations, the ATCM-46 made some progress. The meeting focused on developing a "comprehensive, flexible, and dynamic" framework for regulating tourism and non-governmental activities. A newly established working group will lead this effort over the next year. This signifies a renewed commitment to address the challenges of the Antarctic.

Antarctica needs stronger measures to mitigate tourism impacts, as there are gaps in the current governance framework. The Antarctic Treaty system and the Madrid Protocol offer broad guidelines, but daily management often heavily relies on self-regulation by IAATO, which many believe is inadequate for protecting wildlife and ecosystems.

A historical perspective on the evolution of decisions around tourism regulation is also valuable. Discussions on tourism regulation have been a point of debate at ATCM meetings since the 1980s. A proposed tourism annex introduced in 1991 failed to gain consensus, leading to the current reliance on IAATO's self-regulation. Since a 2004 expert meeting on tourism, discussions have grown more frequent, with concerns encompassing environmental impacts, disruption of research programmes, and safety issues.

India's role
At the ATCM-46 (2022), concerns about tourism's impact on Antarctic research, conservation, and the environment were raised. The importance of monitoring the impacts of tourism was emphasised, and India was highlighted as addressing tourism issues. Resolution 5 (2022) advised against building tourism-related structures with significant environmental impacts. Calls for a comprehensive debate on Antarctic tourism continued between ATCM-44 and ATCM-45, with a 2023 workshop highlighting the need for governance action. Despite the lack of international consensus, India enacted its own Antarctic Law in 2022.

Finding a sustainable future for Antarctic tourism requires a multi-pronged approach. Strengthening environmental protection, implementing robust monitoring programmes, and fostering international cooperation are crucial. The recent efforts at ATCM-46 offer a glimmer of hope. By prioritising science-based decision-making and fostering engagement with all stakeholders, we can ensure that Antarctica remains a pristine wilderness for generations to come, while also recognising the potential benefits of responsible tourism.



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2. The Plight of Indian Nationals as Mercenaries GS 2 (International Relations)

- **Why in News:** In a tragic revelation, the **Ministry of External Affairs (MEA)** recently acknowledged the deaths of two Indian nationals recruited by the Russian Army amidst the ongoing conflict in Ukraine. These incidents highlight a growing trend where Indians, lured by promises of lucrative salaries and Russian citizenship, have become ensnared in labor trafficking rackets.

● Who are Mercenaries?

- Mercenaries are individuals who are recruited to participate in armed conflicts by a party to the conflict that is not their own state.
- They are motivated primarily by personal gain or financial reward rather than by ideological, national, or other similar considerations.

- Under **international humanitarian law (IHL)**, specifically **Article 47 of Additional Protocol I to the Geneva Conventions**, mercenaries are defined by several criteria:

- ◆ They are specially recruited locally or abroad.
- ◆ They directly participate in hostilities.
- ◆ Their motivation for participating in hostilities is primarily personal gain.
- ◆ They are promised or paid material compensation substantially exceeding that given to combatants of similar ranks and functions.
- ◆ They are neither nationals nor residents of a party to the conflict.
- ◆ They are not members of the armed forces of a party to the conflict.

- Mercenaries, if captured, **do not qualify for prisoner-of-war status** and may face prosecution for acts committed during the conflict.

● Why the trend is on rise?

- ◆ The landscape of mercenary activities has evolved with the rise of **Private Military Companies (PMSCs)**, which perform roles ranging from combat operations to logistical support.
- ◆ Unlike mercenaries, PMSCs operate under loosely defined legal frameworks, often relying on domestic laws rather than international conventions.
- ◆ This flexibility poses challenges in holding PMSCs accountable for their actions, as exemplified by the controversial operations of entities like the **Wagner Group**, reportedly staffed with Russian army veterans and implicated in international conflicts.
- ◆ **Current Regulatory Challenges**
 - ◆ There is absence of a comprehensive definition of mercenaries across national laws.
 - ◆ Many states do not explicitly criminalize mercenary activities, complicating efforts to prosecute or deter such practices.
 - ◆ Signatories to the **Montreux Document** commit to oversight of PMSCs to ensure compliance with humanitarian and human rights laws, although neither **India nor Russia are signatories**.

3. Initiative on Critical and Emerging Technologies (iCET)

GS 2 (International relations)

- **Why in News:** Indian National Security Advisor (NSA) Ajit Doval and US National Security Advisor Jake Sullivan led the second session of the India-US initiative on **Critical and Emerging Technology (iCET)**.
- **What is iCET?**
 - ◆ The Initiative on Critical and Emerging Technologies (iCET) was launched during the Quad summit in Tokyo in 2022, by Prime Minister Narendra Modi and US President Joe Biden.
 - ◆ It aims to deepen strategic cooperation between India and the United States in several key sectors:
 - ◆ **Focus Areas:**
 - ◆ Artificial Intelligence (AI)
 - ◆ Quantum Computing
 - ◆ Semiconductors
 - ◆ Advanced Telecommunications
 - ◆ Biotechnology
 - ◆ Clean Energy
 - ◆ Quantum Technology

Laws on mercenaries in war zones

Indian nationals tickled by the promise of lucrative jobs in Russia have ditched fighting on the frontlines. To states are increasingly hiring private military companies to operate in conflict zones... can they qualify as mercenaries under international law? How can India secure the interests of its overseas migrant workforce?

EXPLANER

America's dilemma

The story so far: The Ministry of External Affairs (MEA) is reportedly looking at the issue of two Indian nationals who were recruited by the Russian army to fight in Ukraine. The MEA is reportedly looking at the issue of two Indian nationals who were recruited by the Russian army to fight in Ukraine. The MEA is reportedly looking at the issue of two Indian nationals who were recruited by the Russian army to fight in Ukraine.

Under contract

Under contract 88, being a mercenary, half the cost of the contract is not to be paid to the mercenaries. The contract is for a period of 12 months. The contract is for a period of 12 months. The contract is for a period of 12 months.

What has the MEA responded?

The MEA has issued a press note advising Indian citizens to be wary of recruitment offers from the Russian army. The MEA has issued a press note advising Indian citizens to be wary of recruitment offers from the Russian army. The MEA has issued a press note advising Indian citizens to be wary of recruitment offers from the Russian army.

Who are mercenaries?

Under the Geneva Conventions, mercenaries are defined as individuals who are recruited by a party to a conflict and who are not members of the armed forces of that party. They are defined as individuals who are recruited by a party to a conflict and who are not members of the armed forces of that party.

Article 47 of Additional Protocol I

Article 47 of Additional Protocol I to the Geneva Conventions states that mercenaries are not entitled to the status of prisoners of war. It states that mercenaries are not entitled to the status of prisoners of war. It states that mercenaries are not entitled to the status of prisoners of war.

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THE GIST

Over the past year, nearly 100 Indian citizens have reportedly been recruited by the Russian army to fight in Ukraine. The MEA is reportedly looking at the issue of two Indian nationals who were recruited by the Russian army to fight in Ukraine.

The dilemma between India and Russia

The dilemma between India and Russia is a complex one. India is a member of the Non-Aligned Movement and has a long-standing relationship with Russia. However, India is also a member of the Quad and has a growing relationship with the United States. The dilemma between India and Russia is a complex one.

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President Vladimir Putin acknowledges

President Vladimir Putin has acknowledged the role of mercenaries in the Russian invasion of Ukraine. He has stated that mercenaries are being used by the Russian army to fight in Ukraine. He has stated that mercenaries are being used by the Russian army to fight in Ukraine.

What are the limitations of the existing regime?

The existing regime for mercenaries is limited in several ways. It does not provide for the prosecution of mercenaries who are not members of the armed forces of a party to a conflict. It does not provide for the prosecution of mercenaries who are not members of the armed forces of a party to a conflict.

What is the way forward?

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● Key Points of the Framework:

- **Supply Chains and Co-production:** iCET seeks to build resilient supply chains and support co-production and co-development of technologies.
- **Research Agency Partnership:** Plans include establishing a joint research agency to drive collaboration, particularly in AI.
- **Defence Technological Cooperation:** A new roadmap will be developed to accelerate joint development and production in defence technology.
- **Other Initiatives:** This includes developing common standards for AI, connecting defence startups through an 'innovation bridge', supporting semiconductor ecosystem development, advancing cooperation in 5G and 6G technologies, and adopting OpenRAN network technology in India.

4. Direct Seeding of Rice (DSR) is yet to pick up in Punjab

GS 3 (Agriculture)

● Why in news:

- The Punjab government is promoting the direct seeding of rice (DSR), also known as the 'tar-wattar' technique, to reduce water usage by 15% to 20%. Traditional methods require 3,600 to 4,125 litres of water per kilo of rice, whereas DSR uses much less. Additionally, DSR requires less labor and the rice matures 7 to 10 days faster, allowing farmers more time to manage paddy straw.
- Despite these benefits and a government incentive of Rs 1,500 per acre, DSR adoption remains low. Last year, only 1.73 lakh acres out of 79 lakh acres under paddy cultivation used DSR.
- The government's target for this year is 7 lakh acres, which is still less than 10% of Punjab's total rice acreage.

● Direct Seeding of Rice (DSR)

■ About

- ◆ DSR is a method of planting rice seeds directly into the field rather than transplanting seedlings from a nursery.
- ◆ This technique involves sowing pre-germinated or dry seeds directly into the main field, either through broadcasting (scattering seeds), drilling (placing seeds in rows), or using specialized seeders.

■ Working

◆ Field Preparation

- The field is prepared by leveling and ensuring good soil tilth to promote uniform seed germination and growth.
- Land may be tilled or left untilled (zero tillage), depending on the specific DSR method used.

◆ Seed Sowing

- Broadcasting: Seeds are scattered uniformly over the field.
- Drilling: Seeds are sown in rows using a seed drill or planter.
- Mechanized Sowing: Specialized machinery can be used for precision planting of seeds.

◆ Water Management

- Initial irrigation may be provided to ensure seed germination.
- Subsequent water management practices focus on maintaining optimal moisture levels without continuous flooding, as in traditional transplanting.

◆ Weed and Pest Management

- Effective weed control is critical, often requiring pre-emergence and post-emergence herbicides.
- Regular monitoring for pests and diseases is necessary.

■ Different from traditional methods

- ◆ Traditionally, paddy farmers prepare nurseries where seeds are first sown.
- ◆ After 25-35 days, the young seedlings are uprooted and replanted, in the flooded main field.

DSR cultivation needs less water, labour; why is it still not popular in Punjab?

ANJAGHNOTRICHABA
JAL ANDHRA, JUNE 17

EXPLAINED AGRICULTURE

DSR technique

Traditionally, farmers prepare paddy seedlings in nurseries and, after 25-35 days, transplant the young plants in flooded fields. This is a labour- and water-intensive method, but is known to maximise yields

and lead to better crop health. DSR does not require nursery preparation or transplantation. Paddy seeds are directly sown in the field 25-30 days ahead of when they would have been transplanted. After the field has been irrigated and prepared using a laser level, seedlings are carried out using a seed drill or laser under machine. It is crucial to treat the seeds - they are soaked in a fungicide solution for eight hours, and dried for half a day before sowing.

The first round of sowing is carried out 21 days after sowing, followed by another 14-17 rounds at 7-10 day intervals, depending on the soil type and quality of monsoon rain. The final round of irrigation is done 30 days before harvesting.

Benefits of DSR

It is water-efficient because the consumption of water in cultivation by DSR is 20% - 30% less than the traditional puddling method, which requires 3,600 to 4,125 litres of water to grow every kilogram of rice. The traditional method also requires 25-30 rounds of irrigation in all. This is extremely important in water-scarce

Punjab, where rapidly changing groundwater levels have led to a crisis of desertification. DSR also requires less labour and the crop matures 7-10 days sooner, which allows farmers more time to manage the paddy straw.

Direct seeding of rice (DSR) and (right) paddy transplantation, Anja Agrihub, Chiba

heavy or medium to heavy textured soils. This is primarily because light textured soils do not retain water well.

Soil texture is key

Experts underline that for DSR to be successful, it is crucial that the soil should be suitable. There are two aspects of soil suitability. TEXTURE: DSR should be avoided in soils of a light texture; it is more suitable for

have less clay and more sand. Dr MS Mudgal, Principal Agronomist at Punjab Agricultural University (PAU) Ludhiana, who headed the development of the tar-wattar DSR technique, told The Indian Express that only 20% of Punjab's soil is light textured.

The Punjab (northwestern) and Chhattisgarh (central) regions of the state produce mostly heavy and medium to heavy textured soil, whereas Madhya Pradesh and southern Punjab contains pockets of heavy textured, medium textured, and light textured soils.

IRON CONTENT: The iron content of the soil also determines the suitability of DSR. Soils that are severely deficient in iron are not suitable for tar-wattar DSR.

Experts say that in several places, even medium-textured soils are unsuitable only due to the lack of iron. This is likely to be more of a problem in fields where crops such as cotton, maize, and sugarcane have been cultivated earlier.

Experts say that the soil with plant available iron is ideal for DSR. In case iron supplements are being used, farmers should apply ferrous sulphate, which is green in colour and not oxidised, rather than oxidised iron,

which is brown in colour.

Lack of iron content can severely impact yields. Sometimes, farmers may even have to transplant the crop away, after a month or so, leading to DSR losing its labour saving benefits.

The way forward

Farmers who use DSR in unsuitable soil often do not get the expected yields, and end-up developing apprehensions regarding the technique and revert to the traditional method. Negative feedback spreads quickly by word of mouth, dissuading even farmers for whom DSR may have benefited.

Education and awareness of farmers is key to the adoption of the new technique, and departure from the older method, experts say. They suggest that extension staff and much help should be provided to household farmers through the entire process from pre-sowing to harvesting. This can instil confidence among farmers regarding DSR efficacy.

Additionally, if farmers incur losses during the initial years of adoption, adequate compensation should be provided as an incentive for them to try again, they say.

- ◆ While this method is labour and water-intensive, it is known to maximise yields and maintain better crop health.

■ Soils suitable for DSR

- ◆ Experts emphasise that soil suitability is crucial for the successful implementation of DSR.
 - **Farmers should avoid DSR in light-textured soils** — it is more suitable for heavy or medium-to-heavy-textured soils.
 - This is primarily because light-textured soils do not retain water well. These soils completely counteract the water-saving benefits of DSR, and in fact, ends up guzzling down more water.
- ◆ The iron content of the soil also determines the suitability of DSR. **Soil with severe iron deficiency, and weed problems must not be cultivated using this technique.**
 - Experts recommend that soils with plant-available iron are ideal for DSR.
 - In case iron supplements are being used, farmers should apply ferric iron, which is green-coloured and not oxidised, rather than oxidised iron, which is brown in colour.

■ Benefits of DSR:

- ◆ **Water Savings** - DSR significantly reduces water usage compared to traditional flooded rice fields since it eliminates the need for continuous flooding.
- ◆ **Labor Savings** - Reduces labor requirements for nursery preparation, seedling transplanting, and associated activities.
- ◆ **Faster Crop Establishment** - Seeds germinate and establish more quickly, leading to potentially earlier harvesting.
- ◆ **Reduced Greenhouse Gas Emissions** - Lower methane emissions due to less anaerobic decomposition in non-flooded conditions.
- ◆ **Cost Savings** - Lower costs for labor, water, and sometimes inputs, depending on the method used.

■ Challenges of DSR:

- ◆ **Weed Management** - Weeds can be a significant problem due to the absence of water that usually suppresses weed growth in traditional systems.
 - Effective herbicide use and integrated weed management practices are crucial.
- ◆ **Water Management** - Requires precise water management skills to avoid water stress or flooding that can affect seed germination and growth.
- ◆ **Pest and Disease Control** - Increased susceptibility to certain pests and diseases compared to traditional flooded systems.
- ◆ **Soil and Crop Management** - Requires good soil preparation and fertility management to ensure uniform seed germination and growth.
 - Variability in soil conditions can impact the success of DSR.
- ◆ **Technological Requirements** - Access to appropriate machinery and technology for seed drilling and planting can be a barrier in some regions.

● Path forward for DSR

- A basic lack of awareness and understanding is holding DSR back.
 - ◆ After using the method on unsuitable soil, farmers do not get the expected yields.
 - ◆ They then developed apprehensions regarding DSR and reverted to their traditional puddling method.
- Experts say that comprehensively educating farmers is key to enable the adoption of a new technique, and departure from age-old, tried and tested methods.
- They suggest that extensive training and a ready helpline be provided, to handhold the farmers through the whole process, from pre-sowing to harvesting.
- This can instill confidence among farmers regarding DSR's efficacy.

5. eMigrate Portal

GS 2 (Governance)

- **Why in News:** Recently, the Ministry of External Affairs and the SBI have signed an MoU to provide an additional digital payment service of the bank through its payment gateway SBIPay to users of the eMigrate portal.
- **About eMigrate Portal:**
 - It was **launched in 2014** and it has been instrumental in making the **emigration process online and transparent** for Indian workers heading to countries where emigration checks are required.

- The portal connects **foreign employers, registered recruiting agents**, and insurance companies issuing the Pravasi Bhartiya Bima Yojna, facilitating seamless, safe, and legal migration.
- The portal also has a mechanism for **voluntary registration** of emigrants holding **ECNR (Emigration Check Not Required) category passports** proceeding for overseas employment.
- It is integrated with the external affairs ministry's **Passport Seva Project** to validate the passport details of ECR category workers. This integration helps detect fake passport cases and check for data entry errors at the registration stage.
- The **Overseas Employment (OE) and Protector General of Emigrants (PGE) division** of the external affairs ministry is responsible for overseeing the emigration of Indian workers having **Emigration Clearance Required (ECR)** category passports.
 - ◆ These are **semi-skilled and unskilled workers** who are considered most vulnerable to exploitation by unscrupulous recruitment agents or foreign employers.
 - ◆ ECR passport holders require Emigration Clearance (EC) when taking up jobs in the 18 designated ECR countries – Afghanistan, Bahrain, Indonesia, Iraq, Jordan, Kuwait, Lebanon, Libya, Malaysia, Oman, Qatar, Saudi Arabia, South Sudan, Sudan, Syria, Thailand, United Arab Emirates and Yemen.

MCQ Current Affairs
18th June, 2024

1. The principle of res judicata prevents which one of the following?

- a) Filing a new lawsuit on any matter
- b) Filing cases in different jurisdictions
- c) Appeals to higher courts
- d) Filing a subsequent lawsuit on the same matter after judgment in a previous case

2. With reference to Hindu Kush Himalaya (HKH), consider the following statements:

- A. Its highest peak, Tirich Mir, is located in India.
 - B. It contains the largest volume of ice and snow outside of the Arctic and Antarctica.
 - C. The inner valleys of the Hindu Kush see little rain and have desert vegetation.
- How many of the statements given above are correct?

- a) One only
- b) Two only
- c) All three
- d) None

3. Consider the following statements with reference to the GREAT Scheme:

- A. It supports individual entrepreneurs for functional prototypes of their technologies for Technical Textile.
 - B. Under this initiative grant-in-aid will be provided to young innovators.
- Which of the statements given above is/are correct?

- a) A only
- b) B only
- c) A and B
- d) Neither of two

4. Consider the following statements with reference to the Exercise Tarang Shakti:

- A. It is a multinational military exercise to be hosted by India.
 - B. It aims to foster professional interactions and enrich the employment philosophy of the participating forces.
- Which of the statements given above is/are correct?

- a) A only
- b) B only
- c) A and B
- d) Neither of two

5. Consider the following statements with reference to the eMigrate Portal:

- A. It was launched in 2014 to make the emigration process online and transparent.
 - B. It has a feature of voluntary registration of emigrants holding ECNR (Emigration Check Not Required) category passports.
- Which of the statements given above is/are correct?

- a) A only
- b) B only
- c) A and B
- d) Neither of two

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1. d
2. b
3. c
4. b
5. c

