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“CANOPY BRIDGES CONSTRUCTED BY THE RAILWAY IN GIBBON HABITAT”.

THIS ARTICLE COVERS “DAILY CURRENT AFFAIRS” AND THE TOPIC DETAILS OF “CANOPY BRIDGES CONSTRUCTED BY THE RAILWAY IN GIBBON HABITAT”. THIS TOPIC IS RELEVANT IN THE “ENVIRONMENT AND ECOLOGY” SECTION OF THE UPSC-CSE EXAM.

WHY IN THE NEWS?

The Northeast Frontier Railway (NFR) has allocated funds to build canopy bridges, facilitating the safe passage of India's sole ape species across a railway track that divides its crucial habitat in eastern Assam.

MORE DETAILS:

- A railway track stretching 1.65 kilometres in length is scheduled for expansion and electrification. This track currently divides the 2,098.62-hectare Hollongapar Gibbon Sanctuary situated in the Jorhat district. Within this sanctuary lies the highest concentration of the Hoolock gibbon, one among the twenty species of apes found globally.
- The WII, in collaboration with the NFR, has devised canopy bridges strategically positioned at selected locations. These bridges aim to enable seamless traversal for the arboreal species inhabiting the sanctuary, thereby reconnecting the divided halves caused by the Mariani-Dibrugarh railway track.
- The canopy rope bridges will be meticulously installed to allow for the natural growth of lianas and creepers along their structure, ensuring they blend harmoniously with the surrounding environment.

HOW CAN CANOPY BRIDGES ENHANCE GIBBON SAFETY:

- **Reduced Risk of Road Fatalities:** Canopy bridges reduce the risk of gibbon fatalities caused by road collisions. Gibbons are often forced to cross roads, which can be fatal because of the high speed of railways and the animals' lack of visibility.

- **Increased Connectivity:** Canopy bridges maintain connectivity between isolated gibbon populations, allowing them to move freely and maintain genetic diversity. This connectivity is vital for the long-term survival of gibbon populations.
- **Improved Habitat Connectivity:** By connecting fragmented habitats, canopy bridges enable gibbons to access food sources, mates, and suitable territories more easily. This connectivity also helps to mitigate the negative impacts of habitat fragmentation.
- **Enhanced Safety for Arboreal Species:** Canopy bridges are particularly beneficial for arboreal species like gibbons, which are adapted to living in trees. These bridges provide a safe and natural means of crossing gaps, reducing the need for risky ground crossings.
- **Rapid Impact Mitigation:** Canopy bridges can provide rapid impact mitigation by allowing gibbons to be used immediately after exposure, even before habituation. This rapid adoption suggests that canopy bridges are an effective conservation tool.
- **Multi-Species Benefits:** Canopy bridges benefit multiple species, not just gibbons. Studies have shown that various arboreal mammal species use these bridges, indicating their broader conservation value.

EFFECTIVENESS OF THE ARTIFICIAL CANOPY BRIDGES (ACBS) :

- These structures aim to reconnect isolated gibbon populations by bridging canopy gaps caused by human activities such as deforestation, habitat fragmentation, and infrastructure development.
- The effectiveness of ACBs in reconnecting gibbon populations is demonstrated by the Hoolongapar Gibbon Sanctuary (HGS) in Assam, where a natural canopy bridge (NCB) has been established through long-term plantation activities.
- However, the initial iron structure constructed by the North East Frontier Railway (NEFR) and the Assam State Forest Department (ASFD) in 2015 suffered from design flaws that did not conform to the specialised form of movement in the canopy (brachiation) of gibbons. This structure remained unused by arboreal mammals due to its incompatibility with gibbon behaviour.
- The Wildlife Institute of India (WII) developed detailed design guidelines and considerations for ACBs to ensure their effectiveness in facilitating gibbon movement. These guidelines emphasise the importance of domain-specific knowledge and stakeholder involvement in the design, installation, and post-installation monitoring of ACBs.

Positive Long-Term Impacts

- **Habitat Connectivity:** Artificial canopy bridges can help maintain connectivity between isolated gibbon populations, allowing them to move freely and maintain genetic diversity.
- **Behavioural Adaptation:** Gibbons can adapt to using artificial bridges, as seen in the case of the Western Hoolock gibbon, which started using a bamboo bridge within 15 days.
- **Conservation Tool:** Artificial canopy bridges can serve as a valuable conservation tool, especially in areas where natural canopy corridors are fragmented or destroyed.

NEGATIVE LONG-TERM IMPACTS

- **Dependence on Artificial Structures:** Gibbons may become too reliant on artificial bridges, potentially leading to a loss of natural locomotor skills and a reduced ability to navigate without them.
- **Maintenance and Replacement:** Artificial canopy bridges require regular maintenance and replacement, which can be challenging in remote or hard-to-reach areas, potentially leading to a decline in their effectiveness over time.
- **Integration with Natural Habitat Restoration:** Artificial canopy bridges should be integrated with natural habitat restoration efforts to ensure long-term connectivity and sustainability. Failure to do so may result in the artificial structures becoming obsolete or ineffective.

THE DESIGN FEATURES THAT MAKE CANOPY BRIDGES MOST EFFECTIVE FOR GIBBONS INCLUDE:

- **Simple and Inexpensive Construction:** Rope bridges are inexpensive, easy to transport, and technically simple to make and install, making them a cost-effective option for gibbon conservation.
- **Rope Diameter:** The rope diameter should be suitable for gibbon locomotion. For example, a rope diameter of 20–100 mm is often preferred for brachiation, which is the predominant locomotion mode for gibbons.
- **Tree Support:** The bridge should be supported by sturdy trees to ensure stability and safety for the gibbons.
- **Length and Width:** The bridge should be long enough to span the gap and wide enough to accommodate the gibbon's body size. For example, the 15.8 m and 17.2 m bridges used in the study were effective for the Hainan gibbon.
- **Maintenance and Replacement:** Proper and timely maintenance and replacement of the ropes are crucial to ensure the bridge remains safe and effective over time.
- **Integration with Natural Habitat Restoration:** Canopy bridges should be integrated with natural habitat restoration efforts to ensure long-term connectivity and sustainability.
- **Logistical Considerations:** The construction process should consider logistical challenges such as remote locations, steep terrain, and weather conditions.
- **Integration with Natural Habitat Restoration:** Artificial canopy bridges should be integrated with natural habitat restoration efforts to ensure long-term connectivity and sustainability.

PRELIMS BASED QUESTION:

Q. Consider the following statement:

1. Hollongapar Gibbon Sanctuary on the bank of the Brahmaputra River.
2. Eastern hoolock gibbon is in the Endangered category of the IUCN List.

Which of the above statement/s is/are correct?

1. 1 only
2. 2 only
3. Both 1 and 2
4. Neither 1 nor 2

Answer: D

MAINS BASED QUESTION:

1. **Development activities lead to destruction and obstruction in the animals' natural habitat. How can we ensure development activities do not affect the movement of animals in their habitats?**

[Vishal yadav](#)

GLOBAL UNEMPLOYMENT RATE

THIS ARTICLE COVERS 'DAILY CURRENT AFFAIRS' AND THE TOPIC DETAILS OF "GLOBAL UNEMPLOYMENT RATE.". THIS TOPIC IS RELEVANT IN THE "ECONOMY" SECTION OF THE UPSC CSE EXAM.

WHY IN THE NEWS?

Recently, the International Labour Organization (ILO) has updated its worldwide unemployment projections for 2024, indicating a modest drop to 4.9% from an earlier prediction of 5.2% and emphasising the ongoing disparities within global labour markets. The adjustment primarily stems from lower unemployment rates in China, India, and affluent nations than anticipated this year. The decline in unemployment is anticipated to level off in 2025, stabilizing at 4.9%.

Despite advancements, disparities continue to exist in labour markets, significantly impacting women in low-income nations. According to the report, there are 183 million individuals classified as unemployed, and an additional 402 million are not employed but seeking work.

The ILO highlights that labour market inequality, particularly affecting women and those in low-income countries, is a pressing issue. With 22.8% of women seeking work unemployed, compared to 15.3% of men, and disparities even in high-income nations (9.7% jobless rate for women vs. 7.3% for men), it's clear gender differences in employment persist globally, including a higher likelihood of women leaving the workforce.

ABOUT THE INTERNATIONAL LABOUR ORGANISATION (ILO):

- The International Labour Organization (ILO) is a pivotal United Nations agency dedicated to promoting social and economic justice by establishing global labour standards. Established in October 1919 as part of the League of Nations, it is one of the UN framework's earliest and most enduring specialized agencies.
- ILO has 187 member states, with a unique tripartite structure that brings together governments, employers, and workers to set labour standards, develop policies, and devise programs promoting decent work for all women and men.
- The ILO establishes international labour standards through conventions and recommendations. These standards cover many issues, including the right to organize, the abolition of forced labour, and equality of opportunity and treatment.
- It aims to ensure that workers' rights are respected and protected. This includes fighting against discrimination, forced labour, and child labour and promoting freedom of association and collective bargaining.

- The ILO works to create decent job opportunities and improve working conditions worldwide. It tackles unemployment, underemployment, and informal employment to encourage sustainable businesses and economic expansion.
- It promotes dialogue and cooperation among governments, employers, and workers' organizations. This tripartite structure is a fundamental principle of the ILO, ensuring all stakeholders have a voice in labour issues.

STRUCTURE OF THE ILO:

1. **International Labour Conference (ILC):** The ILO's supreme decision-making body meets annually. It adopts conventions and recommendations, sets the ILO's budget, and elects the Governing Body.
2. **Governing Body:** The executive council of the ILO, which meets three times a year. It makes decisions on ILO policy, sets the agenda of the ILC, and approves the draft program and budget.
3. **International Labour Office:** The permanent secretariat of the ILO, responsible for implementing the organization's work. The Director-General heads it.

CONCLUSION:

The International Labour Organization (ILO) is a crucial United Nations agency that focuses on advancing social and economic fairness by setting international labour standards and ensuring everyone has access to decent work. Its distinctive tripartite framework and widespread technical cooperation initiatives position it as a significant entity in tackling worldwide labour issues and fostering enduring peace and prosperity.

MAINS PRACTICE QUESTION:

Q. How does the International Labour Organization facilitate social dialogue among labour, management, and governments? Discuss some key challenges the ILO faces today in pursuing its objectives.

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