

UPSC Syllabus Topic: GS Paper 3 Disaster and Disaster Management.

Considering All Risks: Balancing Development in the Fragile Himalayan Ecosystem

1. **Sensitive Himalayan Terrain:** Many accidents occur in the fragile Himalayan region, prone to landslides and seismic activities. Examples include the collapse of the Uttarakhand tunnel and the landslide at the Assam-Arunachal Pradesh border hydroelectric project.
2. **Rapid Infrastructure Development:** The push for quick infrastructure growth, such as the Char Dham Yatra project in Uttarakhand, often overlooks environmental and safety aspects.
3. **Environmental Ignorance:** Projects often neglect the unique environmental conditions of the Himalayas. The damage in Joshimath, attributed to heavy construction, highlights this issue.
4. **Climate Change Impact:** Increased instances of flash floods, like the one affecting the Chungthang Dam, are partly due to climate change effects on the region.

Why are these accidents concerning?

1. **Risk to Human Life:** These incidents pose significant dangers to human lives, as seen in the 40 workers trapped in the Uttarakhand tunnel.
2. **Frequency and Scale:** The regular occurrence of these accidents during development projects indicates systemic issues in planning and safety.
3. **Potential Economic Impact:** Such mishaps can adversely affect local economies, often reliant on these development projects for growth.
4. **Long-Term Consequences:** These accidents can have lasting impacts on local ecosystems and communities, affecting livelihoods and natural resources.

What is the Char Dham Project?

The Char-Dham Road Project is a prestigious two-lane expressway project executed by the Ministry of Road Transport and Highways in Uttarakhand. It aims to widen roads up to 10 meters to improve accessibility to the Char-Dham shrines (Yamunotri, Gangotri, Badrinath, and Kedarnath).

What initiatives have been taken for the restoration of the Himalayan Ecosystem?

1. **National Mission on Sustaining Himalayan Ecosystem:** Launched in 2010, it covers 11 states and 2 UTs, focusing on sustainable management of the Himalayan region.
2. **SECURE Himalaya Project:** Part of the Global Wildlife Program, it promotes sustainable management of alpine pastures and forests in the Himalayan ecosystems.
3. **Mishra Committee Report 1976:** Recommended placing restrictions on heavy construction work, blasting, and tree felling in the Himalayan region.

What should be done?

1. **Strict Geological and Environmental Scrutiny:** Projects in sensitive regions like the Himalayas should undergo rigorous environmental impact assessments to prevent incidents like the Joshimath structural damage.
2. **Risk Assessment:** All major projects should have a detailed risk analysis, including the

resilience of structures, before approval.

3. **Balancing Development and Safety:** Infrastructure development is essential but should not compromise safety standards. Frequent mishaps underscore the need for this balance.
4. **Addressing Climate Change Impacts:** Planning for the effects of climate change, such as flash floods, should be a priority in project planning.

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The Influence of AI on Employment: Navigating an Economy in the Absence of Jobs

At the recently concluded Bletchley Park summit on Artificial Intelligence (AI), tech leaders, including Elon Musk, envisioned a future where AI would replace all human labour, both physical and cognitive. In this scenario, individuals might not necessarily need jobs for sustenance, and work would become a pursuit driven by personal fulfilment.

However, a world without traditional work could give rise to several concerns, particularly within the current capitalist system:

1. **Uncertainty in Income Determination:** Without conventional employment, there would be no clear criteria for determining the monetary compensation individuals receive, leading to uncertainty in income distribution.
2. **Ownership Divide:** The absence of traditional employment may challenge established norms for dividing the output between those who own the AI-driven machines and those who do not, potentially exacerbating socioeconomic disparities.
3. **Balancing Growth and Consumption:** Determining the allocation between future economic growth and current consumption would become a complex issue without the framework of traditional work and income.

As AI transforms the landscape of work, understanding and addressing these challenges will be crucial to navigating the potential disruptions in the world economy.

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AI in Defense: India's Stance, the Dilemma of 'Killer Robots,' and the China Factor

The contemporary global sentiment regarding AI in defense is marked by a dichotomy. On one side, there's a growing global consensus advocating severe limitations on the military applications of AI, particularly autonomous weapons that operate without human control. This sentiment is reflected in recent actions, such as the UN General Assembly's overwhelming majority vote urging the international community to address the challenges posed by lethal autonomous weapons.

Human rights and arms control activists have spearheaded campaigns against autonomous weapons, arguing that these "killer robots" violate fundamental principles of international laws of war and raise ethical questions about the relationship between humans and machines in the use of force.

What is an autonomous weapon?

Autonomous weapon systems are defined as weapons that can select and apply force to targets without human intervention, relying on artificial intelligence for decision-making.

Advantages of autonomous weapons:

1. **Force Multiplier:** Autonomous weapons can offset military disadvantages, allowing more significant capabilities with fewer resources.
2. **Cost-Effective:** They offer lower production and deployment costs compared to traditional weapons.
3. **Precision and Accuracy:** AI-based autonomy enhances precision, reducing collateral damage and civilian casualties.
4. **Speed of Decision-Making:** AI systems process information and make decisions faster than human operators.
5. **Adaptability:** Autonomous weapons equipped with AI can adapt to changing battlefield situations, increasing versatility.

Growth of autonomous weapons worldwide:

United States:

- The US Navy plans to build 150 uncrewed ships and is actively integrating AI into defense management.
- Initiatives like Replicator aim to deploy thousands of unmanned systems across various domains.

China:

- China deploys AI for inventory management, maintenance, logistics, and develops unmanned systems for reconnaissance, surveillance, and combat.

Recommendations for India:

1. **Investment in Core AI Sciences:** India should prioritize significant investments in the core AI sciences, fostering technological capabilities crucial for national defense.
2. **Technological Development:** Develop operational military doctrines and institutions to effectively integrate AI into defense management and the armed forces.
3. **Global Collaboration:** Work with like-minded countries to influence responsible military use of AI and autonomous weapons on a global scale.

In summary, the current global sentiment involves a tension between the call for restrictions on autonomous weapons and the substantial investments major powers are making in AI for defense. India's approach should involve substantial investment in AI sciences, technological development, and collaboration with global partners to ensure responsible and ethical use of AI in its defense strategies.