Monthly Environmental Bulletin

Global Foundation For Advancement of Environment and Human Wellness

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ANNUAL GROUNDWATER QUALITY REPORT 2024

Introduction:

The Ministry of Jal Shakti has released the Annual Groundwater Quality Report for 2024, providing an in-depth assessment of India's groundwater resources. This crucial report highlights trends in groundwater usage, quality, and contamination levels across the country, offering valuable insights for policymakers, researchers, and stakeholders dedicated to sustainable water management.

Why in the News?

The release of this report sheds light on the state of India's groundwater, offering key findings related to its quality, usage, and management. It is crucial for informing policy, guiding water conservation efforts, and developing strategies to address contamination and depletion.

Global Foundation's Take:

The Global Foundation for Advancement of Environment and Human Wellness strongly emphasizes that India's groundwater crisis is a growing concern that requires immediate and coordinated action. With India being the largest user of groundwater globally, the report's findings underscore the importance of responsible and sustainable groundwater management to ensure long-term water security.

The Foundation applauds the positive shift in groundwater recharge, where an additional 15 BCM of water has been recharged in 2024, reflecting progress towards sustainability. However, the report also highlights regions where groundwater extraction has surpassed natural recharge rates, leading to over-exploitation and posing serious risks to water availability in the future.

In regions like Punjab, Rajasthan, Haryana, and Delhi, where groundwater extraction exceeds 100%, urgent interventions are necessary. The Foundation calls for stricter regulation, the introduction of water-efficient technologies, and a holistic approach to manage groundwater in these over-exploited zones.

The chemical composition analysis reveals that while many regions have suitable groundwater for agricultural use, salinity in areas like Rajasthan and Gujarat remains a pressing issue. The Foundation highlights the need for addressing these regional challenges through targeted interventions, such as improved irrigation practices and water desalination efforts to mitigate salinity.

The report's acknowledgment of groundwater contamination from industrial pollution, agricultural runoff, urban waste, and climate change demands immediate attention. The Foundation advocates for stronger regulations on industrial effluents, better waste management practices, and a concerted effort to curb excessive fertilizer and pesticide use. These measures are crucial to ensuring that groundwater remains safe and usable for future generations.

Furthermore, the Foundation supports the government's initiatives, such as the Atal Bhujal Yojana, Jal Shakti Abhiyan, and the National Aquifer Mapping & Management Programme (NAQUIM), but stresses that more needs to be done to bridge the gaps in groundwater governance. The Foundation recommends the establishment of a National Water Commission (NWC), which could integrate various water management bodies and streamline efforts to address both groundwater and surface water issues.

The issue of groundwater pollution, exacerbated by climate change and inefficient policies, calls for an urgent overhaul of existing frameworks. The Foundation advocates for modernizing legal provisions related to groundwater rights, empowering local communities to manage water resources sustainably, and promoting awareness on the importance of groundwater conservation at the grassroots level.

Conclusion:

India's groundwater resources are under increasing pressure due to over-extraction, contamination, and climate change. The Global Foundation for Advancement of Environment and Human Wellness emphasizes that a collaborative approach, involving government bodies, local communities, and industries, is essential to safeguard this invaluable resource. Sustainable water practices, legal reforms, and institutional support will play a critical role in securing India's groundwater resources for future generations.

INDIGENOUS HYDROGEN TRAIN ENGINE

Introduction:

The race towards clean and sustainable transportation has taken a significant leap with the development of India's first indigenous hydrogen-powered train engine. This cutting-edge technology not only reduces greenhouse gas emissions but also positions India as a key player in the global hydrogen economy. The project reflects the nation's growing commitment to reducing its carbon footprint and embracing green energy solutions for a sustainable future.

Why in the News?

India has announced the development of the world's most powerful hydrogen-powered train engine, boasting a remarkable 1,200 horsepower, marking a significant leap in the country's commitment to clean energy transportation.

Global Foundation's Take:

The introduction of hydrogen-powered trains is a monumental step in India's efforts to shift towards more sustainable modes of transportation. With its potential to decarbonize the rail sector, this technology will contribute significantly to India's climate action goals. Unlike conventional diesel-powered engines, hydrogen trains emit only water vapor, making them an ideal solution for reducing pollution in urban and rural areas alike. This aligns with the Global Foundation's vision of a clean, low-carbon future, where sustainable technologies play a pivotal role in mitigating climate change.

However, despite their promise, hydrogen trains present several challenges that need to be addressed for their widespread adoption. One of the primary challenges is the high cost of green hydrogen production. The process of extracting hydrogen through renewable sources requires significant investment in infrastructure and energy capacity. The Global Foundation believes that concerted efforts should be made to scale up green hydrogen production through innovations in electrolysis technology, leveraging renewable energy sources such as solar and wind.

Another challenge is the need for a robust hydrogen refueling infrastructure. Just as the electric vehicle (EV) market has thrived with the development of charging stations, hydrogen-powered trains will require an extensive network of refueling stations along rail corridors. The Foundation advocates for investments in such infrastructure, particularly in regions with the highest potential for hydrogen deployment, such as the North and West of India.

Hydrogen storage also remains a technical hurdle. Efficiently storing hydrogen, especially in large quantities needed for rail transport, requires advanced solutions such as cryogenic tanks or high-pressure compression systems. The Global Foundation encourages research into safer and more efficient storage technologies to ensure the safe deployment of hydrogen fuels in the transport sector.

In terms of environmental impact, while hydrogen trains themselves are zero-emission, the overall sustainability of this technology is contingent on the source of the hydrogen used. If the hydrogen is produced from non-renewable sources, the benefits could be diminished. Therefore, the Global Foundation strongly advocates for the integration of hydrogen production with renewable energy generation to ensure that hydrogen remains a truly green alternative.

Lastly, the global collaboration aspect cannot be overstated. Hydrogen fuel technologies, including fuel cells and storage solutions, are still in the early stages of development. International partnerships, such as those between India and countries with more established hydrogen economies, can foster knowledge exchange and facilitate technological advancements. The Global Foundation supports such collaborations, particularly in areas like hydrogen fuel cell technology, renewable energy integration, and infrastructure development.

In conclusion, while the development of India's indigenous hydrogen-powered train is an exciting milestone, it is essential to continue supporting policy, research, and industry initiatives that address the challenges of hydrogen production, infrastructure, and safety. By doing so, we can make hydrogen-powered transportation a mainstream reality, helping the world achieve its long-term sustainability and climate goals.

THERMAL POWER PLANTS AND SULPHUR DIOXIDE EMISSIONS

Introduction:

India's thermal power plants play a significant role in the country's energy sector but are also a major source of air pollution, especially sulfur dioxide (SO_2) emissions. In an effort to curb this pollution, the **Union Ministry of Environment, Forest, and Climate Change (MoEF&CC)** has set stringent emission norms for SO_2 from thermal power plants. However, these regulations have seen repeated extensions. This latest update extends the deadlines for installing **Flue Gas Desulphurization (FGD) systems**, a technology designed to reduce SO_2 emissions, highlighting the ongoing efforts to clean up the air while balancing energy needs.

Why in the News?

The MoEF&CC has issued the **fourth extension** for thermal power plants to comply with SO_2 emission norms. These norms were initially set in a 2022 notification and required power plants to install FGD systems to reduce sulfur emissions. The deadlines for compliance have now been extended to 2027 for **Category A** plants, 2028 for **Category B** plants, and 2029 for **Category C** plants.

Global Foundation's Take:

The extension of deadlines for SO_2 emission compliance in thermal power plants is a critical issue for India's environmental sustainability. While the move allows power plants more time to implement necessary pollution control technologies, the **Global Foundation for Advancement of Environment and Human Wellness** strongly believes that these extensions should be the last. The health impacts of sulfur dioxide emissions, such as respiratory problems and environmental degradation, are severe and demand urgent action.

The **Global Foundation** applauds the government's efforts to introduce **Flue Gas Desulphurization (FGD) systems**, which play a vital role in cutting down sulfur emissions. However, the Foundation stresses that there should be **no further extensions** for installing these systems. Power plants must be held accountable for timely compliance, as further delays will exacerbate air pollution, especially in densely populated urban areas. The Foundation also calls for increased investment in **fuel cleaning technologies** like coal beneficiation, which can reduce sulfur content in coal before combustion, thus preventing excess SO_2 emissions from the source.

Furthermore, the **Global Foundation** urges the government to accelerate the transition to **clean energy alternatives**, such as solar, wind, and green hydrogen. These technologies offer sustainable solutions to energy production while significantly reducing harmful emissions. The **National Green Hydrogen Mission** is a step in the right direction, but the Foundation encourages more robust implementation of clean energy policies to reduce India's reliance on coal and fossil fuels.

Lastly, the Foundation emphasizes the importance of **collaborative efforts** between government bodies, industries, and environmental organizations. To meet air quality standards and health objectives, a multi-faceted approach that includes regulatory enforcement, technological innovation, and infrastructure development is crucial. The **Global Foundation** supports such initiatives, especially those focused on renewable energy adoption and pollution control, which will ultimately help mitigate climate change and improve public health outcomes in India.

In conclusion, while the FGD systems are an important step forward in reducing emissions, **urgent action** is needed to ensure that deadlines are met and that India's energy sector shifts toward more sustainable and low-carbon solutions.

INTERNATIONAL YEAR OF GLACIERS' PRESERVATION

Introduction:

The United Nations (UN) has declared **2025 as the International Year of Glaciers' Preservation**, marking a pivotal moment in global efforts to raise awareness about the importance of glaciers in the Earth's climate system. Glaciers, which account for around **70% of the world's freshwater**, are critical to the environment, providing vital water resources for millions of people worldwide. Their preservation is essential not only for maintaining biodiversity but also for supporting the economic, social, and environmental stability of regions dependent on glacier-fed water sources. This yearlong campaign, co-facilitated by **UNESCO** and the **World Meteorological Organization (WMO)**, aims to spotlight the urgent need for action to protect these vital ice masses.

Why in the News?

The UN's decision to dedicate 2025 as the **International Year of Glaciers' Preservation** signals a strong commitment to addressing the pressing challenges posed by the accelerated melting of glaciers due to climate change. In addition to this, the UN has also designated **March 21 of each year** as the **World Day for Glaciers**, starting in 2025, to ensure that the importance of glaciers is recognized annually, and continued efforts are made to safeguard them for future generations.

Global Foundation's Take:

The **Global Foundation for Advancement of Environment and Human Wellness** fully supports the UN's declaration of 2025 as the International Year of Glaciers' Preservation and the establishment of **World Day for Glaciers**. This global recognition is crucial in shining a spotlight on the environmental, economic, and social impacts of glacier loss, particularly for vulnerable communities that depend on glacier-fed water sources for agriculture, drinking water, and hydropower.

Glaciers are integral components of the Earth's cryosphere, serving as natural reservoirs that regulate the flow of water in many regions. Their rapid disappearance due to climate change poses a direct threat to water security and biodiversity. The **Global Foundation** urges the international community to take immediate and bold steps toward **mitigating climate change** and **preserving glaciers**. Key strategies include reducing carbon emissions, investing in renewable energy, and supporting **research on glacier dynamics** to better understand the ongoing transformations within our climate systems.

Furthermore, the Foundation emphasizes the need for **local and global collaboration** to ensure that countries, especially those in **mountainous regions** and vulnerable areas, are equipped with the knowledge and tools necessary to adapt to the changes caused by glacier loss. Policy efforts must be strengthened to protect these regions, integrating **sustainable water management** practices and boosting **resilience** in communities reliant on glaciers.

In conclusion, the **Global Foundation** believes that the preservation of glaciers is not only an environmental issue but also a human rights issue, as it directly affects the livelihoods of millions of people around the world. The UN's initiative is a timely and necessary step, and the **Global Foundation** calls on all nations to prioritize **glacier conservation** as part of the global fight against climate change.

YALA GLACIER IN HIMALAYAS PROJECTED TO VANISH BY 2040s

Introduction:

The Yala Glacier, located in Nepal, has become a stark symbol of the accelerating impact of climate change on the Himalayas. Between 1974 and 2021, the glacier retreated by 680 meters, leading to a significant **36% reduction in its area**. This dramatic change highlights the vulnerability of Himalayan glaciers to global warming, with the Yala Glacier being the **only glacier** in the entire Himalayan region included in the **Global Glacier Casualty List (GGCL)**. This list underscores the rapid decline of glaciers due to the intensifying effects of climate change, particularly in high-altitude regions like the Himalayas. The glacier's retreat is not just an environmental issue but also a humanitarian one, as it affects millions of people who rely on the cryosphere for water and livelihoods.

Why in the News?

The Yala Glacier's alarming retreat has brought the issue of **glacier loss** in the Himalayas to the forefront, highlighting the fragile nature of these glaciers and their significant role in providing freshwater to communities across the region. Additionally, the **Global Glacier Casualty List (GGCL)**, launched in 2024 by Rice University, the University of Iceland, the Iceland Glaciological Society, the World Glacier Monitoring Service, and UNESCO, has included Yala as a key example of how the cryosphere is shrinking. The GGCL aims to monitor and document the global decline of glaciers, emphasizing the urgent need for climate action.

Global Foundation's Take:

The **Global Foundation for Advancement of Environment and Human Wellness** is deeply concerned by the retreat of the Yala Glacier and other glaciers in the Himalayas, as they are vital sources of freshwater for millions of people in the region. The **Hindu Kush Himalaya**, home to some of the world's largest glaciers, provides water to over **240 million people**, and the retreat of glaciers like Yala threatens the very survival of these communities.

As glaciers continue to shrink, the **Global Foundation** calls for immediate, comprehensive action to address the broader **climate crisis**, which is directly contributing to glacier loss. It is imperative that we prioritize reducing **greenhouse gas emissions** and accelerating efforts toward **sustainable water management** to ensure that affected regions are resilient to the impacts of glacier retreat.

The Foundation also highlights the growing risk of **Glacial Lake Outburst Floods (GLOFs)** due to the formation of unstable glacial lakes, which can result in catastrophic flooding and threaten the lives of those living downstream. There is an urgent need for **disaster preparedness and response systems** to mitigate the risks associated with these floods. Additionally, the **climate feedback loop** caused by melting glaciers, which reduces Earth's **reflectivity** and accelerates global warming, needs immediate attention through global **climate action policies**.

The **Global Foundation** advocates for strengthened international collaborations, including partnerships between countries in the Himalayan region, to implement **glacier monitoring systems**, share data, and develop **adaptive solutions** for communities that rely on these glaciers. It is essential to protect the cryosphere as a key component of the Earth's climate system to ensure the survival of millions of people who depend on it.

In conclusion, the **Yala Glacier's** retreat serves as a **wake-up call** for the world, underlining the urgency to act on climate change and protect the cryosphere. The **Global Foundation** urges policymakers, scientists, and communities to work together to safeguard glaciers and their ecosystems, ensuring water security for future generations.

India Submits Its Fourth Biennial Update Report (BUR-4) to UNFCCC

Introduction:
India has submitted its Fourth Biennial Update Report (BUR-4) to the United Nations Framework Convention on Climate Change (UNFCCC), updating the country's climate actions and progress since the Third National Communication (TNC). This report, a crucial step in India's commitment to international climate agreements, highlights the nation's continued efforts in reducing greenhouse gas emissions and fostering a low-carbon future.

Why in the News?
The BUR-4 provides detailed insights into India's greenhouse gas inventory for 2020, showcasing the progress made in the fight against climate change. The report outlines key achievements in emission reductions, renewable energy development, and carbon sequestration, reinforcing India's role in global climate action.

Global Foundation's Take:
The submission of India's BUR-4 is a significant step forward in the country's climate change mitigation journey. With a decrease of 7.93% in GHG emissions in 2020 compared to 2019, India is demonstrating its commitment to reducing its carbon footprint despite the challenges posed by a growing population and industrial expansion.

One of the standout features of the report is India's focus on renewable energy, with non-fossil sources contributing 46.52% to the installed electricity generation capacity as of October 2024. The Global Foundation strongly supports this move and encourages India to accelerate the transition to clean energy. The Foundation recognizes that scaling up renewable energy infrastructure, particularly solar and wind power, will be critical in achieving India's long-term climate goals.

Another key highlight is the creation of an additional 2.29 billion tonnes of CO_2 equivalent carbon sink through forest and tree cover. This aligns with the Global Foundation's belief in the importance of natural solutions for mitigating climate change. Forests not only act as carbon sinks but also support biodiversity and enhance the resilience of local communities to climate impacts. The Foundation encourages further investments in afforestation and reforestation projects, which will help strengthen India's capacity to absorb carbon emissions and combat desertification.

The reduction in emission intensity of GDP by 36% between 2005 and 2020 is another positive trend. However, the Global Foundation stresses the need for continued efforts to decouple economic growth from emissions, particularly in energy-intensive sectors like transportation and manufacturing. It is vital for India to adopt and scale up low-carbon technologies and ensure that green growth is both inclusive and sustainable.

In terms of policy, the Global Foundation calls for the continued enhancement of India's climate governance mechanisms, including strengthening the monitoring and implementation of its climate action plans. International cooperation will also be key, and the Foundation encourages India to further engage with global partners to foster knowledge exchange and accelerate climate technology transfer.

In conclusion, while India has made substantial progress in reducing emissions and increasing its carbon sinks, the Global Foundation urges the country to maintain its momentum and strive for more ambitious climate goals. This will ensure that India can contribute effectively to global climate stability while improving the quality of life for its people.

MoEF&CC Notified Environment Relief Fund (Amendment) Scheme, 2024

Introduction:
The Ministry of Environment, Forest and Climate Change (MoEF&CC) has issued a notification amending the Environment Relief Fund (ERF) Scheme, 2008, under Section 7A of the Public Liability Insurance Act (PLIA), 1991. The ERF is a critical mechanism for providing immediate relief to victims of accidents involving hazardous substances, ensuring timely financial support for affected communities.

Why in the News?
The recent amendment aims to streamline the administration, management, and disbursement of the ERF, enhancing its effectiveness in addressing industrial accidents and environmental damage.

Global Foundation's Take:
The Global Foundation for Advancement of Environment and Human Wellness welcomes the amendment as a significant step towards improving India's response to environmental emergencies. By appointing the Central Pollution Control Board (CPCB) as the new fund manager, the government has ensured that ERF management is aligned with specialized expertise in pollution control and environmental protection. This move is expected to improve transparency, accountability, and the efficient use of funds for both immediate relief and long-term restoration.

However, the Foundation also emphasizes the need for strict monitoring mechanisms to ensure the effective utilization of ERF funds. It advocates for greater stakeholder participation, including local communities and civil society organizations, to strengthen the impact of relief efforts. Additionally, the Foundation calls for regular capacity-building programs for district administrators and local authorities, who are critical in managing disaster responses.

The Global Foundation supports the government's decision to invest ERF funds in public financial institutions and savings accounts, which will help maintain the financial sustainability of the fund while ensuring timely availability for disaster response. However, the Foundation urges the government to explore innovative funding models that prioritize green investments and contribute to long-term environmental resilience.

In conclusion, while the ERF amendment is a positive step, the Foundation highlights the importance of continuous improvement in fund management, disaster preparedness, and stakeholder collaboration to build a safer and more resilient environment.

Chhattisgarh Becomes First State to Adopt Green GDP

Introduction:
Chhattisgarh has taken a pioneering step by becoming the first Indian state to adopt Green GDP, linking the economic value of its natural resources and ecosystem services to its overall economic progress. This innovative approach aims to recognize the critical role that forests and natural ecosystems play in supporting both the economy and the environment, reflecting a more comprehensive measure of sustainable growth.

Why in the News?
With forests covering 44% of its total land area, Chhattisgarh's ecosystems provide essential services such as clean air, water conservation, carbon sequestration, and biodiversity preservation. The state's forest resources, including tendu leaves, lac, honey, and medicinal plants, significantly contribute to the rural economy, supporting thousands of livelihoods. This initiative positions Chhattisgarh as a leader in integrating environmental health into mainstream economic planning, setting a benchmark for other states to follow.

Global Foundation's Take:
The Global Foundation for Advancement of Environment and Human Wellness commends Chhattisgarh's forward-looking decision to embrace Green GDP, viewing it as a crucial step towards achieving genuine sustainable development. This approach aligns closely with the Foundation's mission to promote economic models that respect ecological limits and prioritize long-term human and environmental wellbeing.

The Foundation believes that adopting Green GDP will help redefine progress by incorporating the value of natural resources and ecosystem services, moving beyond the conventional GDP model that often overlooks environmental degradation and resource depletion. It emphasizes that economic growth should not come at the cost of natural capital, as this leads to long-term ecological and economic instability.

However, the Foundation also stresses the importance of robust data collection and accurate valuation of ecosystem services to ensure the effectiveness of Green GDP calculations. It advocates for the use of advanced technologies, such as remote sensing and AI, to monitor and assess the health of forests and other natural resources.

Furthermore, the Foundation encourages Chhattisgarh to share its experiences and best practices with other states and countries, fostering a global movement towards greener, more inclusive economic models. It also calls for stronger policy support, capacity building, and financial mechanisms to make Green GDP a standard practice across India.

In conclusion, the Global Foundation views Chhattisgarh's adoption of Green GDP as a significant milestone in the journey towards a more sustainable and resilient economic future, where the health of the planet is a central measure of human prosperity.

Net-Zero Banking Alliance (NZBA)

Introduction:
The Net-Zero Banking Alliance (NZBA) is a global coalition of leading banks committed to aligning their lending, investment, and capital market activities with the goal of achieving net-zero greenhouse gas emissions by 2050. This alliance is part of the broader UN-convened initiatives to promote sustainable finance and support the transition to a low-carbon economy.

Why in the News?
Recently, several major Wall Street banks, including Goldman Sachs Group Inc., have announced their exit from the NZBA, raising concerns about the future of global climate finance commitments. This move has sparked debates about the challenges and complexities involved in aligning the financial sector with long-term climate goals.

Global Foundation's Take:
The Global Foundation for Advancement of Environment and Human Wellness views the exit of major financial institutions from the NZBA as a critical moment for the global climate finance movement. While the decision reflects the pressures and uncertainties faced by financial institutions in balancing profitability with climate commitments, it also underscores the need for stronger regulatory frameworks and clearer climate action roadmaps.

The Foundation believes that financial institutions play a crucial role in the global transition to a low-carbon economy. By directing capital towards green and sustainable projects, banks can drive innovation, reduce carbon footprints, and support the development of clean energy technologies. However, the Foundation acknowledges that the current financial system often prioritizes short-term returns over long-term environmental stability, creating challenges for meaningful climate action.

To address these issues, the Foundation advocates for:

- **Stronger Policy Support:** Clear, enforceable regulations that incentivize green investments and penalize high-carbon activities.
- **Transparency and Accountability:** Robust reporting mechanisms to ensure banks remain accountable for their climate commitments.
- **Capacity Building:** Enhanced support for banks to develop innovative financial products that align with sustainability goals.
- **Collaboration and Knowledge Sharing:** Partnerships between financial institutions, governments, and civil society to share best practices and overcome barriers to green financing.

In conclusion, the Foundation believes that the financial sector must remain committed to the principles of sustainability and climate resilience, as their actions will significantly influence the world's ability to meet the Paris Agreement targets and avert the worst impacts of climate change.

IPBES Releases Transformative Change Report

Introduction:

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) has released its highly anticipated Transformative Change Report, also known as the Assessment Report on the Underlying Causes of Biodiversity Loss and the Determinants of Transformative Change and Options for Achieving the 2050 Vision for Biodiversity. This report seeks to address the deep-rooted challenges driving biodiversity loss and outlines critical strategies for achieving a more sustainable, nature-positive future.

Why in the News?

The report highlights the urgent need for fundamental, system-wide changes in the way societies interact with nature to address the ongoing biodiversity crisis. It emphasizes the importance of integrating diverse knowledge systems, promoting equity, and recognizing the interconnectedness of human and natural systems. The report also identifies key strategies to halt and reverse biodiversity loss, including transforming economic systems, improving governance, and fostering a shift in societal values.

Global Foundation's Take:

The Global Foundation for Advancement of Environment and Human Wellness welcomes the IPBES report as a vital step towards achieving a balanced relationship between human development and nature conservation. The Foundation emphasizes that addressing biodiversity loss requires not just incremental changes, but a fundamental rethinking of how societies value and interact with nature. It supports the report's call for systemic changes, including integrating Indigenous knowledge, enhancing community-led conservation, and promoting sustainable economic models.

The Foundation also highlights the importance of equity and justice in transformative change, recognizing that marginalized communities often bear the brunt of environmental degradation. It calls for inclusive policies that empower these communities to actively participate in conservation efforts. Additionally, the Foundation underscores the need for adaptive governance systems that can respond to evolving environmental challenges and promote long-term sustainability.

In line with the report's recommendations, the Foundation is committed to supporting innovative conservation initiatives, promoting education on human-nature interconnectedness, and fostering international collaboration to protect the planet's biodiversity for future generations.

First-Ever Global Freshwater Fauna Assessment by IUCN

Introduction:

The International Union for Conservation of Nature (IUCN) has released its first-ever multi-taxon global freshwater fauna assessment as part of The IUCN Red List of Threatened Species. This comprehensive assessment aims to provide a clearer picture of the conservation status of freshwater species worldwide, highlighting the critical need to protect these vital ecosystems.

Why in the News?

According to the assessment, 24% of the world's freshwater species are at risk of extinction, underlining the urgent need for conservation efforts. Key hotspots include Lake Victoria (Kenya, Tanzania, and Uganda), Lake Titicaca (Bolivia and Peru), Sri Lanka's Wet Zone, and the Western Ghats in India. Notably, crabs, crayfishes, and shrimps are at the highest risk, followed by freshwater fishes. The report also highlights that at least 4,294 out of 23,496 assessed freshwater species are at high risk of extinction, emphasizing the severe pressures these ecosystems face.

Global Foundation's Take:

The Global Foundation for Advancement of Environment and Human Wellness views this assessment as a critical wake-up call for governments, conservationists, and the public. Freshwater ecosystems, which support 10% of all known species on Earth, are essential for providing safe drinking water, livelihoods, flood control, and climate change mitigation. However, they face a range of threats, including pollution from agriculture and forestry, habitat degradation due to land conversion and dam construction, overfishing, and the spread of invasive species.

The Foundation emphasizes the need for integrated river basin management, stricter pollution controls, and sustainable water management practices to protect these critical ecosystems. It also advocates for the restoration of degraded habitats and the preservation of ecological corridors that connect freshwater landscapes.

Additionally, the Foundation supports international cooperation to protect transboundary freshwater systems like Lake Victoria and the Amazon Basin, recognizing that effective conservation requires collaboration across borders. It calls for immediate action to prevent further biodiversity loss and to secure the future of freshwater species for generations to come.

Sustainable Nitrogen Management

Food and Agriculture Organization (FAO) Report on Sustainable Nitrogen Management in Agrifood Systems

Introduction

The **Food and Agriculture Organization (FAO)** has released a crucial report on the role of nitrogen in agrifood systems, focusing on sustainable management practices to mitigate nitrogen-related environmental issues. Nitrogen is essential for global food production, but its excess in agricultural practices is having devastating consequences on air, water, and soil quality. The report calls for action in addressing nitrogen pollution through innovative and efficient agricultural strategies.

Why It's in the News

The FAO's report is in the spotlight because of the critical role nitrogen plays in environmental degradation. Current human activity adds **150 teragrams (Tg)** of reactive nitrogen to the Earth's surface annually. By 2100, this could escalate to **600 Tg**, largely due to agriculture and industrial activities exacerbated by climate change. The environmental impact is severe: from **air pollution** (ammonia and nitrogen oxides) to **global warming** (nitrous oxide emissions) and **eutrophication** of water bodies due to nitrate leaching. These alarming findings have raised calls for a shift toward sustainable nitrogen management (SNM) to minimize its harmful effects.

Global Foundation's Take

The **Global Foundation for Advancement of Environment and Human Wellness** strongly aligns with the FAO's recommendations, acknowledging the dual challenge posed by nitrogen: it is both an enabler of agricultural productivity and a significant contributor to environmental harm. The Foundation asserts that **Sustainable Nitrogen Management (SNM)** is paramount for the well-being of both people and the planet.

The Foundation sees **SNM** as a comprehensive approach that needs to be adopted at both the global and local levels. It emphasizes the importance of **increasing Nitrogen Use Efficiency (NUE)** through improved fertilization strategies, which reduce nitrogen waste while ensuring adequate crop yields. As part of the Foundation's advocacy, it calls for systemic changes such as:

1. **Encouraging Integrative Agricultural Practices**: The Foundation advocates for the integration of **livestock and crop systems**, which can reduce nitrogen excretion through manure and promote nitrogen recycling. By improving system efficiency, the Foundation believes that farmers can achieve higher productivity with minimal nitrogen inputs.
2. **Biological Nitrogen Fixation (BNF)**: Promoting the use of leguminous crops like **soybeans, alfalfa,** and others in crop rotations, which naturally fix nitrogen into the soil, is a key strategy supported by the Foundation. This not only improves soil health but also reduces reliance on synthetic fertilizers.
3. **National Commitments to Nitrogen Reduction**: The Foundation stresses the need for nations to set **binding targets** to reduce nitrogen pollution. Policy frameworks that incentivize **low-emission technologies**, sustainable agricultural practices, and **research into alternative fertilizers** are necessary to achieve these goals.
4. **Public Awareness and Capacity Building**: The Foundation also emphasizes that **education and awareness** campaigns are essential to help farmers, policy-makers, and consumers understand the long-term benefits of sustainable nitrogen management. This can lead to a more informed and responsible approach to agricultural practices globally.
5. **Collaboration and Knowledge Exchange**: Recognizing the global nature of nitrogen pollution, the Foundation advocates for international cooperation between governments, research institutions, industries, and civil society. **Knowledge-sharing platforms**, joint research initiatives, and cross-border policy frameworks can ensure that **sustainable nitrogen management** becomes a collective priority.

The **Global Foundation for Advancement of Environment and Human Wellness** believes that **SNM** is not only crucial for environmental protection but also for enhancing food security and ensuring the resilience of agrifood systems in the face of climate change. By addressing nitrogen's role in pollution and supporting sustainable agricultural practices, the Foundation aims to contribute to a healthier, more sustainable planet for future generations.

Global Water Monitor 2024 Report

Introduction:
The **Global Water Monitor Consortium** has released the **'Global Water Monitor 2024 Summary Report'**, which provides an overview of the current state of the global water cycle. The report identifies key trends, significant hydrological events, and the growing challenges posed by climate change on water resources worldwide.

Why It's in the News:
This report is making headlines due to its concerning findings on the state of the water cycle and the increasing severity of water-related disasters. It highlights the major disruptions caused by climate change and underscores the importance of adapting water management strategies to cope with the growing challenges. The decline in lake and reservoir storage for the fifth consecutive year is also a critical focus, pointing to the need for global action.

Global Foundation's Take:
The **Global Foundation for Advancement of Environment and Human Wellness** underscores the urgency of addressing the report's findings. It advocates for **integrated water management** strategies that focus on both **climate resilience** and **sustainability**. The foundation emphasizes the importance of investing in **climate adaptation** strategies, including **sustainable agricultural practices**, **enhanced water conservation**, and **building resilient water infrastructure** to mitigate risks associated with extreme hydrological events.

Additionally, the Foundation calls for global collaboration to tackle issues related to **water scarcity** and **flooding**, with a focus on **ensuring equitable access** to water, particularly in **vulnerable regions**. They stress the need for **policy reforms** and innovative solutions to improve water availability and management.

WEF Global Plastic Action Partnership (GPAP)

Introduction:
The Global Plastic Action Partnership (GPAP) was launched during the World Economic Forum's (WEF) Sustainable Development Impact Summit in 2018. The initiative aims to accelerate the global response to the plastic pollution crisis, advancing a circular economy approach to manage plastic waste and reduce environmental impact. It brings together governments, businesses, and civil society to create solutions and drive investment in waste management.

Why in News:
New countries, including Angola, Bangladesh, Gabon, Guatemala, Kenya, Senegal, and Tanzania, have joined the Global Plastic Action Partnership (GPAP), expanding its reach and strengthening efforts to tackle plastic pollution globally. This move reflects growing international cooperation to address the pressing issue of plastic waste and its harmful impact on the environment, health, and economies.

Global Foundation's Take:
The Global Plastic Action Partnership's work is crucial in combating the global plastic pollution crisis. With countries like India becoming major plastic emitters, the partnership's role in assisting nations to develop National Action Roadmaps and mobilize investments for waste management is vital. The foundation's involvement supports the creation of a more sustainable circular plastics economy that not only tackles plastic waste but also works to reduce emissions and protect ecosystems. It helps foster collaboration across sectors and countries, ensuring that solutions to plastic pollution are scalable, impactful, and inclusive.

Global Energy Alliance for People and Planet (GEAPP)

Introduction:

The Global Energy Alliance for People and Planet (GEAPP) is a public-private initiative committed to accelerating the clean energy transition in developing countries. GEAPP aims to provide energy access to 1 billion people, create 150 million green jobs, and avoid 4 billion tons of emissions. The alliance focuses on providing distributed renewable energy solutions, alleviating energy poverty, and fostering sustainable development.

Why in News:

GEAPP and the International Solar Alliance (ISA) have signed an agreement to establish a $100 million fund. This fund is aimed at supporting high-impact solar energy projects in developing countries. Additionally, GEAPP has launched two new initiatives: Digitalization of Utilities for Energy Transition (DUET) and the Energy Transitions Innovation Challenge (ENTICE 2.0), both designed to foster innovation and accelerate energy transitions globally.

Global Foundation's Take:

The establishment of a $100 million fund is a significant step towards promoting solar energy, which is vital for sustainable energy access, especially in regions struggling with energy poverty. By focusing on high-impact projects, GEAPP not only supports clean energy initiatives but also contributes to the creation of green jobs, which are essential for economic growth in developing countries. The alliance's focus on digitalization and innovation through initiatives like DUET and ENTICE 2.0 will help bring about transformative changes in energy systems and contribute to a low-carbon future. These efforts align with global sustainability goals and contribute to a more equitable and energy-secure world.

End-of-Life Vehicles Rules, 2025

Introduction:

The Ministry of Environment, Forest & Climate Change (MoEFCC) has notified the Environment Protection (End-of-Life Vehicles) Rules, 2025, under the Environmental Protection Act, 1986. These rules, set to come into force on April 1st, 2025, aim to manage and regulate the disposal and recycling of End-of-Life Vehicles (EoLV), ensuring a sustainable and environmentally responsible approach to vehicle scrapping.

Why in News:

The government has introduced these new rules to manage the growing number of vehicles reaching the end of their lifecycle in India. These regulations are part of a broader effort to improve waste management and promote the recycling of vehicle materials, reducing pollution and resource wastage. The rules emphasize Extended Producer Responsibility (EPR), making producers accountable for the recycling and disposal of vehicles once they reach the end of their usable life.

Global Foundation's Take:

The notification of the End-of-Life Vehicles Rules, 2025, marks a significant step in promoting environmental sustainability in the automotive sector. By ensuring that producers are responsible for the disposal of their vehicles, these rules support the circular economy and reduce the environmental impact of waste vehicles. The establishment of the Implementation Committee and the provision of EPR certificates will help streamline the process, making it more transparent and efficient. These rules also encourage the establishment of infrastructure for vehicle scrapping, including automated testing stations and Registered Vehicle Scrapping Facilities (RVSFs), further contributing to sustainable waste management. The initiative aligns with global sustainability goals and reflects India's commitment to addressing the environmental impact of vehicle emissions and waste disposal.