



3rd Edition of the World Solar Report Series

[Source: PIB](#)

Why in News?

Recently, at the **7th Assembly of the [International Solar Alliance \(ISA\)](#)**, the 3rd edition of the **World Solar Report Series** was released. This year's **series comprises four key reports**: the World Solar Market Report, the World Investment Report, the World Technology Report, and the Green Hydrogen Readiness Assessment for African Countries.

- Each report highlights **advancements and challenges** in the [solar energy sector](#), underlining the growing role of [renewable energy](#) in addressing global [climate targets](#).

Note:

- The World Solar Report series, **launched by the ISA in 2022**, offers a concise overview of global solar technology advancements, key challenges, and investment trends, providing valuable insights into the industry's growth.

What are the Key Highlights of the World Solar Report Series?

- **World Solar Market Report:** Global solar capacity has grown exponentially from just 1.22 GW in 2000 to an impressive **1,418.97 GW in 2023**, reflecting a remarkable 40% annual growth rate.
 - Global solar capacity is projected to reach 5,457-7,203 GW by 2030, driven by [Paris Agreement goals](#), requiring a massive infrastructure push to meet climate targets.
 - The clean energy industry **now supports 16.2 million jobs**, with solar accounting for 7.1 million.
 - Global solar manufacturing is set to exceed 1,100 GW by 2024, double the demand, making solar more affordable.
- **World Investment Report:** Global energy investments to rise from USD 2.4 trillion in 2018 to USD 3.1 trillion by 2024, with **clean energy investments nearly doubling that of fossil fuels**.
 - Solar investments accounted for 59% of total Renewable Energy investments, driven by lower panel costs. [Asia-Pacific \(APAC\)](#) leads in solar investments followed by **Europe, the Middle East and Africa (EMEA)**.
- **World Technology Report: Monocrystalline solar PV modules** (solar panel) have achieved 24.9% efficiency, while **multijunction perovskite cells** (a type of solar cell) promise higher efficiency and lower costs, potentially outpacing traditional silicon panels.
 - Solar manufacturing has **reduced silicon usage by 88% in 2023** and a 90% drop in utility-scale solar PV costs, highlighting improvements in material efficiency and potential cost and environmental benefits.
- **Green Hydrogen Readiness Assessment for African Countries:** The report identifies **Egypt, Morocco, Namibia, and South Africa** as potential leaders for developing a [green hydrogen](#) economy due to their renewable energy resources.
 - The report highlights the Green hydrogen, produced using renewable energy, is key for

industries dependent on fossil fuels, such as steel and fertilisers.

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NATIONAL GREEN HYDROGEN MISSION

NODAL MINISTRY

- ▶ Ministry of New and Renewable Energy

OBJECTIVE

- ▶ Decarbonise energy/industrial/mobility sector
- ▶ Develop indigenous manufacturing capacities
- ▶ Create export opportunities for GH₂ and its derivative

COMPONENTS OF NGHM

- ▶ Strategic Interventions for Green Hydrogen Transition Programme (SIGHT)
- ▶ Strategic Hydrogen Innovation Partnership (SHIP) (PPP for R&D)

Expected Outcomes by 2030

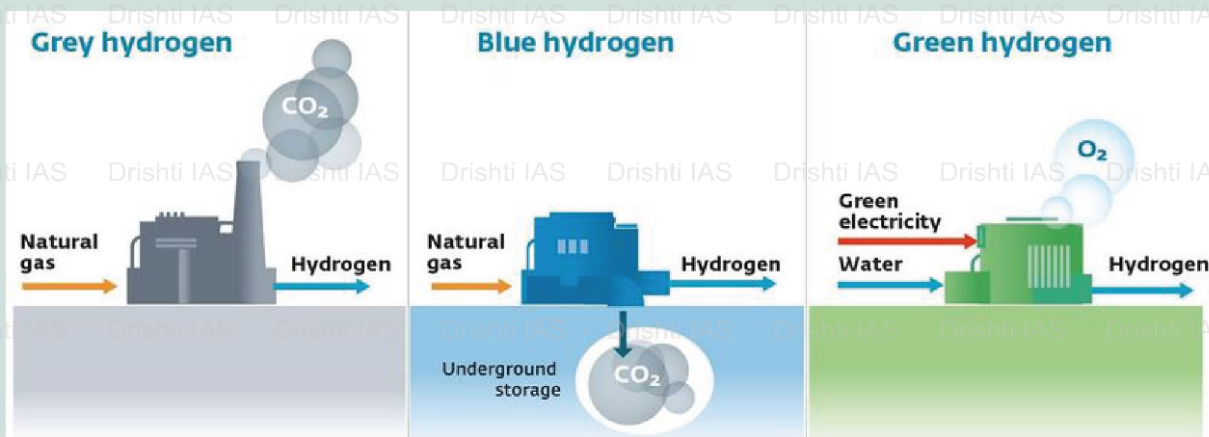
- ◆ Atleast 5MMT GH₂ annual production
- ◆ Rs 1 lakh crore fossil fuel import savings
- ◆ 6 lakh jobs
- ◆ 50MMT CO₂ annual emissions averted
- ◆ ₹ 8 lakh crore investment

GH₂ is not commercially viable at present; current cost in India is around ₹350-400/kg.
The National Hydrogen Energy Mission aims to bring it down under ₹100/kg.

HYDROGEN AND GREEN HYDROGEN

Hydrogen is the most common element in nature but exists only in combination with other elements. It has to be extracted from naturally occurring compounds (like water).

Green Hydrogen (GH₂) is made by splitting water through an electrical process called electrolysis, using an electrolyser powered by renewable energy (RE).



International Solar Alliance (ISA)

- The ISA is an **international organisation** with 120 Member and Signatory countries. It works with governments to improve energy access and security worldwide and promote solar power as a sustainable transition to a carbon-neutral future.
- ISA's mission is to unlock **USD 1 trillion of investments in solar by 2030** while reducing the cost of the technology and its financing.
- ISA was formed at the **21st Conference of Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC)** held in Paris in 2015 and partners with **multilateral development banks (MDBs)**, development financial institutions (DFIs), public and private sectors, to deploy cost-effective solar energy solutions, especially in **least Developed Countries (LDCs) and the Small Island Developing States (SIDS)**.
 - ISA became the **first international intergovernmental organization to be headquartered in India.**
- ISA drives solar adoption through policies, investments, and new business models, providing clean energy and fostering sustainable growth.

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. Consider the following statements: (2016)

1. The International Solar Alliance was launched at the United Nations Climate Change Conference in 2015.
2. The Alliance includes all the member countries of the United Nations.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans: (a)

PM-Vidyalaxmi Scheme

Source: PIB

The Union Cabinet has approved the **Pradhan Mantri Vidyalaxmi scheme**, designed to provide financial assistance to meritorious students for **higher education**.

- **Objective:** It aligns with the **National Education Policy (NEP) 2020** and aims to provide **collateral-free, guarantor-free loans** to students.
- **Eligibility Criteria:** Students enrolled in institutions ranked within the **top 100 by the National Institutional Ranking Framework (NIRF)**, and those in the 101-200 range from state government and all central government governed institutions.
- **Beneficiaries:** It can benefit over 22 lakh students, with the list updated annually based on the

latest NIRF rankings.

- **Procedure:** The Department of Higher Education will launch the "**PM-Vidyalaxmi**" portal for students to apply for education loans and interest subvention, with payments made via **E-voucher** and **Central Bank Digital Currency (CBDC) wallets**.
- **Supplementing Existing Schemes:** The scheme supplements the two components, **Credit Guarantee Fund for Education Loans (CGFSEL)** and **Central Sector Interest Subsidy (CSIS)**, under the existing **PM-Uchchatar Shiksha Protsahan (PM-USP) scheme**.
- PM-USP CSIS offers full interest subvention for loans up to Rs 10 lakh to students with family income up to Rs 4.5 lakh, pursuing technical courses.


Cabinet Decisions
6th Nov 2024



PM-Vidyalaxmi
Collateral-free, Guarantor-free Education Loans
Maximising access to quality Higher Education for **Yuva Shakti!**

- 1/2
- Total outlay ₹ 3600 Crore
- Financial assistance to meritorious students securing admission in top 860 HEIs of India
- Benefitting 22 Lakh+ new students every year

Cabinet Decisions
6th Nov 2024



PM-Vidyalaxmi
Collateral-free, Guarantor-free Education Loans
Maximising access to quality Higher Education for **Yuva Shakti!**

- 2/2
- Students having annual family income of upto **₹8 lakh** shall be eligible to get **3%** interest subvention on loans upto **₹10 lakh**.
- Loans upto **₹7.5 lakhs** shall be eligible for **75%** credit guarantee.
- Education loans will be facilitated through a **transparent, student-friendly and digital application process** common to all banks.
- PM Vidyalaxmi is another concrete step towards implementation of NEP.

Read more: [Revamping India's Higher Education System](#)

PM Vishwakarma Yojana

[Source: BS](#)

Why in News?

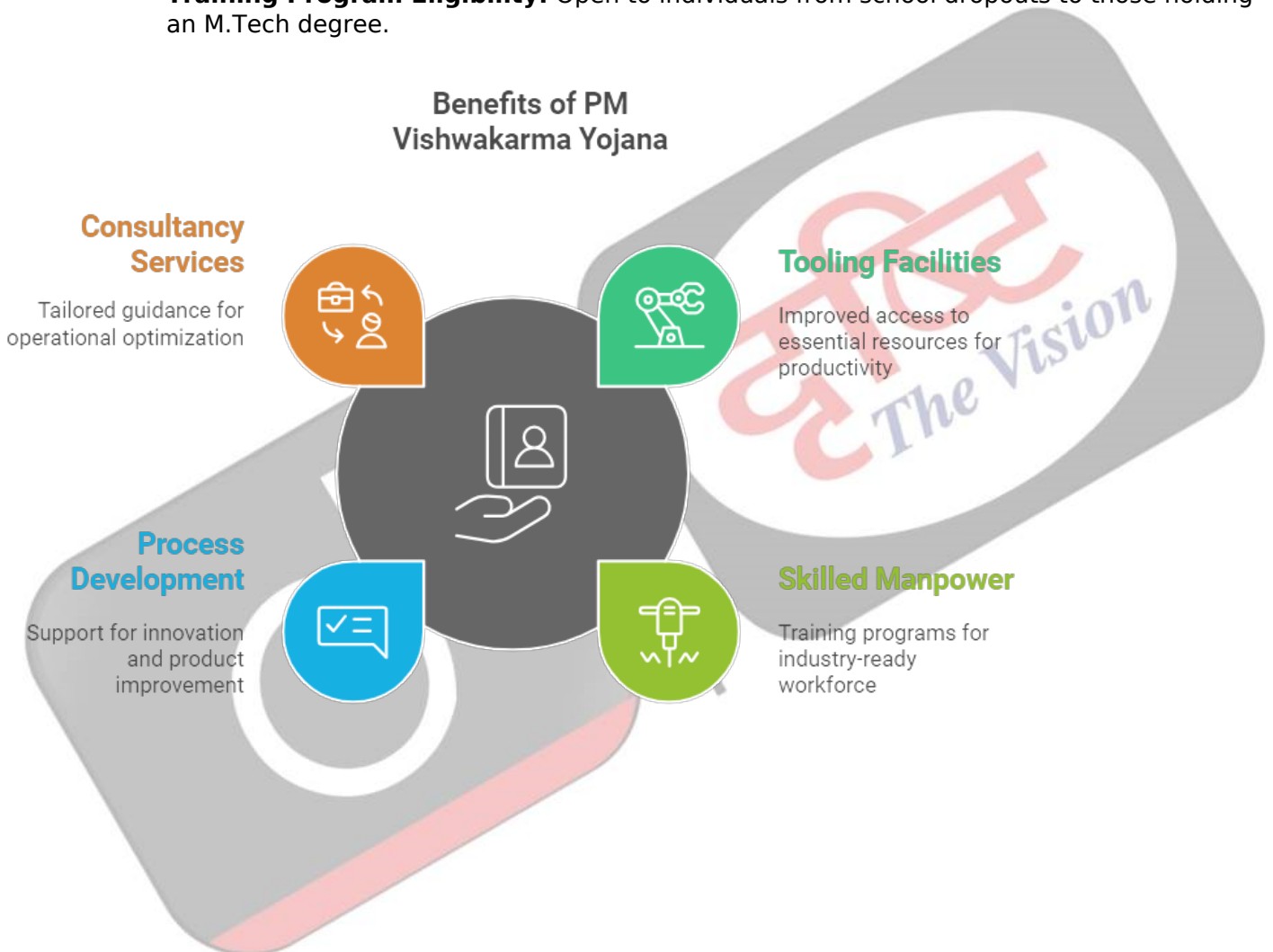
Since the launch of the [PM Vishwakarma Yojana](#) in 2023, it has made significant strides in supporting traditional craftspeople and artisans across the country. - a substantial number of applications, with a large portion successfully completing the multi-step registration process.

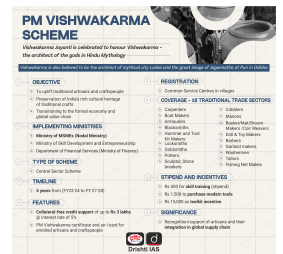
- Additionally, many registered beneficiaries have availed toolkit incentives to purchase modern tools suitable for their occupation.

What is the PM Vishwakarma Yojana?

- **Objective:** Uplift traditional artisans and craftspeople by enhancing the quality and market accessibility of their products and integrate them in both domestic and global value chains.
- **Features:**
 - Budgetary allocation for scheme - Rs 13,000 crore for 5 financial years (2023-24 to 2027-28).
 - Provides recognition to beneficiaries through a PM Vishwakarma Certificate and an ID Card.

- Stipend of Rs 500 for skill training per day and Rs 15,000 grant for the purchase of modern tools.
- **Category:** Central Sector Scheme
- **Nodal Ministry:** [Ministry of Micro, Small and Medium Enterprises \(MoMSME\)](#)
- **Lending Institutions:**
 - **Scheduled Commercial Banks**
 - [Regional Rural Banks](#)
 - [Small Finance Banks](#)
 - [Cooperative Banks](#)
 - [NBFCs and Micro Finance Institutions](#)
- **Lending Mechanism:**
 - Beneficiaries are eligible for collateral-free credit support of up to **Rs 1 lakh (first tranche) and Rs 2 lakh (second tranche) at a low interest rate.**
- **Eligibility Beneficiaries:**
 - **Industrial Units:** Targeted specifically for the MSME sector.
 - **Training Program Eligibility:** Open to individuals from school dropouts to those holding an M.Tech degree.





Other Government Initiatives for Artisans

- [Ambedkar Hastshilp Vikas Yojana](#)
- **Mega Cluster Scheme**
- [National Handicraft Development Programme](#)
- **Comprehensive Handicrafts Cluster Development Scheme**
- [Export Promotion Council for Handicrafts](#)
- [One District One Product](#)
- [Atmanirbhar Hastshilpkar Scheme](#)

UPSC Civil Services Examination, Previous Year Question:(PYQ)

Prelims:

Q1. Consider the following statements with reference to India : (2023)

1. According to the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006, the 'medium enterprises' are those with investments in plant and machinery between `15 crore and `25 crore.
2. All bank loans to the Micro, Small and Medium Enterprises qualify under the priority sector.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans: (b)

LMV Licence for Transport Vehicles

Source: TH

Recently, the [Supreme Court](#) ruled that a person holding a **driving licence** for a **light motor vehicle (LMV)** is also entitled to drive a **transport vehicle** with an unladen **weight upto 7,500 kg**.

- The **SC upheld its 2017** verdict, which also permitted **LMV licence** holders to drive transport vehicles under **7,500 kg** gross weight.
 - The 2017 decision was accepted by the Central Government, leading to amendments in the [Motor Vehicles Rules, 2017](#).
- As per **Section 2(21)** of [The Motor Vehicles Act, 1988](#), a light motor vehicle is a **transport vehicle, omnibus, motor car, tractor, or road-roller** with a gross vehicle weight or unladen weight **not exceeding 7,500 kilograms**.
- The SC verdict challenged the practice of insurance companies rejecting claims in accidents involving transport vehicles driven by those with LMV licence.

Read More: [The Motor Vehicles Bill for Road Safety](#)

Adoption Awareness Month

Source: [PIB](#)

Recently, [Central Adoption Resource Authority \(CARA\)](#) celebrated **November** as **National Adoption Awareness Month** to promote legal adoptions.

- **About CARA:** It is a **statutory body** established under the [Juvenile Justice Act, 2015](#) and functions under the **Ministry of Women & Child Development**.
 - It is the **nodal body** for adoption of Indian children and is mandated to **monitor** and regulate **in-country and inter-country adoptions**.
 - Inter-country adoptions in India adhere to the [Hague Convention on Intercountry Adoption, 1993](#), ratified by Government of India in 2003.
- **Theme: Rehabilitation of Older Children through Foster Care and Foster Adoption.**
- **Hague Convention** is an international treaty to ensure the **prompt return** of the child who has been **“abducted”** from the country of their **“habitual residence”**.
 - The Convention shall cease to apply when the child attains the age of 16 years.

Read More: [Adoption in India](#)

Protected Planet Report 2024

For Prelims: [Protected Planet Report](#), [International Union for Conservation of Nature](#), [Kunming-Montreal Global Biodiversity Framework](#), [Conference of the Parties \(COP 15\)](#), [United Nations Environment Programme](#), [Aichi Biodiversity Targets](#)

For Mains: [National Biodiversity Strategy and Action Plan](#), Protected Areas and Biodiversity Conservation, Biodiversity and Climate Change

Source: [UNEP](#)

Why in News?

The [Protected Planet Report 2024](#), produced by the UNEP- World Conservation Monitoring Centre (UNEP-WCMC) and the [IUCN](#) and its World Commission on Protected Areas (WCPA), is the **first comprehensive evaluation of the global status of protected and conserved areas**.

- It highlights both the progress made and the challenges ahead in achieving [Target 3 of the Kunming-Montreal Global Biodiversity Framework \(KM-GBF\)](#).

What is the Target 3 of the Kunming-Montreal GBF?

- The KM-GBF was adopted at the [15th COP of the UN Convention on Biological Diversity \(CBD\)](#).
 - This framework sets out an ambitious pathway to reach the global vision of a world living in harmony with nature by 2050, with 4 goals for 2050 and 23 targets for 2030.
- **Target 3:** Ensure and enable that by **2030 at least 30%** terrestrial, inland water, coastal, and marine areas, especially those critical for biodiversity, are effectively **conserved and managed** through well-connected, ecologically representative, and equitably governed protected areas.
 - This includes recognizing **indigenous and traditional territories** and integrating these areas into wider landscapes and seascapes, while ensuring sustainable use aligns with conservation goals and respects the rights of Indigenous peoples and local communities.



4 Overarching Global Goals of KM-GBF

1
Halting human-induced extinction of threatened species and
Reducing the rate of extinction of all species tenfold by 2050

2
Sustainable use and management of biodiversity to ensure that nature's contributions to people are valued, maintained and enhanced

3
Fair sharing of the benefits from the utilization of genetic resources, and digital sequence information on genetic resources

4
Adequate means of implementing the GBF be accessible to all Parties, particularly Least Developed Countries and Small Island Developing States

2030 Action Targets	1 Land and Sea-Use Planning	2 Ecosystem Restoration	3 Protect and Conserve Land and Sea	4 Active Management of Species and Genetic Diversity	5 Harvest, Trade and Use of Wild Species
	6 Invasive Alien Species	7 Reduce Pollution	8 Minimize the Impact of Climate Change	9 Sustainable Use and Benefit-Sharing	10 Sustainable Management of Agriculture, Aquaculture and Forestry
	11 Regulation of Air, Hazards and Extreme Events	12 Increase Access to Green and Blue Spaces	13 Access and Benefit-Sharing	14 Mainstreaming Biodiversity	15 Sustainable Production and Supply Chains
	16 Eliminate Unsustainable Consumption	17 Manage Impacts of Biotechnology	18 Eliminate Harmful Incentives	19 Resource Mobilization	20 Strengthen Capacity-Building and Development
	21 Traditional Knowledge, Awareness, Education and Research	22 Equitable and Effective Participation in Decision-Making	23 Implement Gender-Responsive Approach		

Targets (2030)

Key Terms

- **Protected Area:** Defined by the CBD as “a geographically defined area, which is designated or

regulated and managed to achieve specific conservation objectives”.

- IUCN, along with the UNEP-WCMC, maintains a global database of protected and conserved areas.
- **Indigenous and Traditional Territories:** As per CBD, these are the areas with unique and significant biodiversity owned/occupied/managed by indigenous peoples and local communities.

What are the Key Highlights of the Protected Planet Report 2024?

- **Global Coverage Progress: 17.6% of land and inland waters, and 8.4% of oceans and coastal areas** are under protection. While progress has been made, the increase is minimal (less than 0.5% in both realms) since 2020.
 - To meet the 30% target by 2030, additional protection is needed: 12.4% more land needs to be protected and 21.6% more ocean needs to be safeguarded.
- **Progress in Ocean Conservation:** Strongest progress since 2020 has been in the ocean, but most of this has been in national waters.
 - In areas beyond national jurisdiction, coverage remains very low (<11% of the total area covered by marine and coastal protected areas).
- **Challenges with Effectiveness and Governance:** Less than 5% of land and 1.3% of marine areas have been assessed for management effectiveness. Only 8.5% of protected land is well-connected.
 - Governance remains a challenge, with only **0.2% of land and 0.01% of marine areas assessed for equitable management.**
- **Underrepresentation of Biodiversity:** Only one-fifth of areas identified as important for biodiversity are fully protected. Biodiversity is unevenly conserved.
 - Though over two thirds of **Key Biodiversity Areas (KBAs)** are partially or fully covered by protected and conserved areas, the remaining **one third (32%) of KBAs fall entirely outside these areas and lack formal protection.**
- **Indigenous Peoples' Role:** Indigenous communities govern less than 4% of protected areas, despite holding 13.6% of global terrestrial areas outside formal protection.
 - Governance data is lacking for these territories, and their contributions are often not fully recognized.
- **Key Recommendations:**
 - Despite challenges, there is reason for optimism as 51 countries have already exceeded the 30% target on land, and 31 countries have done so at sea.
 - With 6 years remaining, the report stresses that the 30% target is still achievable with accelerated efforts, global cooperation, and support for Indigenous Peoples.
 - Insufficient availability of data is a long standing issue, especially regarding the positive biodiversity outcomes of protected and conserved areas, **equitable governance for local people, and upholding the rights** of women, Indigenous Peoples and local communities. Greater efforts are crucial in these areas.
 - **Indigenous People must be supported** to act as stewards of their lands, their voices and knowledge must be heard and valued.
 - Efforts must focus on not just increasing protected area coverage, but also ensuring these areas are well-connected and strategically located in biodiversity hotspots.

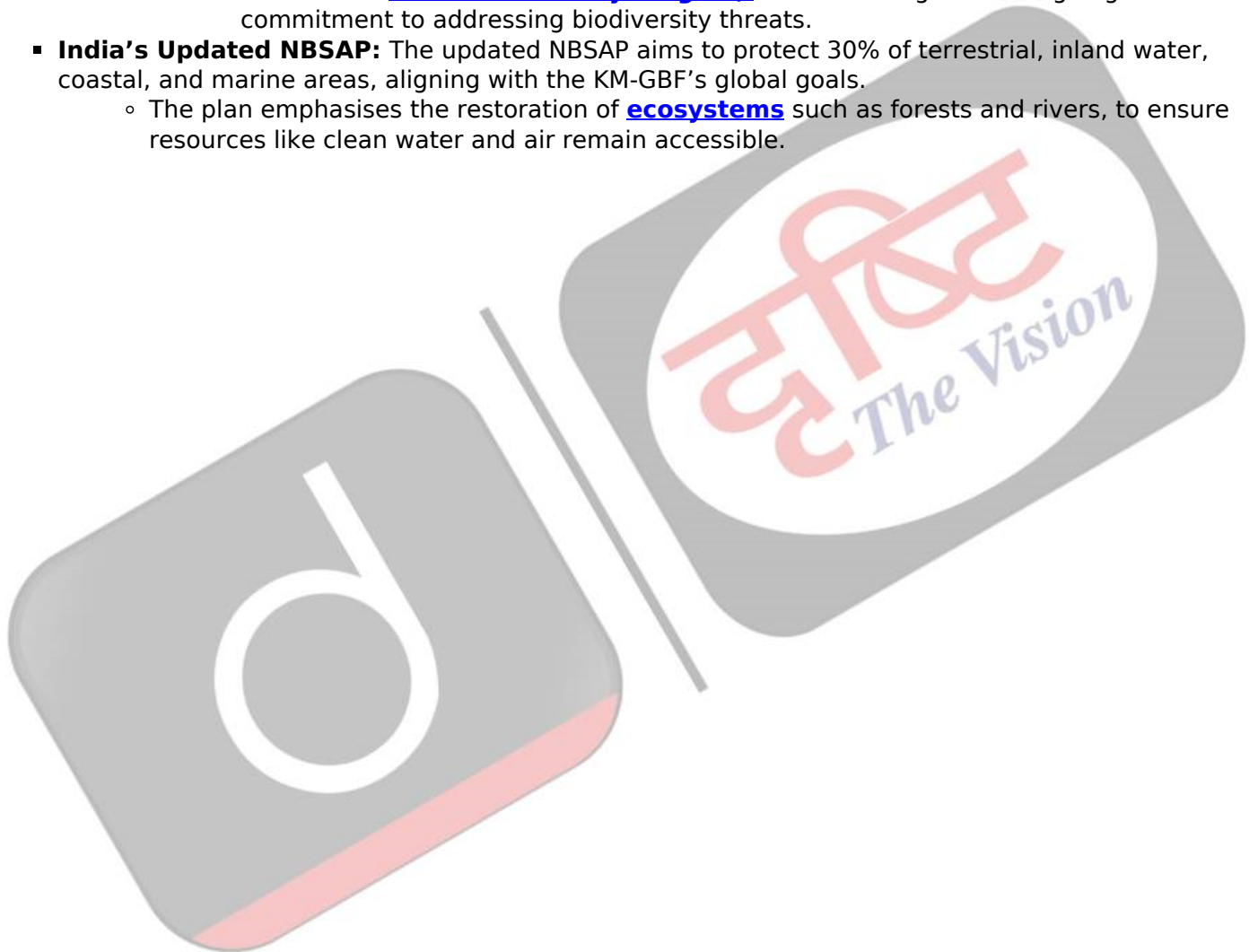
Key Institutions

- **International Union for Conservation of Nature (IUCN):** It was created in 1948 is a global membership organisation that includes governmental and civil society organisations. It serves as the authoritative body on the status of the natural world and the measures necessary to protect it.
 - **India became a State Member of IUCN in 1969**, it provides invaluable scientific knowledge, policy guidance, and support for efforts aimed at conserving nature globally.
- **UNEP-WCMC:** It is a global leader in biodiversity, bridging science, policy, and practice to address nature's crisis and promote a sustainable future. It operates as a collaboration between the **United Nations Environment Programme (UNEP)** and the UK charity WCMC.

- **IUCN World Commission on Protected Areas (WCPA):** It is a global network providing scientific, technical and policy advice, and advocating for effective area-based conservation measures that benefit biodiversity.

What are the Key Goals of India's Biodiversity Strategy?

- **NBSAP:** The CBD mandates member countries including India, to develop a [National Biodiversity Strategy and Action Plan \(NBSAP\)](#) for conserving and sustainably using biodiversity.
 - India recently updated its NBSAP to align with the KM-GBF, setting a goal to protect at least 30% of its natural areas by 2030.
 - Originally created in 1999, India's NBSAP was previously updated in 2008 and 2014 to meet the [Aichi Biodiversity Targets](#), demonstrating India's ongoing commitment to addressing biodiversity threats.
- **India's Updated NBSAP:** The updated NBSAP aims to protect 30% of terrestrial, inland water, coastal, and marine areas, aligning with the KM-GBF's global goals.
 - The plan emphasises the restoration of [ecosystems](#) such as forests and rivers, to ensure resources like clean water and air remain accessible.



23 Biodiversity Targets of India



Reducing threats to biodiversity

Target 1: Biodiversity Inclusive Integrated Land / Sea Use Planning

Target 2: Ecosystems Restoration

Target 3: Protect And Conserve Land And Sea Areas

Target 4: Management Of Species And Genetic Diversity

Target 5: Harvest, Trade, And Use Of Wild Species

Target 6: Invasive Alien Species

Target 7: Reduce Pollution Risks And Negative Impact

Target 8: Minimize The Impact Of Climate Change



Meeting people's needs through sustainable use and benefit-sharing

Target 9: Sustainable Use For Multiple Benefits

Target 10: Sustainable Management Of Agriculture, Aquaculture, Fisheries And Forestry

Target 11: Regulation Of Air, Water, Hazards And Extreme Events

Target 12: Increase Access To Green And Blues Spaces

Target 13: Access And Benefit Sharing



Tools and solutions for implementation and mainstreaming

Target 14: Mainstreaming Biodiversity

Target 15: Sustainable Production, Supply Chains And Disclosure Of Risks

Target 16: Eliminate Unsustainable Consumption

Target 17: Strengthen Biosafety Regulatory Capacity

Target 18: Repurpose Harmful Incentives

Target 19: Resource Mobilization

Target 20: Capacity Development, Technology And Scientific Cooperation

Target 21: Communication, Awareness, And Knowledge Management

Target 22: Equitable And Effective Participation In Decision Making

Target 23: Gender Equality In Decision Making And Implementation

Drishti Mains Question:

Q. Evaluate India's updated National Biodiversity Strategy and Action Plan (NBSAP) in the context of the Kunming-Montreal Global Biodiversity Framework.

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. Consider the following statements : (2023)

1. In India, the Biodiversity Management Committees are key to the realization of the objectives of the Nagoya Protocol.
2. The Biodiversity Management Committees have important functions in determining access benefit sharing, including the power to levy collection fees on the access of biological resources within its jurisdiction.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: (c)

Q. With reference to 'Global Environment Facility', which of the following statements is/are correct? (2014)

- (a) It serves as financial mechanism for 'Convention on Biological Diversity' and 'United Nations Framework Convention on Climate Change'
- (b) It undertakes scientific research on environmental issues at global level
- (c) It is an agency under OECD to facilitate the transfer of technology and funds to underdeveloped countries with specific aim to protect their environment
- (d) Both (a) and (b)

Ans: (a)

Q. "Momentum for Change: Climate Neutral Now" is an initiative launched by (2018)

- (a) The Intergovernmental Panel on Climate Change
- (b) The UNEP Secretariat
- (c) The UNFCCC Secretariat
- (d) The World Meteorological Organisation

Ans: (c)

Mains

Q. How does biodiversity vary in India? How is the Biological Diversity Act, 2002 helpful in the conservation of flora and fauna? (2018)

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