

# 2018

INTEGRATED LEARNING PROGRAMME, ILP

IASBABA



## [ SET 7: ENVIRONMENT-PART 2 ]

Integrated Learning Programme 2018 is a step towards 'Enabling a person located at the most remote destination a chance at cracking AIR 1 in UPSC/IAS'

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## CLIMATE CHANGE ORGANIZATIONS

### The United Nations Framework Convention on Climate Change –UNFCCC



**United Nations**  
Framework Convention on  
Climate Change

The United Nations Framework Convention on Climate Change (UNFCCC) is an international environmental treaty produced at the United Nations Conference on Environment and Development (UNCED), informally known as the Earth summit, held in Rio de Janeiro in 1992.

- Objective – to “stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”
- The framework set no binding limits on greenhouse gas emissions for individual countries and contains no enforcement mechanisms.
- In that sense, treaty is considered legally non-binding. Instead, the treaty provides for updates (called “protocols”) that would set mandatory emission limits.
- UNFCCC is also the name of UN secretariat charged with supporting the operation of the convention.

### The Conference of Parties

The Conference of Parties, known as COP, is the decision-making body responsible for monitoring and reviewing the implementation of the United Nations Framework Convention on Climate Change. It brings together the 197 nations and territories – called Parties – that have signed on to the Framework Convention. The COP has met annually since 1995. The 21st Session of the COP (COP21), held in Paris, France, in December 2015, was historic in its outcome – the first international climate agreement.

<b>Year</b>	<b>COP meet</b>
<b>1995</b>	COP1, The Berlin Mandate
<b>1996</b>	COP2, Geneva, Switzerland
<b>1997</b>	COP3, The Kyoto Protocol on Climate Change
<b>1998</b>	COP4, Buenos Aires, Argentina
<b>1999</b>	COP5, Bonn, Germany
<b>2000</b>	COP6, The Hague, Netherlands
<b>2001</b>	COP6, Bis, Bonn, Germany
<b>2001</b>	COP7, Marrakech, Morocco
<b>2002</b>	COP8, New Delhi, India
<b>2003</b>	COP9, Milan, Italy
<b>2004</b>	COP10, Buenos Aires, Argentina
<b>2005</b>	COP11, Montreal, Canada
<b>2006</b>	COP12, Nairobi, Kenya
<b>2007</b>	COP13, Bali, Indonesia
<b>2008</b>	COP14, Ponzan, Poland
<b>2009</b>	COP15, Copenhagen, Denamrk
<b>2010</b>	COP16, C21/ancun, Mexico
<b>2011</b>	COP17, South Africa
<b>2012</b>	COP18, Doha, Qatar
<b>2013</b>	COP19, Warsaw, Poland
<b>2014</b>	COP20, Lima, Peru
<b>2015</b>	COP21, Paris, France
<b>2016</b>	COP22, Marrakech, Morocco
<b>2017</b>	COP23, Bonn, Germany

### Classification of Parties and their commitments

Parties to the UNFCCC are classified as -

- **Annex I** - There are 43 Parties to the UNFCCC listed in Annex I of the Convention, including the European Union. These Parties are **classified as industrialized (developed) countries and "economies in transition"** (EITs). The 14 EITs are the former centrally-planned (Soviet) economies of Russia and Eastern Europe.

- **Annex II** - Of the Parties listed in Annex I of the Convention, 24 are also listed in Annex II of the Convention, including the European Union. These Parties are made up of members of the Organization for Economic Cooperation and Development (OECD). Annex II Parties are required to provide financial and technical support to the EITs and developing countries to assist them in reducing their greenhouse gas emissions (climate change mitigation) and manage the impacts of climate change (climate change adaptation).
- **Annex B** - Parties listed in Annex B of the Kyoto Protocol are Annex I Parties with first- or second-round Kyoto greenhouse gas emissions targets. The first-round targets apply over the years 2008–2012. As part of the 2012 Doha climate change talks, an amendment to Annex B was agreed upon containing with a list of Annex I Parties who have second-round Kyoto targets, which apply from 2013–2020. The amendments have not entered into force.
- **Least-developed countries (LDCs)** - 49 Parties are LDCs, and are given special status under the treaty in view of their limited capacity to adapt to the effects of climate change.
- **Non-Annex I** - Parties to the UNFCCC not listed in Annex I of the Convention are mostly low-income developing countries. Developing countries may volunteer to become Annex I countries when they are sufficiently developed.

### Kyoto Protocol – COP-3 (KP)

- By 1995, countries realized that emission reductions provisions in the Convention were inadequate.
- After 2 years this protocol was adopted.
- Due to complex ratification process, it entered into force on 2005.
- In short KP is what “operationalizes” the convention.
- It commits industrialized countries to stabilize GHG emissions based on the principles of the Convention.
- Difference between protocol and convention - while the Convention encouraged industrialized countries to stabilize GHG emissions, the Protocol commits them to do so.

### Targets

- It sets binding emission reduction targets for 37 industrialized countries and the European community in its first commitment period.

### Why KP binds only developed countries?

- Because it recognizes that they are largely responsible for the current high levels of GHG emissions in the atmosphere, which are the result of more than 150 years of industrial activity.

- **CBDР (common but differentiated responsibility)** -heavier burden on developed nations.
- Overall, these targets add up to an average 5% emissions reduction compared to 1990 levels over the five-year period 2008 to 2012.

### **Architecture of KP**

Beating heart of KP is made up of -

1. Reporting and verification procedures.
2. Flexible market-based mechanisms
3. A compliance system

Two things made KP tick

1. Emissions Reduction Commitments
2. Flexible Market Mechanisms

### **Emissions Reduction Commitments**

- Binding emissions reduction.
- Space to pollute was limited
- CO<sub>2</sub> became new commodity.

### **Flexible Market Mechanisms**

- Joint Implementation (JI)
- The Clean Development Mechanism(CDM)
- Emission Trading
- Objective of above mechanisms - to facilitate, promote and enforce compliance with the commitments under the Protocol.

### **Joint implementation**

- It offers Parties a flexible and cost-efficient means of fulfilling a part of their Kyoto commitments, while the host Party benefits from foreign investment and technology transfer.

### **Clean Development Mechanism**

- It provides for emissions reduction projects which generate Certified Emission Reduction units (CERs) which may be traded in emissions trading schemes.
- E.g. A CDM project activity might involve a rural electrification project using solar panels or the installation of more energy efficient boilers. The mechanism stimulates sustainable development and emission reductions, while giving industrialized countries some flexibility in how they meet their emission reduction or limitation targets.

### **Carbon Trading**



- Carbon trading is the process of buying and selling permits and credits to emit carbon dioxide. It has been a central pillar of the EU's efforts to slow climate change. The world's biggest

carbon trading system is the European Union Emissions Trading System (EU ETS).

- 2 types of carbon trading – emission trading and offset trading

### **Emission Trading**

- Also known as carbon credit.
- A permit which allows a country or organization to produce a certain amount of carbon emissions and which can be traded if the full allowance is not used.

### **Offset Trading/ Carbon Project/ ‘baseline-and credit’ trading**

- Another variant of carbon credit.
- It is to be earned by a country by investing some amount of money in such projects, known as carbon projects, which will emit lesser amount of greenhouse gas in the atmosphere.
- For example, suppose a thermal plant of 800 megawatt capacity emit 400 carbon-equivalents in the atmosphere. Now a country builds up a 800 megawatt wind energy plant which does not generate any amount of emission as an alternative of the thermal plant. Then by investing in this project the country will earn 400 carbon-equivalent.

Regarding "carbon credits", which one of the following statements is not correct? Prelims 2011

- a) The carbon credit system was ratified in conjunction with the Kyoto Protocol.
- b) Carbon credits are awarded to countries or groups that have reduced greenhouse gases below their emission quota.
- c) The goal of the carbon credit system is to limit the increase of carbon dioxide emission.
- d) Carbon credits are traded at a price fixed from time to time of the United Nation Environment Programme.

### **Benefits of Flexible market mechanism**

- Stimulating green investment in developing countries.
- Private sector to cut and hold steady GHG emissions at a safe level.
- To skip older, dirtier technology for newer, cleaner infrastructure and systems, with obvious longer-term benefits.
- Kyoto Protocol's compliance mechanism –
  - Strengthen the Protocol's environmental integrity.
  - Support the carbon market's credibility
  - Ensure transparency of accounting by Parties.

### **Non-Compliance of Kyoto and Penalties**

- If a country does not meet the requirements for measurements and reporting – it loses the privilege of gaining credit through JI projects.
- If a country goes above its emissions cap, and does not try to make up the difference through any of the mechanisms available, then said country must make up the difference plus an additional 30% during the next period.

- The country could also be banned from participating 'cap and trade' program.

### Bali Meet

- Held in – 2007

### Objectives

- Aim - to push the world towards taking action that reduces the GHG gases in the atmosphere which cause CC.
- They were to discuss what after 2012? (what are countries expected to do after the first phase of Kyoto ends in 2012)
- Developing countries – "After 2012 developing countries like India and China also need to take some responsibility, as they are growing economically and increasing emissions".
- New set of principles which will decide what to do after 2012.

### Bali Roadmap

- A 2-year process to finalizing a binding agreement in **2009 in Copenhagen**.
- Map includes -
  - The Bali Action Plan (BAP)
  - The Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol negotiations and their 2009 deadline
  - Launch of the adaptation Fund
  - Decisions on technology transfer
  - On reducing emissions from deforestation.

### Bali Action Plan

- It is a comprehensive process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012, in order to reach an agreed outcome and adopt a decision.
- It is divided into five main categories: shared vision, mitigation, adaptation, technology and financing

### COP 15 Copenhagen Summit

- Discord between developing and developed nations.
- Summit conclusion - Copenhagen Accord ( a five nation accord- BASIC and US)
  - Copenhagen Accord is a non-binding agreement.
- Accord – "deep international emissions cuts are needed to hold the increase in global temperature to under 2°C"

- Under the Accord, developed countries (Annex I) agree to set targets for reductions in their greenhouse gas emissions by 2020.
- Developing countries agree to pursue nationally appropriate mitigation strategies to slow the growth of their emissions, but are not committed to reducing their carbon output.
- Developing countries, specially those with low-emitting economies should be provided incentives to continue to develop on a low-emission pathway
- Agrees that developed countries would raise funds of \$30 billion from 2010:-2012 of new and additional resources
- Agrees a "goal" for the world to raise \$100 billion per year by 2020.

### COP 16 Cancun Summit

- The outcome of the summit was an agreement adopted by the states' parties that called for the 100 billion USD per annum "Green Climate Fund", and a "Climate Technology Centre" and network.
- However the funding of the Green Climate Fund was not agreed upon. Nor was a commitment to a second period of the Kyoto Protocol agreed upon, but it was concluded that the base year shall be 1990 and the global warming potentials shall be those provided by the IPCC.

### Mechanism of COP 16

- 3 mechanisms –
  - Technology mechanism
  - GCF (Green climate fund)
  - Adaptation committee

### Technology Mechanism

- The Technology Mechanism is expected to facilitate the implementation of enhanced action technology development and transfer in order to support action on mitigation and adaptation to climate change.

### Green Climate Fund



- Green Climate Fund is a fund within the framework of the UNFCCC.
  - Founded as a mechanism to redistribute money from the developed to the developing world, in order to assist the developing countries in adaptation and mitigation practices to counter climate change.

- It is intended to be the centerpiece of efforts to raise Climate Finance of \$100 billion a year by 2020.
- Source of funding will be through government.

Which of the following statements regarding 'Green Climate Fund' is/are correct? **Prelims 2015**

1. It is intended to assist the developing countries in adaptation and mitigation practices to counter climate change.
2. It is founded under the aegis of UNEP, OECD, Asian Development Bank and World Bank

Select the correct answer using the code given below.

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

### Issues

- How funds will be raised?
- The role of the private sector.
- Creation of the fund's private sector facility (PSF)
- The level of "country ownership" of resources
- Transparency of the board
- Failure to ban fossil fuel funding under climate finance

### Adaptation Fund

- It was established to finance concrete adaptation projects and programs in developing country Parties to the KP that are particularly vulnerable to the adverse effects of CC.
- It is financed from the share of proceeds on the CDM project activities and other sources of funding.
- Supervised and managed by - Adaptation Fund Board (AFB).
- Upon invitation from Parties, the Global Environment Facility (GEF) provides secretariat services to the AFB and the World Bank serves as trustee of the Adaptation Fund, both on an interim basis.

### COP 17 Durban Summit

#### New global climate change regime

- 2 demands of India - that the principle of equity remain intact in any new climate regime and that this new global deal be launched after 2020.

#### Outcome

- New deal to be finalized by 2015 and launched by 2020

- GCF launched, though empty as yet Green tech development mechanism put in place
- Equity finds place back in future climate talks
- Adaptation mechanism
- Transparency mechanism

### India's gain and losses

- Wins on all its important non-negotiables CBDR principle retained.
- Secures 10 years of economic growth without carbon containment Intellectual Property Rights (IPR) and technology not as well anchored in new deal
- Loopholes for developed world not fully blocked
- Agriculture brought in by developed nations under CC.

### Doha outcomes COP 18, 2012

#### Amendments to Kyoto protocol

- 8 year second commitment period which started on 2013.
- 3 mechanisms continued – CDM, JI, IET
- Access to mechanisms remains uninterrupted for all developed countries that have accepted targets for 2<sup>nd</sup> commitment period.
- A key element was added to the measurement reporting and verification (MRV) framework for developed countries with the adoption of the tables for the biennial reports known as common tabular format, thereby strengthening transparency and the accountability regime.
- Surplus assigned amount units can be carried over without limit from the first to the second commitment period of the Kyoto protocol by parties included in Annex I that have a target for the second commitment period.

### Paris, COP 21, 2015

- It is dealing with greenhouse gases emissions mitigation, adaptation and finance
- It will start in the year 2020
- Agreement on treaty was negotiated by representatives of 195 countries at the 21st COP of the UNFCCC in Paris
  - Adopted on 12 December 2015
  - 178 UNFCCC members signed the treaty, 18 of which ratified it
  - But it had not entered into force.(condition for entry covered later)

#### Aim

- in Article 2, "enhancing the implementation" of the UNFCCC through:  
"(a) Holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above

- pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;
- (b) Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production;
- (c) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development."
- Countries furthermore aim to reach "global peaking of greenhouse gas emissions as soon as possible".

### Intended Nationally Determined Contributions (INDC) and their limits

Contribution that each individual country should make in order to achieve the worldwide goal

- Article 3 requires them to be "ambitious", "represent a progression over time" and set "with the view to achieving the purpose of this Agreement".
- Contributions **should be reported every five years** and are to be registered by the UNFCCC Secretariat.
- Countries **can cooperate and pool** their nationally determined contributions.
- **The 'contributions' themselves are not binding**
- **No mechanism to force a country to set a target in their NDC by a specific date and no enforcement** if a set target in an NDC is not met.

### INDIA

- India to reduce the Emissions Intensity of its GDP by 33 to 35 Per Cent by 2030 from 2005 Level.
- India to create additional Carbon Sink of 2.5 to 3 Billion Tonnes of Co2 Equivalent through Additional Forest and Tree Cover by 2030.

### Global stock take

Implementation of the agreement by all member countries together will be evaluated every 5 years, with the first evaluation in 2023.

- The stock take will not be of contributions/achievements of individual countries but a **collective analysis** of what has been achieved and what more needs to be done.

### Structure

- '**Bottom up**' structure in contrast to most international environmental law treaties which are 'top down', characterized by standards and targets set internationally, for states to implement.

## Adoption

Signature and entry into force

- It will enter into force (and thus become fully effective) **only if 55 countries that produce at least 55% of the world's greenhouse gas emissions** (according to a list produced in 2015) ratify, accept, approve or accede to the agreement.

## Parties and signatories

- **India had signed and ratified the agreement. It is the 61st country to do so.**
- As of February 2018, 195 UNFCCC members have signed the agreement, and 175 have become party to it.
- USA's President announced intention to withdraw from it in 2017.

## Other Mechanisms of UNFCCC

### Special Climate Change Fund

- The Special Climate Change Fund (SCCF) was established under the Convention in 2001 to finance projects relating to: adaptation; technology transfer and capacity building; energy, transport, industry, agriculture, forestry and waste management; and economic diversification
- The Global Environment Facility (GEF), as an operating entity of the Financial Mechanism, has been entrusted to operate the SCCF.

## REDD and REDD+



United Nations  
Framework Convention on  
Climate Change

**REDD+**

WEB  
PLATFORM

REDUCING EMISSIONS FROM DEFORESTATION AND  
FOREST DEGRADATION IN DEVELOPING COUNTRIES

### MAP OF REDD+ ACTIVITIES

**World**  
**North America**  
**South America**  
**Europe**  
**Africa**  
**Asia**  
**Australia/Oceania**

UN Disclaimer

Click on highlighted countries to see REDD+ activities

- Reducing emissions from deforestation and forest degradation (REDD) is a mechanism that has been under negotiation by the United Nations Framework Convention on Climate Change (UNFCCC) since 2005, with the objective of mitigating climate change through reducing net emissions of greenhouse gases through enhanced forest management in developing countries.
- REDD+ goes beyond merely checking deforestation and forest degradation and includes incentives for positive elements of conservation, sustainable management of forests and enhancement of forest carbon stocks.

## Will India Benefit from REDD+?

India's sustained efforts for conserving and expanding its forest and tree resources have the possibility of being rewarded for providing carbon service to the international community in addition to providing traditional goods and services to the local communities.

- The incentives so received from REDD+ would be passed to the local communities involved in the protection and management of forests. This will ensure sustained protection of our forests against deforestation.
- It is estimated that a REDD+ program for India could provide capture of more than 1 billion tonnes of additional CO<sub>2</sub> over the next 3 decades and provide more than \$3 billion as carbon service incentives under REDD+.

## **India's Position on REDD and REDD+**

- India believes REDD needs to be seen in the broader context of REDD+, not in isolation or in a truncated form since reduction of deforestation, and conservation and improvement of forests are two sides of the same coin, and so should treated at par.
- India's stand was finally accepted in 13<sup>th</sup> Meeting of the conference of the Parties (COP 13) at Bali when elements of conservation, sustainable management of forests and enhancement of forest carbon stocks were added to the then existing text of reducing deforestation and forest degradation as part of Bali Action Plan.

## **India initiatives related to REDD+**

- India has made a submission to UNFCCC on "REDD, Sustainable Management of Forest (SMF) and Afforestation and Reforestation (A&R)" in December 2008
- A Technical Group has been set up to develop methodologies and procedures to assess and monitor contribution of REDD+ actions
- A national REDD+ Coordinating Agency is being established
- A National Forest Carbon Accounting Programme is being institutionalized
- Study on the impact of climate change on India's forests assigned to the Indian Network for Climate Change Assessment (INCCA), has been released in November 2010.
- There is likely to be an increase in Net Primary Productivity (NPP) ranging from 20- 57 %.

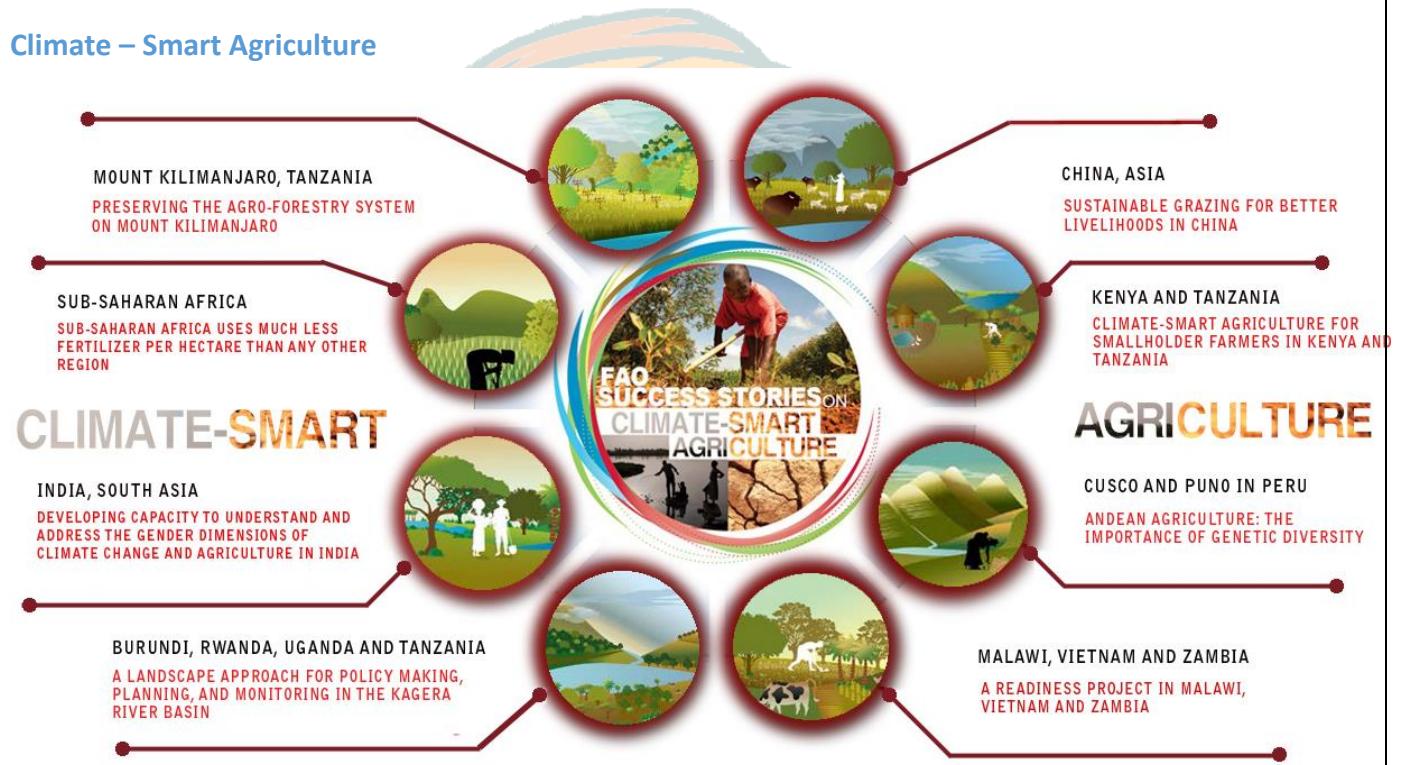
## **Global Environment Facility (GEF)**



- GEF, established on the eve of the 1992 Rio Earth Summit, is a catalyst for action on the environment — and much more.
- Through its strategic investments, the GEF works with partners to tackle the planet's biggest environmental issues.
- Their funding also helps reduce poverty, strengthen governance and achieve greater equality between women and men.
- It is the largest public funder of projects to improve the global environment.
- The GEF also serves as financial mechanism for the following conventions -
  - Convention on Biological Diversity (CBD)
  - United Nations Framework Convention on Climate Change (UNFCCC)
  - UN Convention to Combat Desertification (UNCCD)
  - Stockholm Convention on Persistent Organic Pollutants (POPs)

- Minamata Convention on Mercury
- The GEF now has six focal areas -
  - Biological diversity
  - Climate change
  - International waters
  - Land degradation, primarily desertification and deforestation
  - Ozone layer depletion
  - Persistent organic pollutants

## Climate – Smart Agriculture



- Climate-smart agriculture (CSA) may be defined as an approach for transforming and reorienting agricultural development under the new realities of climate change.
- UN FAO's definition - “agriculture that sustainably increases productivity, enhances resilience (adaptation), reduces/removes GHGs (mitigation) where possible, and enhances achievement of national food security and development goals”.

## The Three pillars of CSA

- **Productivity** - CSA aims to sustainably increase agricultural productivity and incomes from crops, livestock and fish, without having a negative impact on the environment.

- **Adaptation** - CSA aims to reduce the exposure of farmers to short-term risks, while also strengthening their resilience by building their capacity to adapt and prosper in the face of shocks and longer-term stresses.
- **Mitigation** - Wherever and whenever possible, CSA should help to reduce and/or remove greenhouse gas (GHG) emissions. This implies that we reduce emissions for each calorie or kilo of food, fibre and fuel that we produce. That we avoid deforestation from agriculture. And that we manage soils and trees in ways that maximizes their potential to act as carbon sinks and absorb CO<sub>2</sub> from the atmosphere.

#### Key characteristics of CSA

- **CSA addresses climate change** - CSA systematically integrates climate change into the planning and development of sustainable agricultural systems
- **CSA integrates multiple goals and manages trade-offs** - Ideally; CSA produces triple-win outcomes: increased productivity, enhanced resilience and reduced emissions. But often it is not possible to achieve all three. Frequently, when it comes time to implement CSA, trade-offs must be made. This requires us to identify synergies and weigh the costs and benefits of different options based on stakeholder objectives identified through participatory approaches
- **CSA maintains ecosystems services** - Ecosystems provide farmers with essential services, including clean air, water, food and materials.
- **CSA has multiple entry points at different levels**: CSA should not be perceived as a set of practices and technologies. It has multiple entry points, ranging from the development of technologies and practices to the elaboration of climate change models and scenarios, information technologies, insurance schemes, value chains and the strengthening of institutional and political enabling environments.
- **CSA is context specific**: What is climate-smart in one-place may not be climate-smart in another, and no interventions are climate-smart everywhere or every time. Interventions must take into account how different elements interact at the landscape level, within or among ecosystems and as a part of different institutional arrangements and political realities.
- **CSA engages women and marginalised groups** - To achieve food security goals and enhance resilience, CSA approaches must involve the poorest and most vulnerable groups. These groups often live on marginal lands which are most vulnerable to climate events like drought and floods. They are, thus, most likely to be affected by climate change. Gender is another central aspect of CSA. Women typically have less access and legal right to the land which they farm, or to other productive and economic resources which could help build their adaptive capacity to cope with events like droughts and floods.

## IPCC (Intergovernmental Panel on Climate Change)



- The UN General Assembly adopted a resolution, in 1988, on the subject and endorsed the UNEP/WMO proposal for the setting up of the Inter-Governmental Panel on Climate Change (IPCC).
- Established by - **United Nations Environment Programme (UNEP)** and the **World Meteorological Organization (WMO)**
- The IPCC is a scientific body. It reviews and assesses the most recent scientific, technical and socio-economic information produced worldwide relevant to the understanding of climate change.
- It is open to all member countries of the UN and WMO. Currently 195 countries are members of IPCC.
- It does not conduct any research nor does it monitor climate related data or parameters.
- Review is an essential part of the IPCC process, to ensure an objective and complete assessment of current information.
- By endorsing the IPCC reports, governments acknowledge the authority of their scientific content. The work of the organization is therefore policy-relevant and yet policy-neutral, never policy-prescriptive.
- It has also responded to the need of the UNFCCC for information on scientific and technical matters through Special Reports, Technical Papers and Methodology Reports.

### Assessment Reports (AR)

- The IPCC prepares at regular intervals comprehensive Assessment Reports of scientific, technical and socio-economic information relevant for the understanding of human induced climate change, potential impacts of climate change and options for mitigation and adaptation.
- They are published in several volumes.
- Synthesis Reports synthesize materials contained within the Assessment Reports, eventually integrating them with information coming from the Special Reports as well.
- They are written in a non-technical style suitable for policymakers.
- Four Assessment Reports have been completed in 1990, 1995, 2001 and 2007. The IPCC Fifth Assessment Report (AR5) completed in 2014.

## AR5



- The document acknowledges that climate change is taking place and in various places points at human activity as the sort of thing that looks likely to get the climate shifting. However, the report uses the following definition:

“Climate change refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forces such as modulations of the solar cycles, volcanic eruptions, and persistent anthropogenic changes in the composition of the atmosphere or in land use.”

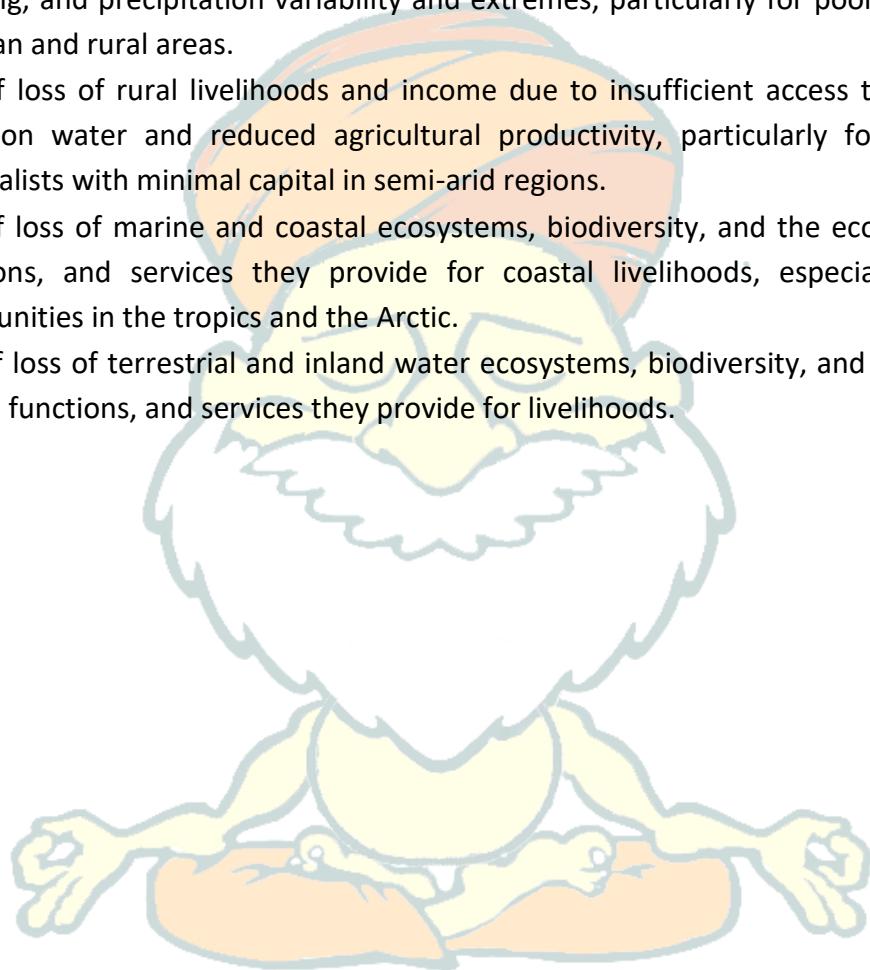
- The IPCC points out that its definition is rather different from that used by the UNFCCC, which defines the term as “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.”

### The main features of the report are as follows:

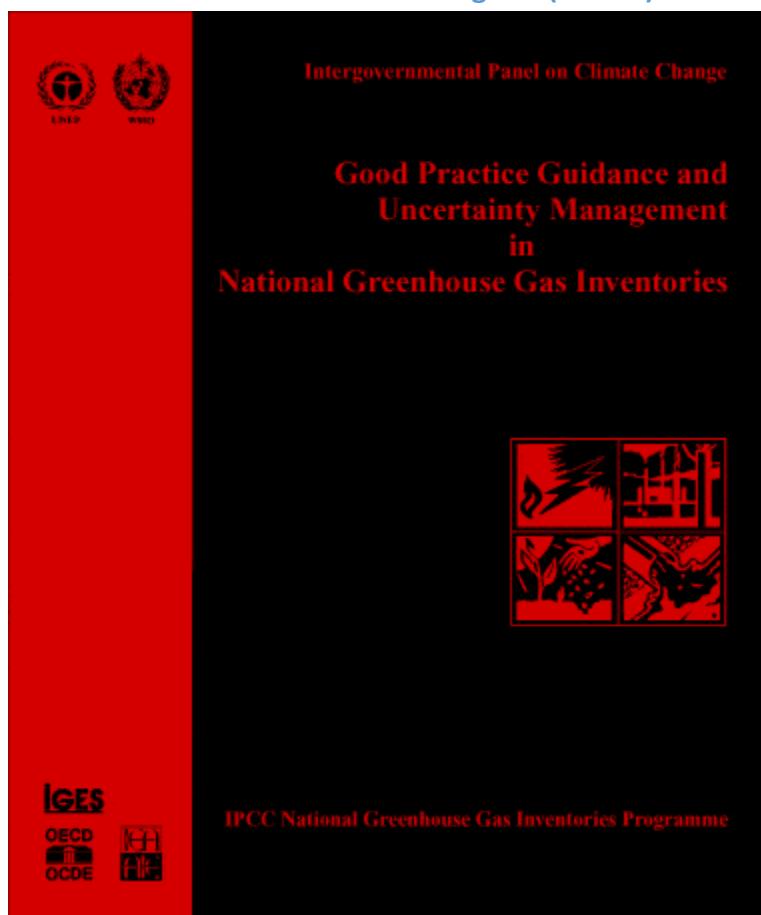
The risks are:

- Risk of death, injury, ill-health, or disrupted livelihoods in low-lying coastal zones and small island developing states and other small islands, due to storm surges, coastal flooding, and sea-level rise.

- Risk of severe ill-health and disrupted livelihoods for large urban populations due to inland flooding in some regions.
- Systemic risks due to extreme weather events leading to breakdown of infrastructure networks and critical services such as electricity, water supply, and health and emergency services
- Risk of mortality and morbidity during periods of extreme heat, particularly for vulnerable urban populations and those working outdoors in urban or rural areas.
- Risk of food insecurity and the breakdown of food systems linked to warming, drought, flooding, and precipitation variability and extremes, particularly for poorer populations in urban and rural areas.
- Risk of loss of rural livelihoods and income due to insufficient access to drinking and irrigation water and reduced agricultural productivity, particularly for farmers and pastoralists with minimal capital in semi-arid regions.
- Risk of loss of marine and coastal ecosystems, biodiversity, and the ecosystem goods, functions, and services they provide for coastal livelihoods, especially for fishing communities in the tropics and the Arctic.
- Risk of loss of terrestrial and inland water ecosystems, biodiversity, and the ecosystem goods, functions, and services they provide for livelihoods.



## National Green House Gas Inventories Program (NGGIP)



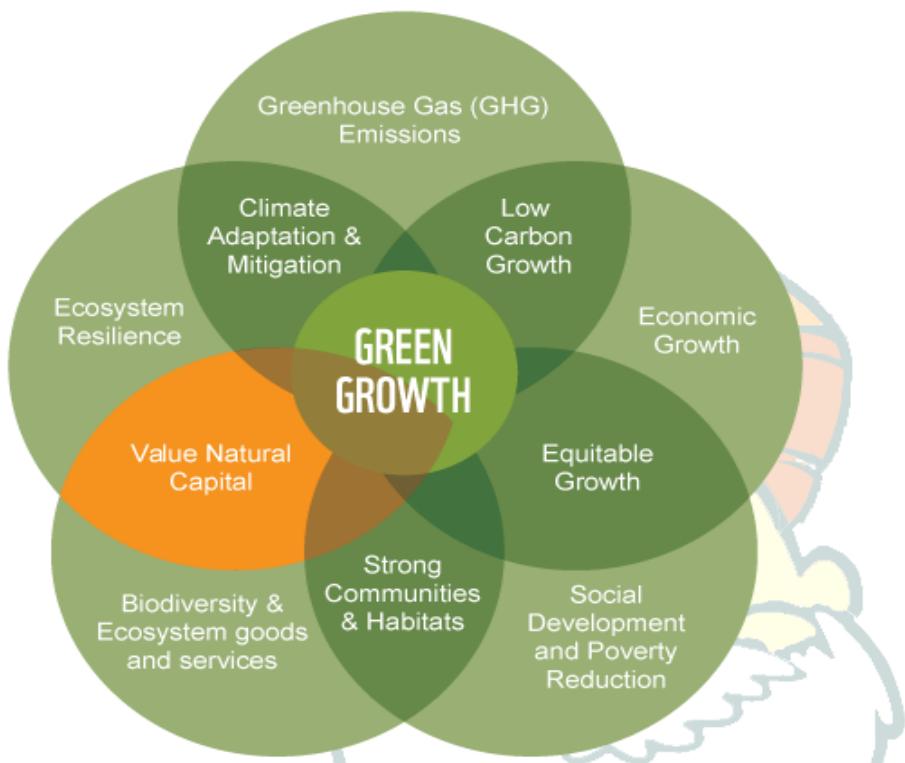
- Established by – IPCC.
- “To provide methods for estimating national inventories of greenhouse gas emissions to and removals from, the atmosphere.”
- The guidance produced by the NGGIP is used by countries that are parties to the UNFCCC to estimate the emissions and removals that they report to the UNFCCC.
- It may be used by others who want to produce estimates consistent with national totals.
- All the IPCC guidance has therefore been compiled by an international range of authors and with an extensive global review process.

### Methodology

- 1<sup>st</sup> methodologies were produced by the IPCC in early 1990s and have been revised since (Development of IPCC Guidelines and Good Practice Guidance).
- The Revised 1996 Guidelines for National Greenhouse Gas Inventories, the Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories (GPG2000) and the Good Practice Guidance for Land Use, Land-Use Change and Forestry (GPG-LULUCF) are used by developed countries to estimate emissions and removals, and are recommended by the UNFCCC for use by all countries.

- Most recent guidelines - The 2006 IPCC Guidelines for National Greenhouse Gas Inventories (the 2006 Guidelines)

### Green Economy



- The green economy is defined as an economy that aims at reducing environmental risks and ecological scarcities, and that aims for sustainable development without degrading the environment.
- OR*
- Green economy focuses specifically on the fundamental changes that are required to ensure that economic systems are made more sustainable. Green Economy focuses on the ways to overcome the deeply rooted causes of unsustainable economic development.
  - It is closely related with ecological economics, but has a more politically applied focus.
  - The 'Green Economy' can be considered synonymous to a 'sustainable' economy. However, the Green Economy concept often carries a more distinctive meaning.

### Transition to Green Economy

- Three priorities in transition of economy to green economy are
  - Decarbonizes the economy
  - Commit the environmental community to justice and equity
  - Conserve the biosphere

### **Measures to adapt Green Economy**

- Energy audit can reduce your building's climate footprint and lead to significant savings in energy costs.
- Overfishing threatens to deplete future fish stocks. We can avoid this by working to promote sustainable fishing practices.
- Sustainably managed forests can continue to support communities and ecosystems without damaging environment and climate.
- Use electronic files to reduce your demand for paper products.
- Car-pooling or taking public transport reduces environmental impacts and economic costs while strengthening community.
- Walking or riding a bike for short trips is good for your health - and the environment.
- Resource efficiency is key to a Green Economy and water is one of our most important resources.
- The development of clean, renewable energy by using solar, wind, tidal, etc. will contribute to green economy.
- Recycling appropriate materials and composting food waste reduces the demand on our natural resources.

### **Climate Vulnerable Forum**

- The Climate Vulnerable Forum (CVF) is a global partnership of countries that are disproportionately affected by the consequences of global warming.
- The forum addresses the negative effects of global warming as a result of heightened socioeconomic and environmental vulnerabilities. These countries actively seek a firm and urgent resolution to the current intensification of climate change, domestically and internationally.
- The CVF was formed to increase the accountability of industrialized nations for the consequences of global climate change. It also aims to exert additional pressure for action to tackle the challenge, which includes local action by countries considered susceptible.
- Ethiopia became the first African Chair of the Climate Vulnerable Forum during the CVF High-Level Climate Policy Forum held in the Senate of the Philippines on 15 August 2016.
- The CVF was founded by the Maldives government before the 2009 United Nations Climate Change Conference in Copenhagen, which sought to increase awareness of countries considered vulnerable.
- India is an Observer State in CVF

## Vulnerable 20 (V20)

- The Vulnerable Twenty (V20) Group of Ministers of Finance of the Climate Vulnerable Forum is a dedicated cooperation initiative of economies systemically vulnerable to climate change. The V20 works through dialogue and action to tackle global climate change.
- **V20 Members:** Afghanistan, Bangladesh, Barbados, Bhutan, Burkina Faso, Cambodia, Comoros, Costa Rica, Democratic Republic of the Congo, Dominican Republic, Ethiopia, Fiji, Ghana, Grenada, Guatemala, Haïti, Honduras, Kenya, Kiribati, Madagascar, Malawi, Maldives, Marshall Islands, Mongolia, Morocco, Nepal, Niger, Palau, Papua New Guinea, Philippines, Rwanda, Saint Lucia, Senegal, South Sudan, Sri Lanka, Sudan, Tanzania, Timor-Leste, Tunisia, Tuvalu, Vanuatu, Viet Nam and Yemen.

## START - Global Change System for Analysis, Research & Training

- The USAID-supported START program promotes research-driven capacity building to advance knowledge on global environmental change in Africa and Asia-Pacific.
- START's work focuses on climate variability and change, disaster risk reduction, land-use/land-cover change, biodiversity conservation, urban development, human health, water resources management, agriculture and food security, and regional climate modeling and climate services.
- The START site provides profiles for each of its projects, access to START publications, and a literature resource center.

## World Climate Research Programme (WCRP)

- The World Climate Research Programme (WCRP) is an international programme that helps to coordinate global climate research.
- The WCRP was established in 1980, under the joint sponsorship of the World Meteorological Organization (WMO) and the International Council for Science (ICSU), and has also been sponsored by the Intergovernmental Oceanographic Commission (IOC) of UNESCO since 1993.
- The World Climate Research Programme (WCRP) facilitates analysis and prediction of Earth system change for use in a range of practical applications of direct relevance,

benefit and value to society. WCRP aims to determine the predictability of climate and the effect of human activities on climate.

### **CLIVAR (Climate Variability and Predictability)**

- CLIVAR (climate variability and predictability) is a component of the World Climate Research Programme. Its purpose is to describe and understand climate variability and predictability on seasonal to centennial time-scales, identify the physical processes responsible for climate change and develop modeling and predictive capabilities for climate modeling.
- CLIVAR's mission is to understand the dynamics, the interaction, and the predictability of the coupled ocean-atmosphere system. To this end it facilitates observations, analysis and predictions of changes in the Earth's climate system, enabling better understanding of climate variability and dynamics, predictability, and change, to the benefit of society and the environment in which we live.

### **Climate Action Network**

- Climate Action Network—International (CAN) is an umbrella group of environmental non-governmental organisations (NGOs) active on the issue of climate change.
- It is most active at meetings of the United Nations Framework Convention on Climate Change (UNFCCC), where it publishes a daily newsletter "ECO", presenting the views of the Environmental NGO community.
- The Climate Action Network-International is a worldwide network of over 1100 non-governmental organizations in 120 countries working to promote government and individual action to limit human-induced climate change to ecologically sustainable levels.

## INTERNATIONAL CONVENTIONS

### **Nature Conservation**

- United Nations Conference on Environment and Development (UNCED)
- Convention on Biological Diversity (CBD)
- Ramsar Convention on Wetlands
- Convention on International Trade in Endangered Species of Fauna and Flora (CITES)
- The Wildlife Trade Monitoring Network (TRAFFIC)
- Convention on the Conservation of Migratory Species (CMS)
- Coalition Against Wildlife Trafficking (CAWT)
- International Tropical Timber Organization (ITTC)
- United Nations Forum on Forest (UNFF)
- International Union for Conservation of Nature and Natural Resources (IUCN)
- Global Tiger Forum (GTF)

### **Hazardous material**

- Stockholm Convention
- Basel Convention
- Rotterdam Convention
- Minamata Convention

### **Land**

- United Nations Convention to Combat Desertification (UNCCD)

### **Marine Environment**

- International Whaling Commission (IWC)
- International Convention for the Safety of Life at Sea (SOLAS)
- UNCLOS

### **Atmosphere**

- Vienna convention
- Montreal Protocol
- United Nations Framework Convention on Climate Change (UNFCCC)
- Kyoto Protocol

## United Nations Conference on Environment and Development (UNCED)

- Also known as **Rio Summit, Rio Conference, Earth Summit** held in Rio de Janeiro in June 1992.

The issues addressed included -

- Systematic scrutiny of patterns of production — particularly the production of toxic components (like lead in gasoline, or poisonous waste including radioactive chemicals)
- Alternative sources of energy to replace the use of fossil fuels which delegates linked to global climate change
- New reliance on public transportation systems (like Delhi metro, BRTS) in order to reduce vehicle emissions, congestion.
- The growing usage and limited supply of water

### Important achievement of the summit

- Documents
  - Rio Declaration on Environment and Development
  - Agenda21
  - Forest Principles
- Legally binding agreements
  - Convention on Biological Diversity
  - Framework Convention on Climate Change (UNFCCC)

### Rio Declaration on Environment and Development

- Also called as Rio Declaration (shortened name)
- Short document produced at the 1992 UNCED.
- It consisted of 27 principles intended to guide future sustainable development around the world.

### Agenda 21

- It is an action plan of UN related to sustainable development.
- It was outcome of UNCED in Rio.
- It is a comprehensive blueprint of action to be taken globally, nationally and locally by organizations of the UN, governments, and major groups in every area in which humans directly affect the environment.
- The number 21 refers to an agenda for the 21st century.

### Local Agenda 21

- As we have read above Agenda 21 wants to implement the actions at national, regional and local level.

- Some national and state governments have legislated or advised that local authorities take steps to implement the plan locally, as recommended in Chapter 28 of the document.
- Such programme are often known as 'Local Agenda 21' or 'LA21'.

### **Agenda 21 for “culture”**

- The first World Public Meeting on Culture in Brazil (2002) came up with the idea to draw up document guidelines for local cultural policies, a document comparable to what Agenda 21 meant in 1992 for the environment.
- It is the first document that advocates establishing the groundwork of an undertaking by cities and local governments for cultural development.

### **Rio+5**

- As the name itself suggests it was special session which took place after 5 years of Earth summit to appraise five years of progress on the implementation of Agenda 21.
- Progress recognized as 'uneven'.
- Identified key trends including increasing globalization, widening inequalities in income and a continued deterioration of the global environment.

### **The Johannesburg Summit**

The Johannesburg Plan of Implementation, agreed at the World Summit on Sustainable Development (Earth Summit 2002) affirmed UN commitment to 'full implementation' of Agenda 21, alongside achievement of the MDG (Millennium Development Goals) an other international agreements.

### **Rio+20**



**RIO+20**  
United Nations  
Conference on  
Sustainable  
Development

- +20 means after 20 years of 1992 Earth Summit.
- It is the short name for the UN Conference on Sustainable Development (it also took place in Rio de Janeiro, Brazil)
- World leaders, private sector, NGOs and other groups, came together to shape how we can reduce poverty, advance social equity and ensure environmental protection on an ever more crowded planet.
- The official discussions focused on two main themes -
  - How to building a green economy to achieve sustainable development + reduce poverty
  - how to improve international coordination for sustainable development.
- > \$513 billion was pledged, to build a sustainable future.

- It signaled a major step forward in achieving the future we want.

### Objectives of Rio+20



### Convention on Biological Diversity (CBD)

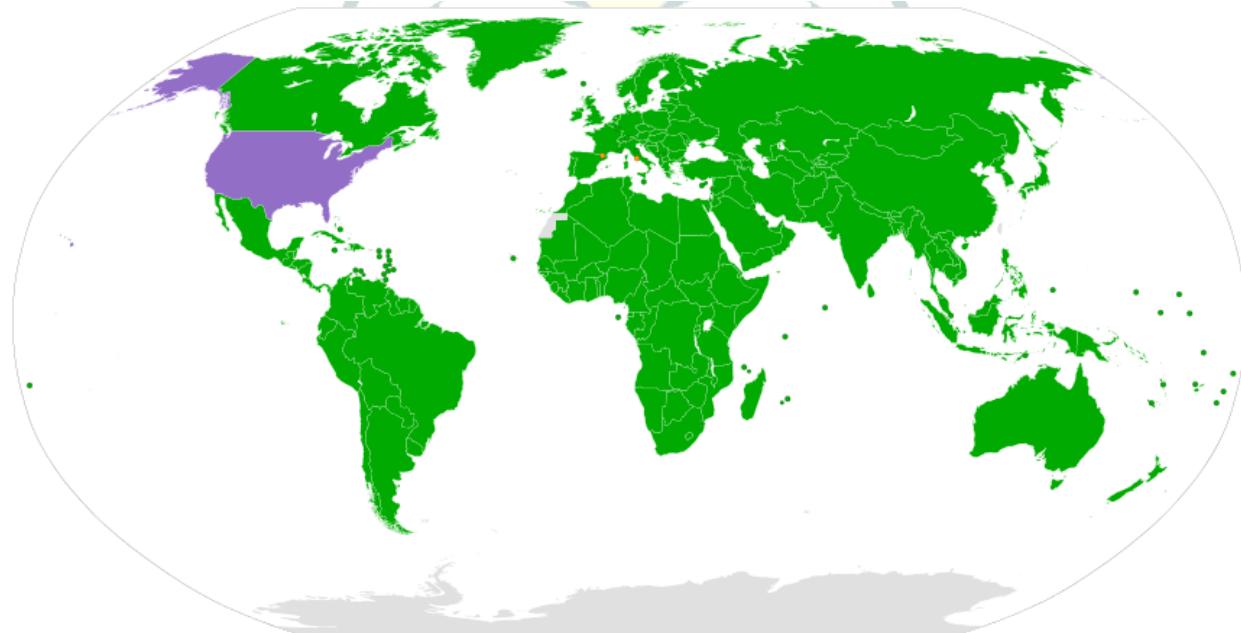


Convention on  
Biological Diversity

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Search

[The Convention](#) [Cartagena Protocol](#) [Nagoya Protocol](#) [Programmes](#) [Information](#) [Secretariat](#)



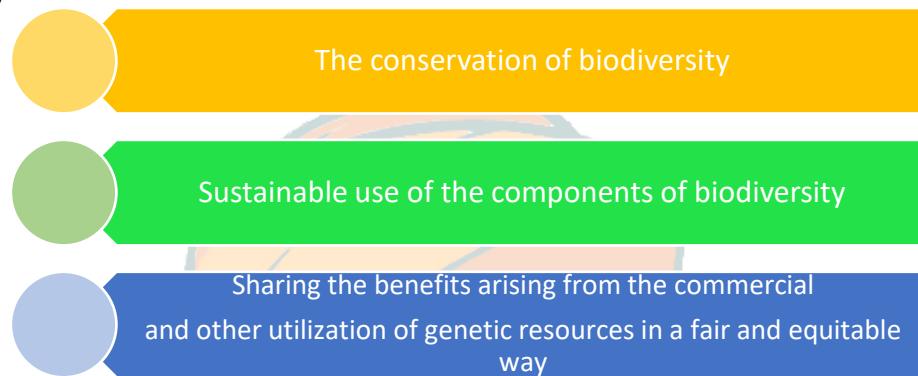
- █ Parties to the convention
- █ Signed, but not ratified
- █ Non-signatory

- It is legally binding convention

- 1<sup>st</sup> time it is recognized that conservation of biological diversity is a common concern of humankind and is an integral part of the development process.
- It covers all the ecosystems, species and genetic resources.

**Objective** - To develop national strategies for the conservation and sustainable use of biological diversity.

### THREE main goals



### Cartagena Protocol

- On Biosafety to the Convention on Biological Diversity



- It is also known as the Biosafety Protocol.
- Biosafety refers to the need to protect human health and the environment from the possible adverse effects of the products of modern biotechnology.
- It clearly recognizes these twin aspects of modern biotechnology -
  - Access to and transfer of technologies
  - Appropriate procedures to enhance the safety of biotechnology technologies.

### Objective

- Ensuring an adequate level of protection in the field of safe transfer, handling and use of living modified organisms (LMOs) resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity including humans. (**In short or India Year Book definition** - objective of CPB is to ensure safe transfer, handling and use of living modified organisms resulting from modern biotechnology. India is a party to the CBD as well as CPB)

- It is an additional agreement to CBD.
- It establishes procedure for regulating the import and export of LMOs from one country to another.
- It ensures that parties which ship LMOs from one country to another, package, handle and transport them in a safe manner.
- Shipping must be accompanied by documentation with contact details and requirements of safe handling, storage and transport.

#### **Procedures of introduction of LMOs in environment –**

<b>AIA (Advance Informed Agreement)</b>	A country intending to export an LMO for intentional release into the environment must notify in writing the Party of import before the first proposed export takes place.
	Import Party must acknowledge notification receipt within 90 days and must, communicate its decision on whether or not import the LMO within 270 days.
	Parties decision must be based on a risk assessment of the LMO (in scientific and transparent manner)
	After risk assessment the decision and summary should be communicated to a central information system, the Biosafety ClearingHouse (BCH).
<b>LMOs-FFP (LMOs- food or feed, or for processing)</b>	Parties that decide to approve and place such LMOs on the market are required to make their decision and relevant information, including the risk assessment reports, publicly available through the BCH.

#### **Nagoya-Kuala Lumpur Supplementary Protocol**

- CBD is reinforced by the Nagoya Kuala Lumpur Supplementary Protocol on Liability and Redress.
- It specifies response measures to be taken in the event of damage to biodiversity resulting from LMOs.
- The competent authority in a Party to the Supplementary Protocol must require the person in control of the LMO (operator) to take the response measure.

#### **Nagoya Protocol**

- On Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS)
- It is a supplementary agreement to CBD.
- It provides a transparent legal framework for the effective implementation of objectives of the CBD.

## Objective

Fair and equitable sharing of benefits arising from the utilization of genetic resources, thereby contributing to the conservation and sustainable use of biodiversity.

### Obligations

#### Access obligations

Domestic-level access measures are to ----

Create legal certainty, clarity and transparency

Provide fair and non-arbitrary rules and procedures

Establish clear rules and procedures for prior informed consent and mutually agreed terms

#### Benefit-sharing obligations

Domestic-level benefit-sharing measures are to provide for the fair and equitable sharing of benefits arising from the utilization of genetic resources with the contracting party providing genetic resources.

Utilization includes research and development on the genetic or biochemical composition of genetic resources, as well as subsequent applications and commercialization

Sharing is subject to mutually agreed terms

Benefits may be monetary or non-monetary such as royalties and the sharing of research results.

#### Compliance obligations

Parties to cooperate in cases of alleged violation of another contracting party's requirements

Parties to encourage contractual provisions on dispute resolution in mutually agreed terms

Parties to ensure an opportunity is available to seek recourse under their legal systems when disputes arise from mutually agreed terms

Parties to take measures to monitor the utilization of genetic resources after they leave a country

### Traditional knowledge

- It addresses traditional knowledge associated with genetic resources with provisions on
  - Access
  - Benefit-sharing
  - Compliance.
- It also addresses genetic resources where indigenous and local communities have the established right to grant access to them.
- Contracting Parties are to take measures to ensure these communities' prior informed consent, and fair and equitable benefit-sharing, keeping in mind community laws and procedures as well as customary use and exchange.

## **Importance**

- It will create greater legal and certainty and transparency.
- By helping to ensure benefit-sharing it creates incentives to conserve and sustainably use genetic resources.
- By ensuring benefit-sharing it enhances the contribution of biodiversity to development and human well-being.

## **Strategic Plan for Biodiversity 2011 – 2020**

- 10<sup>th</sup> meeting of CoP (Conference of Parties) held in - Nagoya, Aichi Prefecture, Japan (2010)
- It adopted a revised and updated Strategic Plan for Biodiversity, including the Aichi Biodiversity Targets, for the 2011-2020 period.

## **Aichi Biodiversity Targets**

### **Strategic goal A**

- By the 2020,at the latest –
  - Awareness of BD among people and steps taken to conserve it and use sustainably.
  - BD values integration into national and local development + poverty reduction
  - Incentives (including subsidies) are eliminated, phased out or reformed so –ve impacts on BD can be reduced.
  - To achieve or implement plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

### **Strategic goal B**

- Reduce the direct pressures on biodiversity (BD) and promote sustainable use by the 2020 –
  - The rate of loss of all forests (including natural habitats) should be close to zero + reduction in fragmentation and degradation.
  - Avoiding overfishing + recovery plans shouldn't impact the threatened species and vulnerable ecosystem (ES).
  - Sustainable management of agriculture, aquaculture and forestry.
  - Reduce pollution to very low levels (all types)
  - Identifying and prioritizing invasive alien species and pathways + measures to manage pathways.
  - Minimization of climate change impact on vulnerable ecosystems.

### **Strategic goal C**

- To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity by 2020 –

- 17% of terrestrial inland water and 10% of coastal marine areas (important for BD and ES) are conserved effectively and equitably.
- Prevention of extinction of threatened species + conservation status of most declined has improved and sustained.
- Minimize genetic erosion and safeguard genetic diversity of plants and animals including wild.

#### **Strategic Goal D**

- Enhance the benefits to all from biodiversity and ecosystem services by 2020 –
  - Restoration and safeguarding of ES that provides essential services.
  - Ecosystem resilience and the contribution of biodiversity to carbon stocks have been enhanced, through conservation and restoration.
  - By 2015, ABS (Nagoya protocol) is in force and operational, consistent with national legislation.

#### **Strategic Goal E**

- Enhance implementation through participatory planning, knowledge management and capacity building
  - By 2015, each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.
  - By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations.
  - By 2020, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources.

**CoP 11 Hyderabad**

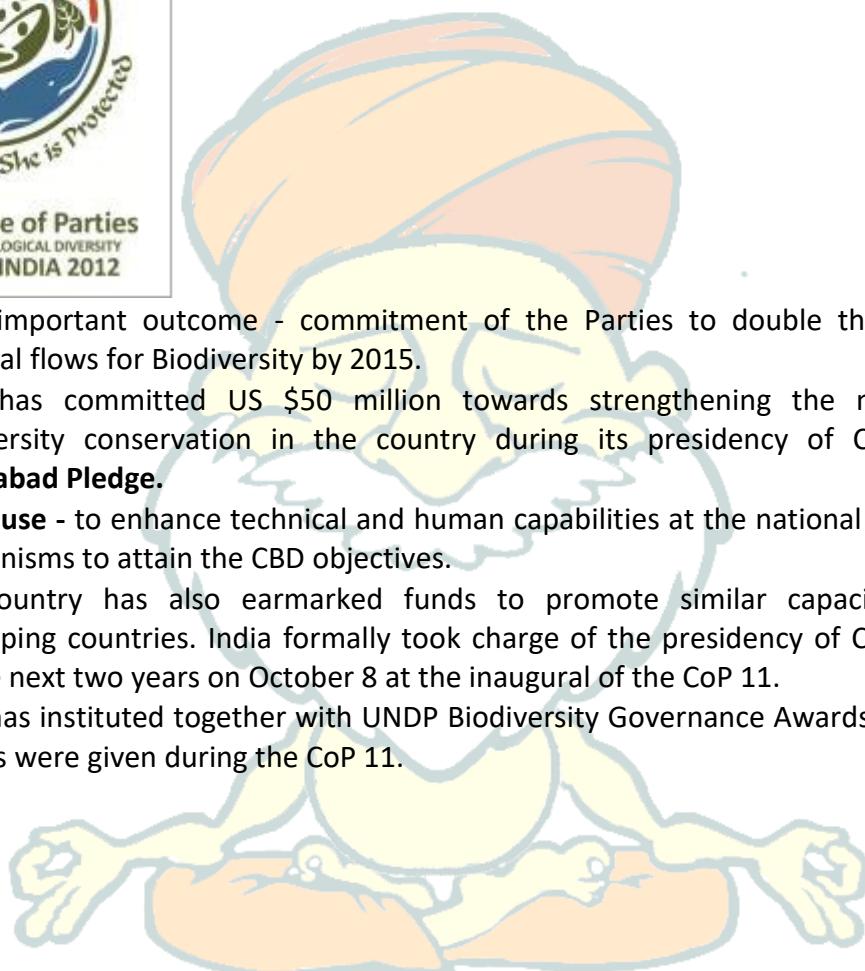
# Hosting of CoP-11 by India

A PICTORIAL PRESENTATION

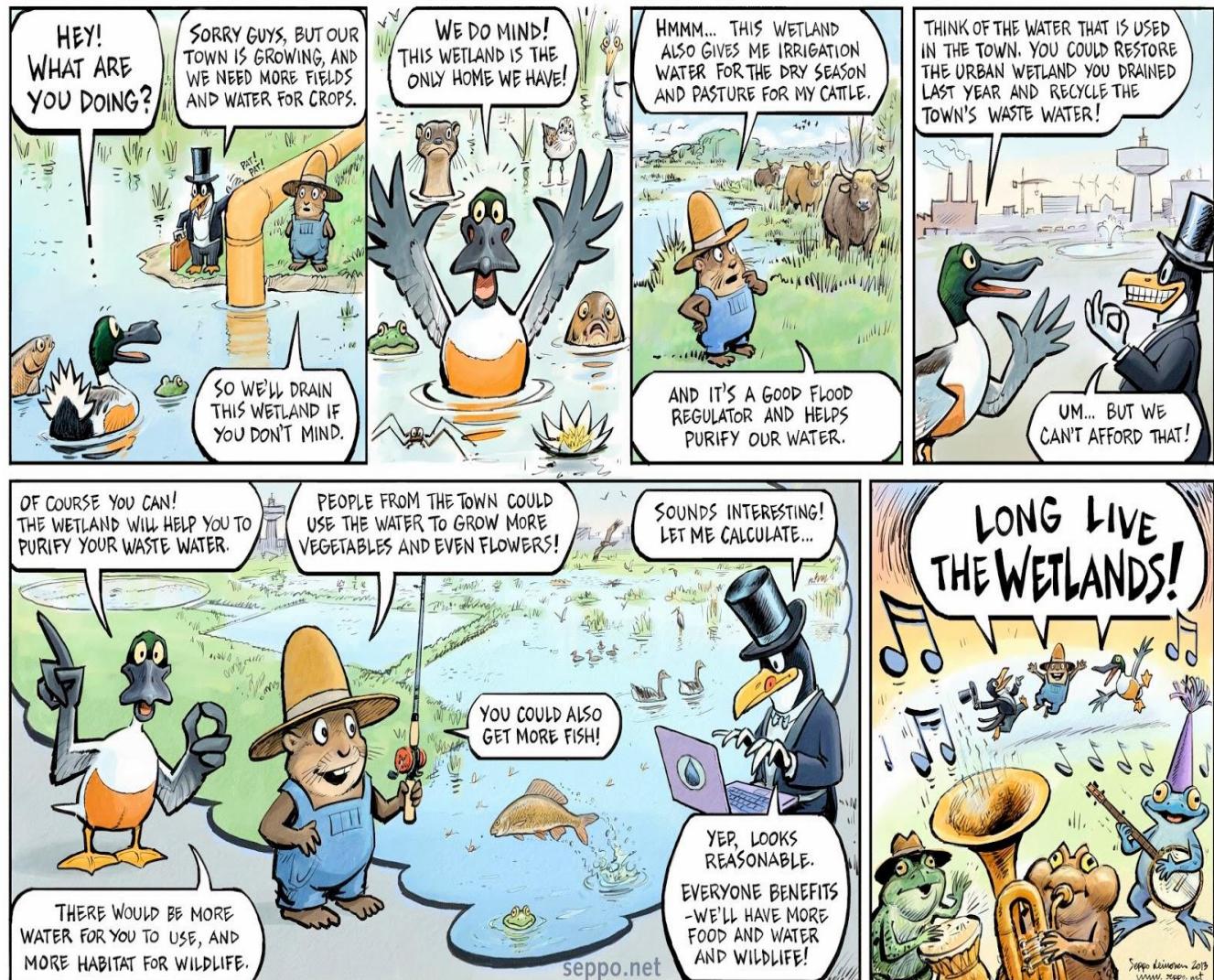


XI Conference of Parties  
CONVENTION ON BIOLOGICAL DIVERSITY  
HYDERABAD INDIA 2012

- Most important outcome - commitment of the Parties to double the international financial flows for Biodiversity by 2015.
- India has committed US \$50 million towards strengthening the mechanism for biodiversity conservation in the country during its presidency of CBD called the **Hyderabad Pledge**.
- **Funds use** - to enhance technical and human capabilities at the national and state-level mechanisms to attain the CBD objectives.
- The country has also earmarked funds to promote similar capacity building in developing countries. India formally took charge of the presidency of CBD from Japan for the next two years on October 8 at the inaugural of the CoP 11.
- India has instituted together with UNDP Biodiversity Governance Awards. The first such awards were given during the CoP 11.



# FOOD, WATER AND WETLANDS



Ramsar

- It is an intergovernmental treaty that provides the framework for **national action and international cooperation** for the conservation and wise use of wetlands and their resources.
- It is named after Iranian city "Ramsar" where it was adopted in 1971 and came into force in 1975.
- Only global environmental treaty that deals with a particular ecosystem.
- It is not affiliated with the UN system of Multilateral Environmental Agreements.

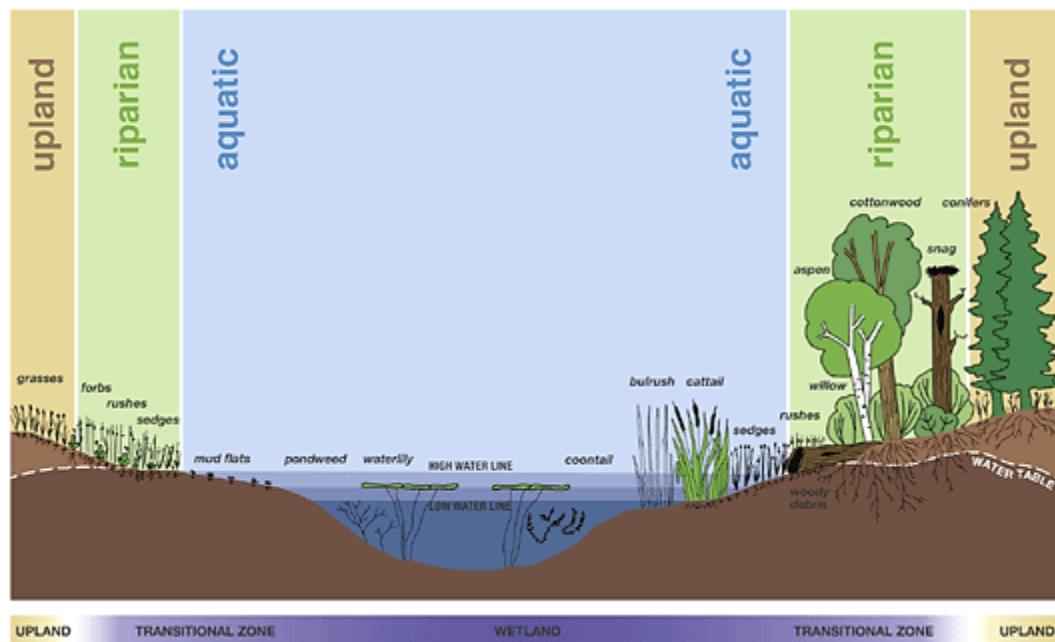
World  
Wetlands Day  
2 February 2017



Wetlands for Disaster  
Risk Reduction

- World Wetlands Day – 2 February.

### A Typical Wetland



**Mission** - "The conservation and wise use of all wetlands through local, regional and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world".

### 3 Pillars of Convention

The Parties have committed themselves to -

Wise use of all their wetlands through national land-use planning, appropriate policies and legislation, management actions, and public education

Designate suitable wetlands for Ramsar List

Cooperate internationally concerning transboundary wetlands, shared wetland systems, shared species, and development projects that may affect wetlands.

### **Transboundary Ramsar Sites**

- Suppose there is a wetland on India and Pakistan's boundary.
- So, now the Ramsar site authorities on both or all sides of the border have formally agreed to collaborate in its management, and have notified the Secretariat of this intent.
- This is a cooperative management arrangement and not a distinct legal status for the Ramsar sites involved.

### **Montreux Record**

- Adopted by conference of the Contracting Parties in Brisbane (1996).
- It is a register of wetland sites on the List of Wetlands of International importance where changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, pollution or other human interference.
- It is maintained as part of the Ramsar List.
- It is the principal tool of the Convention.

**If a wetland of international importance is brought under the 'Montreux Record', what does it imply?**

- a) Changes in ecological character have occurred, are occurring or are likely to occur in the wetland as a result of human interference.
- b) The country in which the wetland is located should enact a law to prohibit any human activity within five kilo meters from the edge of the wetland
- c) The survival of the wetland depends on the cultural practices and traditions of certain communities living in its vicinity and therefore the cultural diversity therein should not be destroyed
- d) It is given the status of 'World Heritage Site'

### **Indian Wetland and Montreux Record**

- Inclusion - Keoladeo National Park, Rajasthan (in 1990) and Loktak Lake, Manipur (in 1993).
- Removed - Chilika Lake, Orissa (included in 1990 and removed in 2002 after rehabilitation efforts)
- National Wetland Conservation Programme (NWCP) - This programme was launched in 1986 and has identified some 115 wetlands for urgent protection and conservation. If you recall it had been merged with another prog. (answer in Organization chapter)

### **International Organization Partners (IOPs)**

FIVE global NGOs have been associated with the Ramsar treaty since its beginnings and were confirmed in the formal status of IOPs of the Convention.

- 1. Bird Life International (formerly ICBP)**
- 2. IUCN - The International Union for the Conservation of Nature**
- 3. IWMI - The International Water Management Institute**
- 4. Wetlands International (formerly IWRB, the Asian Wetlands Bureau, and Wetlands for the Americas)**
- 5. WWF (World Wide Fund for Nature) International**

### **International Union for Conservation of Nature**

- It is an international organization (NGO) working in the field of nature conservation and sustainable use of natural resources.
- It is involved in data gathering and analysis, research, field projects, advocacy, lobbying and education.
- The organization is best known for compiling and publishing the IUCN Red List, which assesses the conservation status of species worldwide.
- Its headquarters are in Gland, Switzerland.

### **BirdLife International**

- BirdLife International is the world's largest nature conservation Partnership.
- Together they are 120 BirdLife Partners worldwide.
- BirdLife International strives to conserve birds, their habitats and global biodiversity, working with people towards sustainability in the use of natural resources.
- BirdLife International is the official Red List authority for birds, for the International Union for Conservation of Nature.
- It identifies the sites known/referred to as 'Important Bird and Biodiversity Areas'.

With reference to an organization known as 'Birdlife International' which of the following statements is/are correct?

1. It is a Global Partnership of Conservation Organizations.
2. The concept of 'biodiversity hotspots' originated from this organization.
3. It identifies the sites known/referred to as 'Important Bird and Biodiversity Areas'.

Select the correct answer using the code given below.

- a) 1 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

### **Wetlands International**

- Wetlands International is a global organization (NGO) that works to sustain and restore wetlands and their resources for people and biodiversity.
- It is an independent, not-for-profit organization, supported by government and NGO membership from around the world.
- Wetlands International's work ranges from research, advocacy and engagement with governments, corporate and international policy fora and conventions.

With reference to a conservation organization called 'Wetlands International', which of the following statements is/are correct?

1. It is an intergovernmental organization formed by the countries which are signatories to Ramsar Convention.
2. It works at the field level to develop and mobilize knowledge, and use the practical experience to advocate for better policies.

Select the correct answer using the code given below.

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

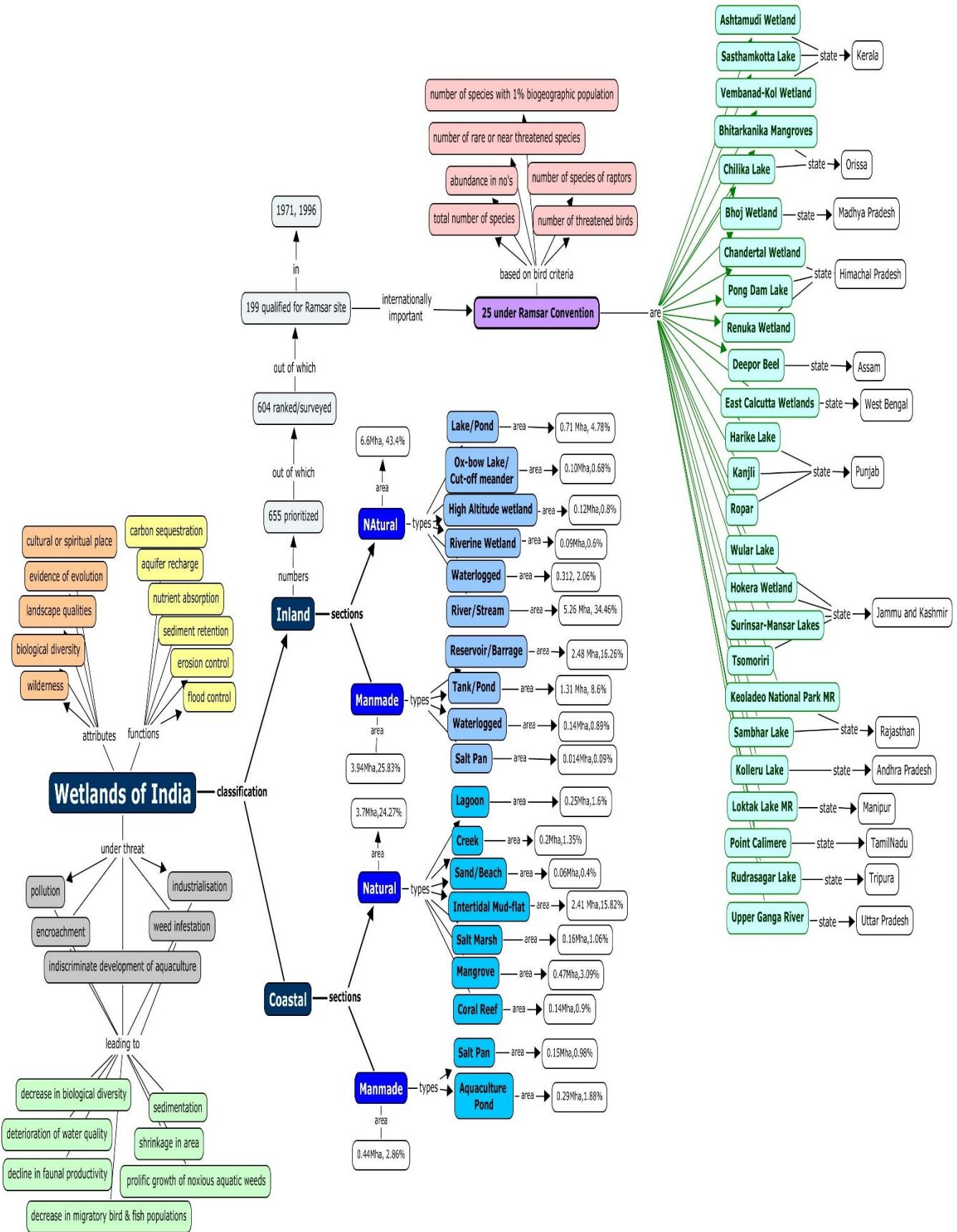
### **Criteria for Identification of Wetlands under Ramsar Convention**

- If it contains a representative, rare, or unique example of a natural or near natural wetland type.
- If it supports vulnerable, endangered, or critically endangered species; or threatened ecological communities.
- If it supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.
- If it supports plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions.
- If it regularly supports 20,000 or more water birds.
- If it regularly supports 1% of the individuals in a population of one species or subspecies of water birds.
- If it supports a significant proportion of indigenous fish subspecies
- If it is an important source of food for fishes, spawning ground, nursery and/or migration path.
- If it is an important source of food and water resource, increased possibilities for recreation and eco-tourism, etc.

Ramsar Sites in India

# RAMSAR SITES IN INDIA

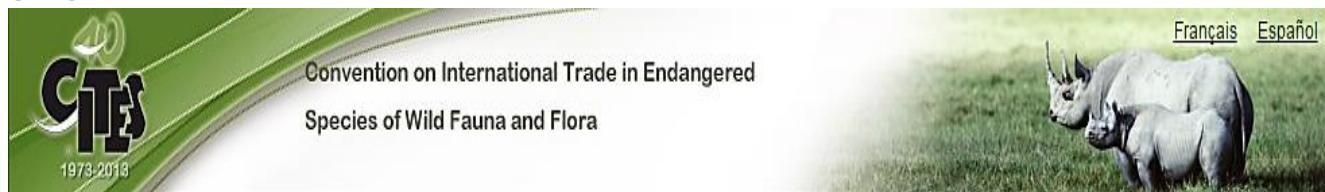




Wonderful mindmap about wetlands – [click here for high resolution](#)

Trick to remember Ramsar wetlands list in India – [click here](#)

## CITES



- It is an international agreement between governments entered into force in 1975, and became the only treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
- It is administered through the **United Nations Environment Programme (UNEP)**.
- Secretariat, located in Geneva, Switzerland, oversees the implementation of the treaty and assists with communications between countries.

## Protecting Species from Unsustainable Trade

Species for which trade is controlled are listed in one of 3 Appendices to CITES, each conferring a different level of regulation and requiring CITES permits or certificates.

### Appendix I

- Species threatened with extinction + provides the greatest level of protection (trade restriction)

### Appendix II

- Species not threatened with extinction
- Species that resemble other listed species and need to be regulated

### Appendix III

- Species for which a range country has asked other Parties to help in controlling international trade.

With reference to the International Union for Conservation of Nature and Natural Resources (IUCN) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which of the following statements is/are correct?

1. IUCN is an organ of the United Nations and CITES is an international agreement between governments
2. IUCN runs thousands of field projects around the world to better manage natural environments.
3. CITES is legally binding on the States that have joined it, but this Convention does not take the place of national laws.

Select the correct using the code given below.

- a) 1 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

### TRAFFIC - The Wildlife Trade Monitoring Network

- Joint conservation programme of **IUCN and WWF**.
- Established in 1976 by the Species Survival Commission of IUCN, principally as a response to the entry into force during the previous year of the CITES.
- It has grown to become the world's largest wildlife trade monitoring programme, + a global expert on wildlife trade issues.
- This NGO takes its activities in close collaboration with governments and the CITES.

#### Goal

- To ensure that trade in wild plants and animals is not a threat to the conservation of nature.

#### Vision

- Trade in wild animals and plants without damaging the integrity of ecological systems + at sustainable levels.

## Convention on the Conservation of Migratory Species (CMS)

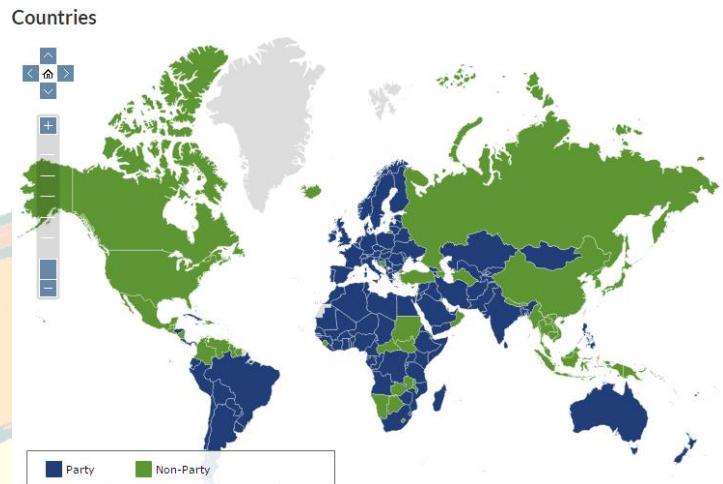
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CMS

Convention on the Conservation of Migratory Species of Wild Animals



- Also known as **Bonn Convention**.
- Aim - to conserve terrestrial, marine and avian migratory species throughout their range.
- It is an intergovernmental treaty, concluded under the aegis of the United Nations Environment Programme (UNEP), concerned with the conservation of wildlife and habitats on a global scale.
- Only **global and UN-based intergovernmental organization** established exclusively for the conservation and management of terrestrial, aquatic and avian migratory species throughout their range.

### Appendix I

- Species threatened with extinction
- Protecting these animals, conserving or restoring the places where they live, mitigating obstacles to migration and controlling other factors that might endanger them

### Appendix II

- Migratory species that need or would significantly benefit from international cooperation are listed in Appendix II of the Convention.

## Coalition Against Wildlife Trafficking (CAWT)



- Aims – to focus public and political attention and resources on ending the illegal trade in wildlife and wildlife products.
- CAWT is a unique voluntary public-private coalition of like-minded governments and organizations sharing a common purpose.
- CAWT is leveraging the combined strengths of government and nongovernmental partners to –

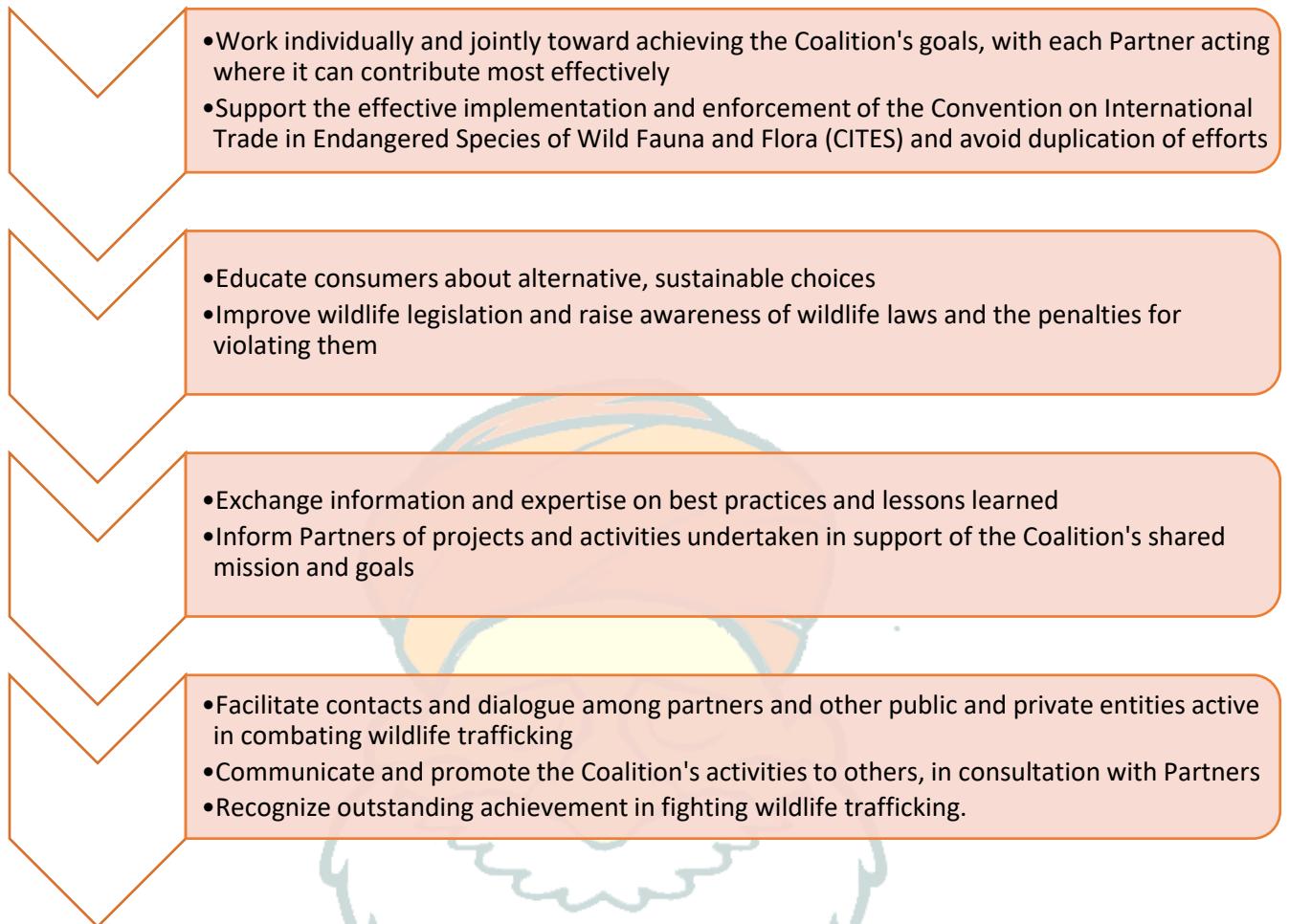
Improve Wildlife Law Enforcement by expanding enforcement training and information sharing and strengthening regional cooperative networks.

Reduce consumer demand for illegally traded wildlife by raising awareness of the impacts of illegal wildlife trade on biodiversity and the environment, livelihoods, and human health; its links to organized crime; and the availability of sustainable alternatives.

Catalyse high-level political will to fight wildlife trafficking by broadening support at the highest political levels for actions to combat the illegal trade in wildlife.

CAWT members pursue a 'shared approach' whereby they –





### The International Tropical Timber Organization (ITTO)



- It is an intergovernmental organization promoting the conservation and sustainable management, use and trade of tropical forest resources.
- Its members represent about 80% of the world's tropical forests and 90% of the global tropical timber trade.
- **India is a member of it.**

#### What it does?

- Like all commodity organizations it is concerned with trade and industry, but like an environmental agreement it also pays considerable attention to the sustainable management of natural resources.

- ITTO develops internationally agreed policy documents to promote sustainable forest management and forest conservation.
- It assists tropical member countries to adapt such policies to local circumstances and to implement them in the field through projects.
- It collects, analyses, and disseminates data on the production and trade of tropical timber and funds a range of projects.

## United Nations Forum on Forests (UNFF)

Welcome to the United Nations. It's your world.

Search UN Website Go

UN Economic and Social Development | Department of Economic and Social Affairs

**United Nations Forum on Forests**

International Day of Forests  
21 March

- The Economic and Social Council of the United Nations (ECOSOC), established the United Nations Forum on Forests (UNFF).
- The Forum has universal membership, and is composed of all Member States of the United Nations and specialized agencies.

### Functions

	To facilitate implementation of forest-related agreements and foster a common understanding on sustainable forest management
	To provide for continued policy development and dialogue among Governments, international organizations, including major groups, as identified in Agenda 21 as well as to address forest issues and emerging areas of concern in a holistic, comprehensive and integrated manner
	To enhance cooperation as well as policy and programme coordination on forest-related issues
	To foster international cooperation
	To monitor, assess and report on progress of the above functions and objectives
	To strengthen political commitment to the management, conservation and sustainable development of all types of forests.
	Forest contribution enhancement to achieve the internationally agreed development goals, including the Millennium Development goals (MDG), Sustainable development goals (SDG) etc.
	Encourage and assist countries, including those with low forest cover to develop and implement forest conservation and rehabilitation strategies + ↑ forest area + ↓ forest degradation and loss of forest cover
	Strengthen interaction between the UNFF and relevant regional and subregional forest-related mechanisms, institutions and instruments organizations and processes.

#### Four Global objectives

-  Reverse the loss of forest cover worldwide through sustainable forest management (SFM)
-  Enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest-dependent people
-  ↑ SFM area, including protected forests, and increase the proportion of forest products derived from sustainably managed forests
-  Reverse the decline in official development assistance for SFM and mobilize significantly increased new and additional financial resources from all sources for the implementation of SFM.

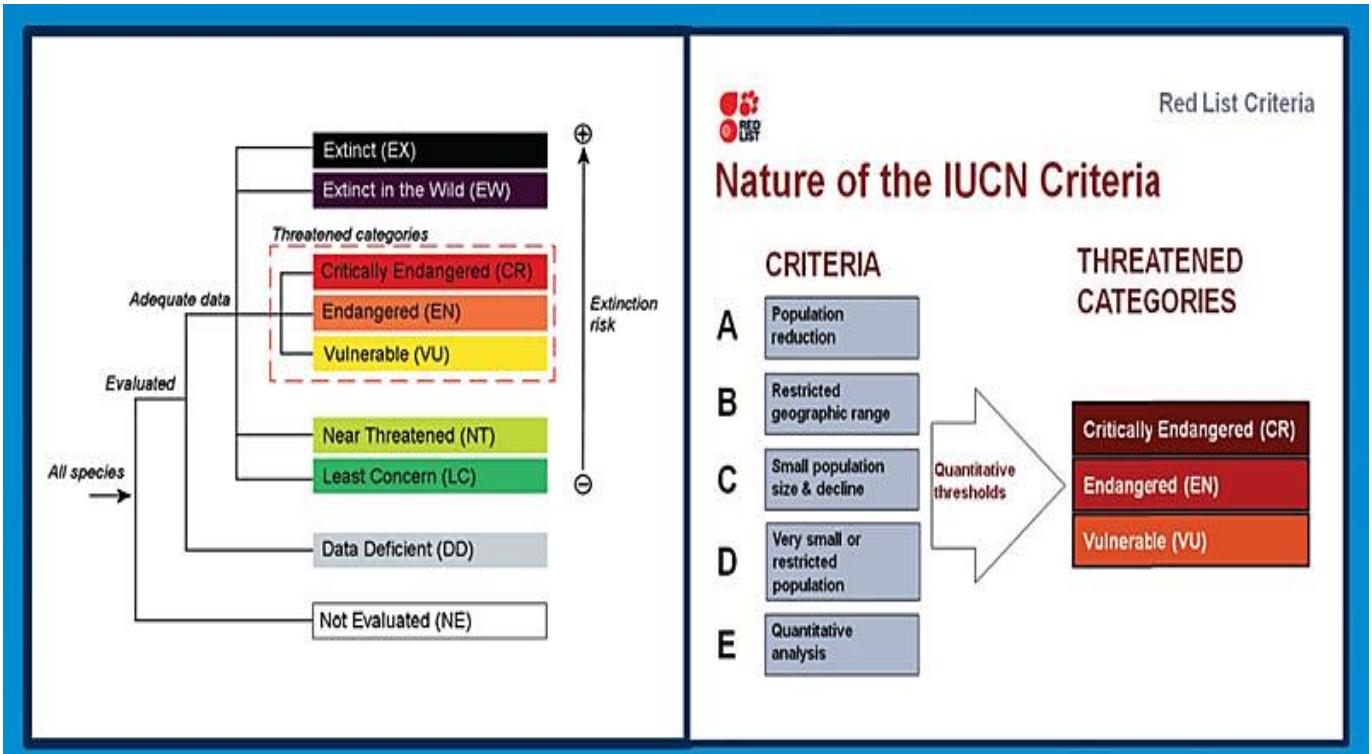
#### Non-Legally Binding Instrument on All Types of Forests (NLBI)

- 7<sup>th</sup> session adopted it on all types of forests.
- 1<sup>st</sup> time – member states agreed to an international instrument for SFM.
- The instrument is voluntary and non-legally binding
- It is expected that it will create major impact on international cooperation and national action to reduce deforestation, prevent forest degradation, promotes sustainable livelihoods and ↓ poverty for all forest dependent peoples.

IUCN



- International Union for Conservation of Nature (IUCN) is a membership Union uniquely composed of both government and civil society organizations. It provides public, private and non-governmental organizations with the knowledge and tools that enable human progress, economic development and nature conservation to take place together.
- The organization is best known for compiling and publishing the IUCN Red List, which assesses the conservation status of species worldwide.
- **Headquarter** - Gland, Switzerland.



Species are classified by the IUCN Red List into 9 groups, set through **criteria** such as rate of decline, population size, area of geographic distribution, and degree of population and distribution fragmentation.

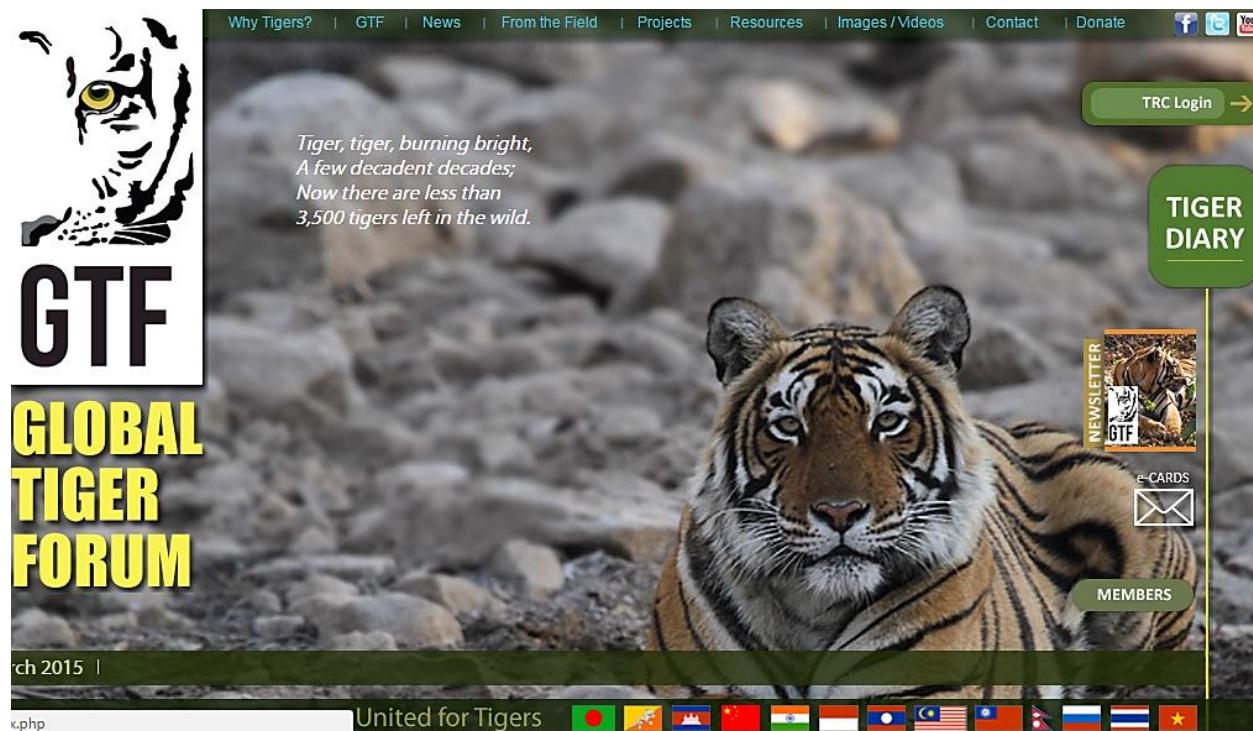
### Vision

- Just world that values and conserves nature.

### Missions

- To influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.
- IUCN supports scientific research, manages field projects globally and brings governments, NGOs, UN agencies, companies and local communities together to develop and implement policy.
- IUCN Members include both States and non-governmental organizations.

## The Global Tiger Forum (GTF)



See India's flag (this means we are also member of it)

- It is an intergovernmental and international body established with members from willing countries to save the remaining 5 sub-species of tigers in the wild distributed over 14 tiger range countries of the world.
- Formed in 1994 with its **secretariat at New Delhi**.
- **Only inter-governmental and international body campaigning to save the TIGER worldwide.**
- General Assembly of GTF shall meet once in 3 years.

### Goal

- To highlight the rationale **for tiger preservation** and provide leadership and common approach throughout the world in order to safeguard the survival of the tiger, its prey and its habitat

### Objectives

- To promote a worldwide campaign to **save the tiger**, its prey and its habitat.
- To promote a **legal framework** in the countries involved for bio-diversity conservation
- To ↑ **habitats of the tiger** and facilitate their interpassages in the range countries;
- To promote **eco-development programmes** with the participation of the communities living in and around protected areas **like JFM.**(recall JFM)
- To urge countries to enter into **relevant conventions for conservation of tiger** and elimination of illegal trade.

- **Scientific research** to generate information useful for tiger, its prey and its habitat to disseminate such information in an easily accessible manner.
- **Development and exchange of appropriate technologies** and training programmes for scientific wildlife management.
- To encourage range countries to **prepare and implement their individual action plans** for protection, and growth of the tiger population and its prey base.
- To **involve inter-governmental organisations** in the protection of the tiger.
- To set up a **participative fund** of an appropriate size to engender awareness in all places where people consume tiger derivatives for eliminating such consumption of tiger products, and identifying substitutes, in the interests of conservation.

### **Global Tiger Initiative (GTI)**

- It is an alliance of governments, international agencies, civil society, and the private sector united to save wild tigers from extinction.

### **Goals of GTI**

- Support capacity-building in governments for responding effectively to the transnational challenge of illegal trade in wildlife.
- Scientifically managing tiger landscapes in the face of mounting and varied threats.
- Curtail international demand for tiger parts which are responsible for drastic declines in tiger populations.
- To develop mechanisms for safeguarding habitats from development.
- To create innovative and sustainable financing mechanisms for tiger landscapes including protected areas.
- To build strong local constituencies for tiger conservation through development of economic incentives and alternative livelihoods for local people.
- To spread the recognition among governments, international aid agencies and the public that tiger habitats are high-value diverse ecosystems.

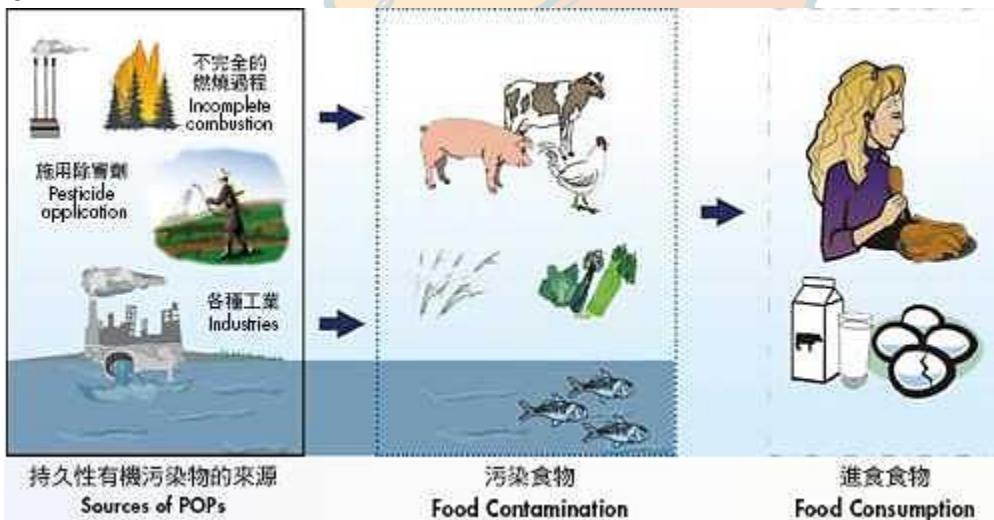


## The Stockholm Convention on POP (Persistent Organic Pollutants)

The screenshot shows the official website of the Stockholm Convention. At the top, there are tabs for 'Basel Convention', 'Rotterdam Convention', 'Stockholm Convention', and 'Synergies'. Below the tabs, there's a banner for the 'Twelfth meeting of the Persistent Organic Pollutants Review Committee (POPRC.12)' held in Rome, Italy, from 19 to 23 September 2016. A 'Read more' link is present. To the right of the banner is the 'STOCKHOLM CONVENTION' logo with the tagline 'Protecting human health and the environment from persistent organic pollutants'. A sidebar on the right lists 'Meetings', 'Documents', 'Networks', 'Projects', and 'Publications'. A hand holding a pen over a laptop screen is visible in the background of the banner area.

The Stockholm Convention on POP was adopted at a Conference of Plenipotentiaries in Stockholm, Sweden (2001) and entered into force in 2004.

### POPs



- They are organic chemical substances, that is, they are carbon-based.
- They possess a particular combination of physical and chemical properties such that, once released into the environment, they –
  - Remain intact for exceptionally long periods of time (many years).
  - Widely distributed in environment because of natural processes involving soil, water and, most notably, air.
  - Though not soluble in water, accumulate in the fatty tissue of living organisms including humans, and are found at higher concentrations at higher levels in the food chain.
- In addition, POPs concentrate in living organisms through another process called **bioaccumulation**.

# Persistent Organic Pollutants

**Working towards a POPs Free Environment for Our Future Generations!**

**What are POPs ?**

Persistent Organic Pollutants (POPs) are a group of toxic chemicals sharing 4 common properties:

- Highly toxic
- Persistent in the environment
- Travelling long distance globally
- Bioaccumulating in people and the wildlife

They are widely used as pesticides and/or industrial chemicals.

**The Stockholm Convention**

The Stockholm Convention on POPs is an international treaty to protect human health and the environment from potential harmful effects of POPs. Parties to the Convention need to take measures to reduce and ultimately eliminate an initial set of 12 POPs, the "Dirty Dozen".

**The Dirty Dozen**

Pesticides	Industrial Chemicals	Unintentionally Produced by-Products
<ul style="list-style-type: none"> <li>Aldrin</li> <li>Chlordane</li> <li>DDT</li> <li>Dieldrin</li> <li>Endrin</li> <li>HCB</li> <li>Heptachlor</li> <li>Mirex</li> <li>Toxaphene</li> </ul>	<ul style="list-style-type: none"> <li>Hexachlorobenzene (HCB)</li> <li>Polychlorinated biphenyls (PCBs)</li> </ul>	<ul style="list-style-type: none"> <li>Dioxins</li> <li>Furans</li> <li>HCB</li> <li>PCBs</li> </ul>

**Potential Harmful Effects of POPs**

- Cause cancer
- Reduce reproductive success
- Disrupt the immune system
- Damage the central nervous system
- Induce birth defects

**Sources of POPs**

- Pesticides and industrial chemicals are intentionally produced for specific anthropogenic purposes
- Dioxins/furans are produced unintentionally as by-products of:
  - thermal processes with incomplete combustion
  - industrial processes involving chlorine
  - natural processes (e.g. forest fires and volcanic eruptions)

**Are the 12 POPs being produced and/or used in Hong Kong?**

The 9 **POPs pesticides** under the Convention are not registered or their registration status has been cancelled for many years. None of them is now being produced or used in Hong Kong.

**PCBs** are no longer used as an industrial chemical in Hong Kong. Only a small number of PCB-containing equipment (mostly small capacitors) are still in use.

**Dioxins/furans** are unintentionally produced POPs, commonly found in practically all media and in food. Comparatively higher levels of dioxin/furan contamination have been recorded in contaminated soils, sediments and biota whilst very low levels are found in ambient air and water.

**Key Components of the HKSARIP**

- An overview of the current POPs situation in Hong Kong
- Strategies, priorities and action plans to control POPs in the next 5 - 10 years
- Promotion of public awareness
- Enhancement of regional information exchange and collaboration

**Stop POPs, Action Now !**

- Avoid, reduce, reuse and recycle waste
- Prevent forest fires
- Stop uncontrolled open burning
- Phase out and replace PCB-containing equipment
- Adopt best available techniques (BAT) and best environmental practices (BEP) in industrial processes
- Prevent illegal use of POPs pesticides

**What is Hong Kong doing under the Stockholm Convention?**

- The Stockholm Convention became effective to the People's Republic of China (PRC) including the Hong Kong Special Administrative Region (HKSAR) on November 11, 2004
- The PRC needs to prepare a National Implementation Plan (NIP) in accordance with the requirements of the Stockholm Convention
- The NIP includes the HKSAR Implementation Plan (HKSARIP)

**More about POPs**

Please visit our dedicated thematic website under <http://www.epd.gov.hk> to find out more about POPs.

[Click here for Infographic](#)

## 12 initial POPs

- Initially 12 POPs were recognized which causes adverse effects on human and ES and can be placed in 3 categories –

Pesticides	Aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, hexachlorobenzene, mirex and toxaphene.
Industrial chemicals	hexachlorobenzene, polychlorinated biphenyls (PCBs)
By products	Hexachlorobenzene, polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans (PCDD/PCDF), and PCBs.

Later 9 new POPs were also added and 10<sup>th</sup> one was Endosulfan

## Basel Convention



- The **Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal**, usually known as the **Basel Convention**, is an international treaty that was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries (LDCs).
- But It does not address the movement of radioactive waste.

## History

- In 1970s the cost of disposing the hazardous waste increased and globalization of shipping made transboundary movement of waste more accessible, and many LDCs were desperate for foreign currency. Consequently, the trade in hazardous waste, particularly to LDCs, grew rapidly.
- Incidents like Khian Sea waste disposal incident, Koko case forced to adopt this convention so that transboundary movements of Hazardous waste can be controlled.

## Objective

- To protect human health and the environment against the adverse effects of hazardous wastes and other wastes (household waste and incinerator ash).

## **Principal aims**

- Reduction of hazardous waste generation and the promotion of hazardous wastes management.
- Restriction of transboundary movements of hazardous wastes.
- A regulatory system applying to cases where transboundary movements are permissible.

## **Waste under the Basel Convention**

Wastes are substances or objects which are –

- Disposed of or,
- Are intended to be disposed of or,
- Are required to be disposed of by the provisions of national law.

## **Annex I of convention**

- It lists those wastes that are classified as hazardous and subject to the control procedures under the Convention.

## **Annex II of convention**

- wastes that require special consideration (known as "**other wastes**", and which primarily refer to household wastes)

## **Examples of wastes regulated by the Basel Convention**

- Biomedical and healthcare wastes
- Used oils
- Used lead acid batteries
- Persistent Organic Pollutant wastes (POPs)
- Polychlorinated Biphenyls (PCBs)
- 1000s of chemical wastes generated by industries and other consumers

## **Rotterdam Convention**



- The Rotterdam Convention (formally, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade) is a **multilateral treaty to promote shared responsibilities in relation to importation of hazardous chemicals**.

- It promotes open exchange of information and calls on exporters of hazardous chemicals to use proper labeling, include directions on safe handling, and inform purchasers of any known restrictions or bans.
- Signatory nations can decide whether to allow or ban the importation of chemicals listed in the treaty, and exporting countries are obliged to make sure that producers within their jurisdiction comply.
- It covers pesticides and industrial chemicals that have been banned or severely restricted for health or environment.

### Objectives

To promote shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals so human health and the environment can be protected

Sound use of those hazardous chemicals,

### Annex III Chemicals

- Pesticides and industrial chemicals that have been banned or severely restricted for health or environmental reasons by two or more Parties + CoP decided to subject the PIC procedure
- Total – 43 chemicals (32 – pesticides, 11 – industrial chemicals)

### UNCCD



- It is a **Convention to combat desertification** and **mitigate the effects of drought** through national action programs that incorporate long-term strategies supported by international cooperation and partnership arrangements.
- Only internationally **legally binding framework** set up to address the problem of desertification.
- It is based on the **principles of participation, partnership and decentralization**—the backbone of Good Governance and Sustainable Development.

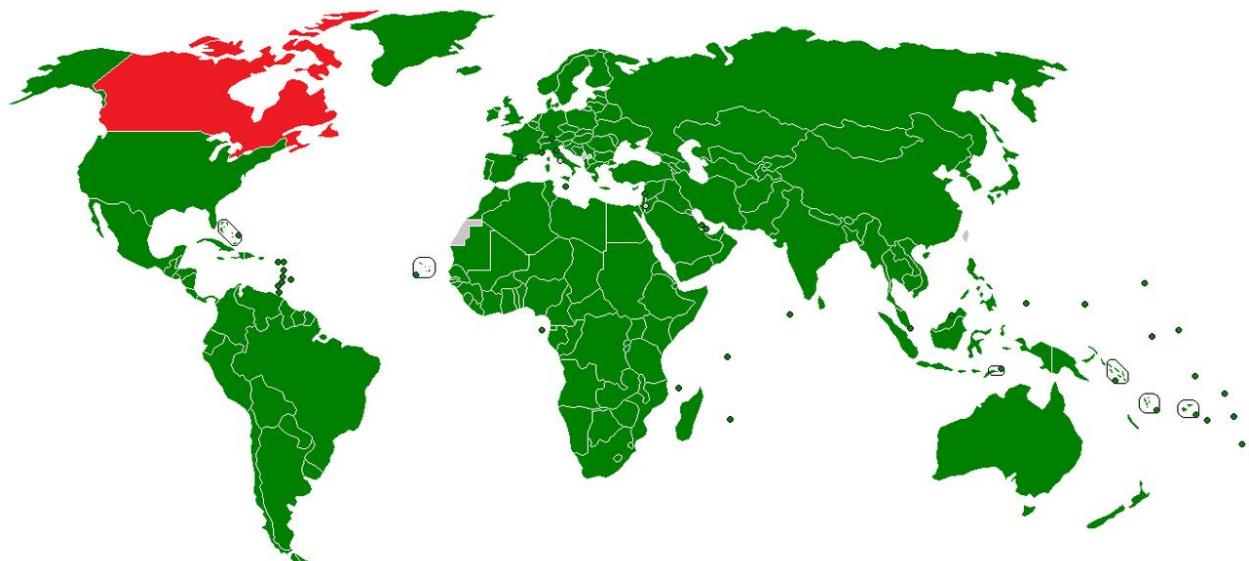
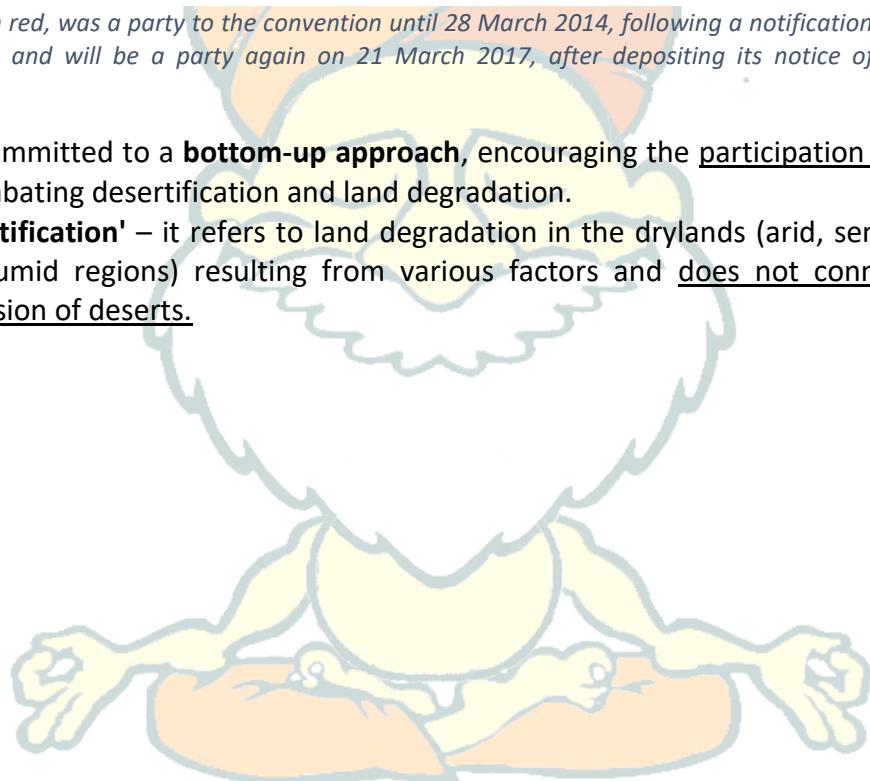


Figure Canada in red, was a party to the convention until 28 March 2014, following a notification of withdrawal on 28 March 2013, and will be a party again on 21 March 2017, after depositing its notice of accession on 21 December 2016.

- It is committed to a **bottom-up approach**, encouraging the participation of local people in combating desertification and land degradation.
- '**Desertification**' – it refers to land degradation in the drylands (arid, semi-arid and dry sub humid regions) resulting from various factors and does not connote spread or expansion of deserts.



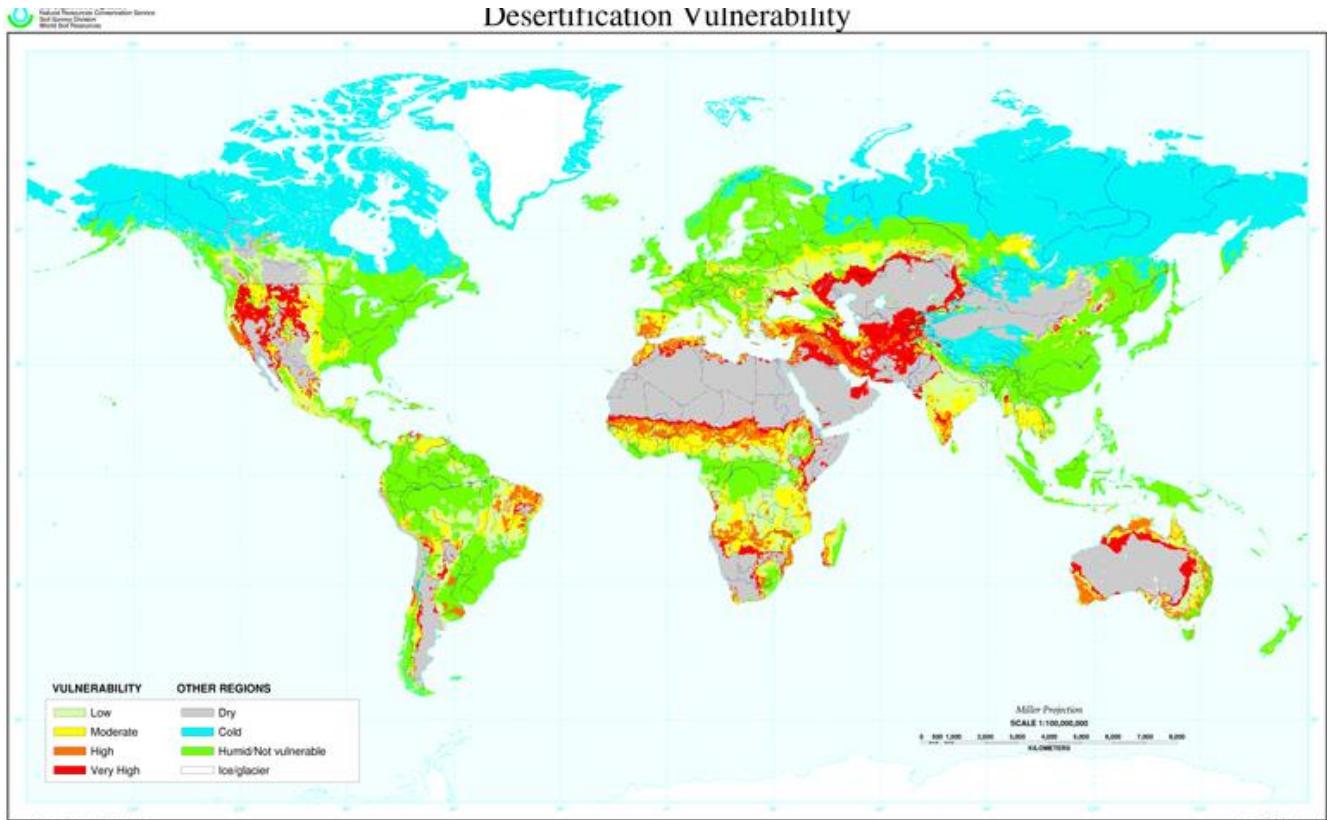


Figure World map showing global desertification vulnerability

- UNCCD is a unique instrument that recognizes land degradation as an important factor affecting some of the most vulnerable people and ecosystems in the world.
- **Aim of convention** – adaptation + can help in SDG, sustainable development and poverty reduction.
- The convention promotes **sustainable land management (SLM)** as solution to global challenges. SLM focuses on changes in land cover/land use in order to maintain and enhance ecosystems functions and services.
- Land degradation is **long-term loss of ecosystem** function and productivity caused by disturbances from which the land cannot recover unaided.

International Whaling Commission (IWC)



**INTERNATIONAL  
WHALING COMMISSION**

- It is global intergovernmental body for the **proper conservation of whale stocks** and thus make possible the orderly development of the whaling industry
- Set up under the International Convention for the Regulation of Whaling (1946).

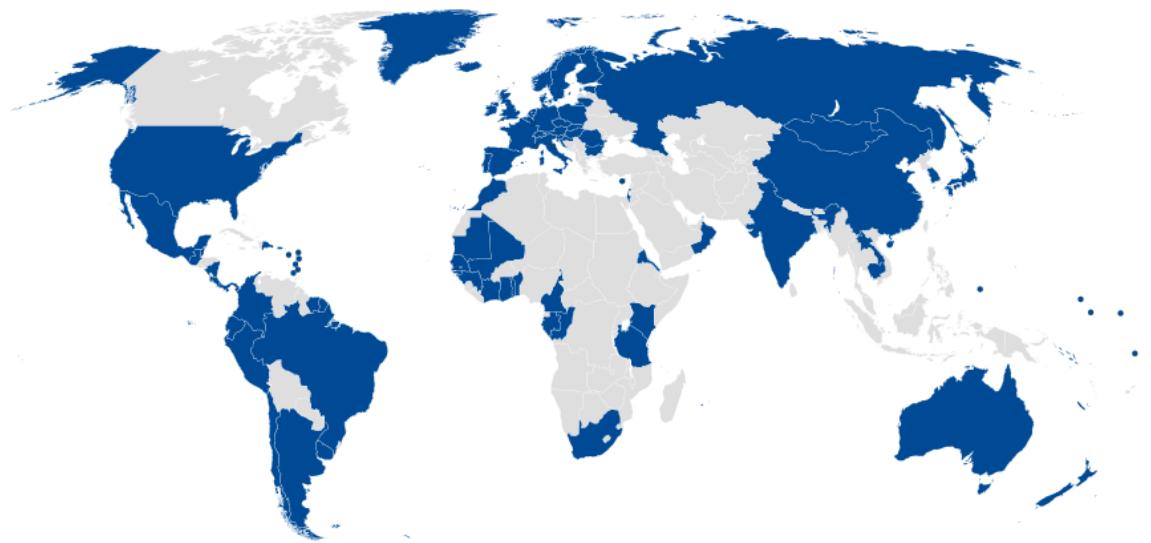


Figure Member states of the International Whaling Commission (in blue)

#### Main duty

- To keep under review and revise as necessary the measures laid down in the Schedule to the Convention which govern the conduct of whaling throughout the world.
- Measures include –
  - Provide for the complete protection of certain species.
  - Designate specified areas as whale sanctuaries.
  - Set limits on the numbers and size of whales which may be taken.
  - Prescribe open and closed seasons and areas for whaling.
  - Prohibit the capture of suckling calves and female whales accompanied by calves.
- The compilation of catch reports and other statistical and biological records is also required.
- In 1986 the Commission introduced zero catch limits for commercial whaling. (it is still in place today), although the Commission continues to set catch limits for aboriginal subsistence whaling.
- To keep whale catch limits under review, the Commission works to promote the recovery of depleted whale populations by addressing issues such as ship strikes, entanglement events, environmental concerns and establishing protocols for whale watching.

## UNCLOS

- The United Nations Convention on the Law of the Sea (UNCLOS), also called the Law of the Sea Convention or the Law of the Sea treaty is the **international agreement** that resulted from the third United Nations Conference on the Law of the Sea (UNCLOS III), which took place between 1973 and 1982.

## SOLAS

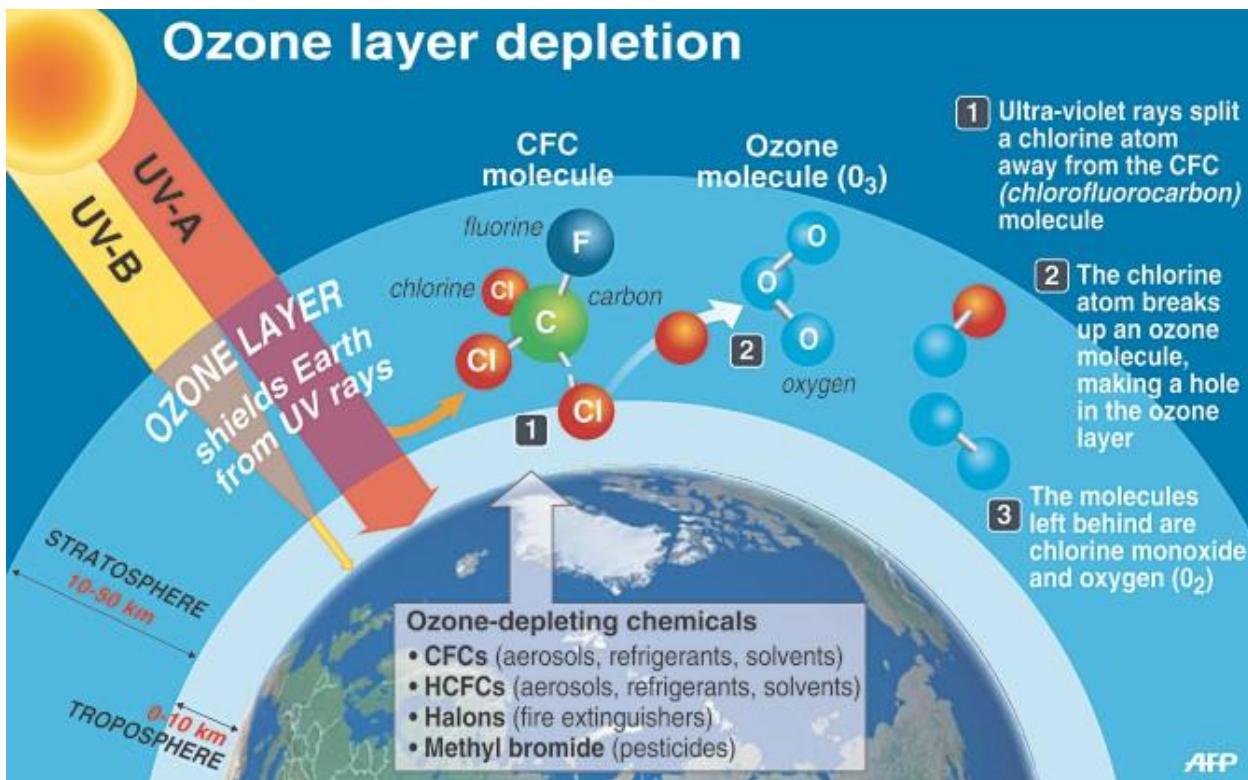
- The International Convention for the Safety of Life at Sea (SOLAS) is an international maritime treaty which sets minimum safety standards in the construction, equipment and operation of merchant ships.

## International Seabed Authority (ISA)

- The International Seabed Authority (ISA) is **an intergovernmental body** based in Kingston, Jamaica, that was established to organize, regulate and control all mineral-related activities in the international seabed area beyond the limits of national jurisdiction, an area underlying most of the world's oceans.
- It is an organization established by the Law of the Sea Convention.

## Vienna Convention

- It is a Multilateral Environmental Agreement.
- It was agreed upon at the Vienna Conference of 1985 and entered into force in 1988.
- In terms of universality, it is **one of the most successful treaties of all time**, as it had been ratified by 197 states as well as the European Union.



- It acts as a **framework for the international efforts to protect the ozone layer**. But, it does **not include legally binding reduction goals for the use of CFCs**, the main chemical agents causing ozone depletion.
- These are laid out in the accompanying **Montreal Protocol**.

### Montreal Protocol

## MONTREAL PROTOCOL



- It is an international treaty designed to protect the ozone layer by **phasing out the production of numerous substances that are responsible for ozone depletion**.
- It was agreed in 1987, and entered into force in **Helsinki (1989)**.

- After that it had undergone 8 revisions, in 1990 (London), 1991 (Nairobi), 1992 (Copenhagen), 1993 (Bangkok), 1995 (Vienna), 1997 (Montreal), 1998 (Australia), 1999 (Beijing) and 2016 (Kigali, adopted, but not in force).
- Result of international agreement - the **ozone hole in Antarctica is slowly recovering**.
- Climate projections indicate that the ozone layer will return to 1980 levels between 2050 and 2070.
- Due to its widespread adoption and implementation it has been hailed as an **example of exceptional international co-operation**.
- **Legally binding in nature**

### India and protection of Ozone layer

- India became party of Vienna Convention in 1991 and of Montreal protocol in 1992.
- It ratified the Copenhagen, Montreal and Beijing Amendments in 2003.
- India produces **CFC-11, CFC-12, CFC-113, Halon-1211, HCFC-22, Halon-1301, Carbontetrachloride (CTC), methyl chloroform and methyl bromide**.
- These ozone Depleting Substances (ODS) are used in refrigeration and air conditioning, firefighting, electronics, foams, aerosol fumigation applications.
- A detailed **India Country Programme for phase out of ODS** was prepared in 1993.
- It ensured that phase out of ODS is **according to national industrial development strategy + without undue burden on consumers and industries**.
- Access to Protocol's Financial Mechanism is in accordance with the requirements stipulated in the Montreal Protocol.
- An **Ozone cell and a steering committee** on the Montreal protocol was setup by MoEF to facilitate implementation of India Country Programme for phasing out ODS production by 2010.
- To meet its objectives govt. had exempted all non-ODS technology goods from Customs and Central Excise Duties.

### Kigali Agreement

- Amendment which amends the 1987 Montreal Protocol aims to phase out **Hydrofluorocarbons (HFCs)**, a family of potent greenhouse gases by the late 2040s.
- The Kigali Agreement - binding on countries from 2019.
- Provisions for penalties for non-compliance.
- The ambitious phase down schedule will avoid more than 80 billion metric tons of carbon dioxide equivalent emissions by 2050—avoiding up to 0.5° Celsius warming by the end of the century—while continuing to protect the ozone layer.

Which one of the following is associated with the issue of control and phasing out of the use of ozone-depleting substances?

- a) Bretton Woods Conference
- b) Montreal Protocol
- c) Kyoto Protocol
- d) Nagoya Protocol

## Globally Important Agricultural Heritage Systems (GIAHS)



Food and Agriculture Organization  
of the United Nations

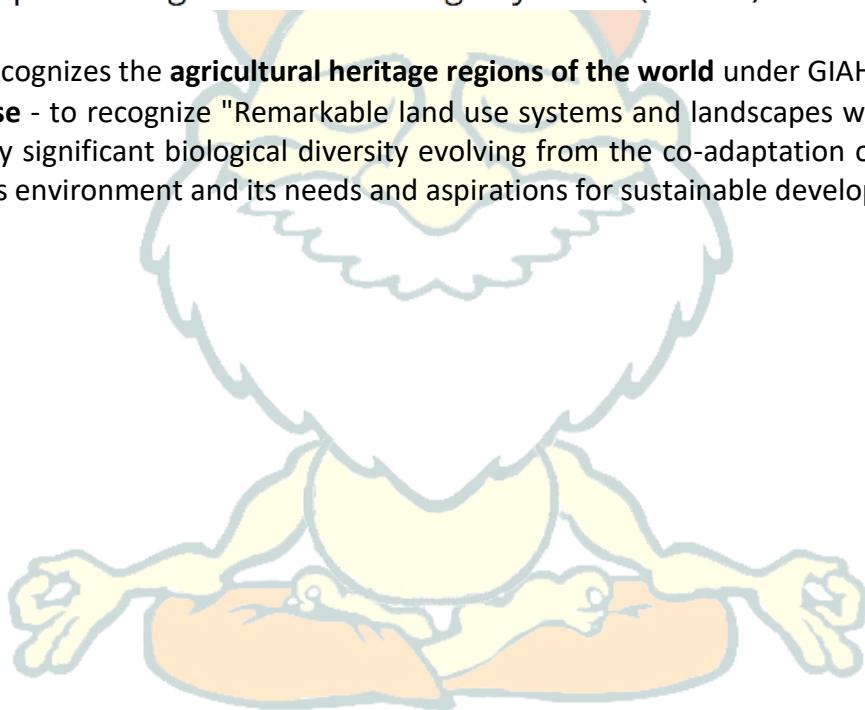
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## Globally Important Agricultural Heritage Systems (GIAHS)

- FAO recognizes the **agricultural heritage regions of the world** under GIAHS.
- **Purpose** - to recognize "Remarkable land use systems and landscapes which are rich in globally significant biological diversity evolving from the co-adaptation of a community with its environment and its needs and aspirations for sustainable development".





## CRITERIA FOR DESIGNATION OF GIAHS

### 1. Food and livelihood security

The proposed agriculture system should contribute to food and livelihood security of local communities.

### 2. Biodiversity and ecosystem function

Agricultural biodiversity and genetic resources (species, varieties & breeds), as well as other biodiversity such as wild relatives, pollinators and wildlife associated with the agricultural system and landscape.

### 3. Knowledge systems and adapted technologies

Maintain invaluable knowledge, ingenious technology and management systems of natural resources, etc.

### 4. Cultures, value systems and social organizations (Agri-Culture)

Cosmo-vision, value systems and agri-cultural practices associated with environment and agricultural calendar; festivities and rituals as knowledge transfer.

### 5. Remarkable landscapes, land and water resources management features

Landscape features resulting from human management

6

### Sites in India which received recognition under GIAHS –

#### **1. Traditional Agricultural System, Koraput, Odisha**

- Rich biodiversity, growing several varieties of paddy, millets, pulses, oilseeds, vegetables.
- Region primarily a tribal district inhabited by khonds, bonda tribes practicing podhu (shifting) cultivation.
- Shifting cultivation – loss of forest cover = hurting the biodiversity.
- Soil erosion, Soil degradation, habitat loss.
- Illiteracy, large family, small farm holding size.
- The socio-economic indicators are very poor here nearly 84% living in abject poverty.

#### **2. Below Sea Level Farming System, Kuttanad, Kerala**

- It was developed by farmers over 150 years ago to ensure their food security by learning to cultivate rice and other crops below sea level.
- It is now attracting worldwide attention since one of the effects of global warming is sea level rise.

- It has therefore been an act of vision on the part of Kerala government to have decided to set up an International Research and Training Centre for Below Sea Level Farming in Kuttanad.

### **The Low Emissions Development Strategies Global Partnership (LEDS GP)**

The Low Emissions Development Strategies Global Partnership (LEDS GP) aims to advance climate-resilient low emission development and support transitions to a low-carbon economy through coordination, information exchange and cooperation among countries and programs working to advance low-emission economic growth.

The partnership was launched in 2011 and brings together more than 160 governmental and international institutions.

LEDS GP engages leaders from over 300 institutions across government agencies, technical institutes, international agencies, and NGOs. It operates through regional platforms in Africa, Asia, Europe and Eurasia, and Latin America and the Caribbean and has six technical global working groups and a global secretariat

#### **Low emission development strategies (LEDS), simultaneously**

- reduce greenhouse gas emissions
- increase resilience to climate change impacts
- achieve social, economic and environmental development goals.

These strategies include national climate change laws, green growth strategies and plans, sectoral plans for low emission development, Nationally Appropriate Mitigation Actions (NAMAs) and Nationally Determined Contributions (NDCs) to the 2015 Paris Agreement under the UNFCCC. The Partnership does not adopt any particular definition of low emission development or low emission development strategies

### **London Accord**

- The London Accord is collaboration between investment banks, research houses, academics and NGOs to produce free research on climate change for financial investors.
- It is intended as a reference guide for investors in the climate change sector.
- The London Accord is the largest cooperative project in the world on investment opportunities in avoiding climate change

## UN Conference on Sustainable Development

- Also known as Rio 2012, Rio+20 or Earth Summit 2012 was the third international conference on sustainable development aimed at reconciling the economic and environmental goals of the global community.
- Hosted by Brazil in Rio de Janeiro in June 2012
- Rio+20 was a 20-year follow-up to the 1992 United Nations Conference on Environment and Development (UNCED) held in the same city,
- 10th anniversary of the 2002 **World Summit on Sustainable Development (WSSD)** in Johannesburg.

## United Nations Sustainable Development Summit 2015

More than 150 world leaders gathered at United Nations Headquarters in New York to adopt an ambitious new sustainable development agenda.

Agreed by the 193 Member States of the UN, the new agenda, **Transforming Our World: 2030 Agenda for Sustainable Development**, consists of a Declaration, 17 Sustainable Development Goals and 169 targets.



Link- [Click Here](#)

- Goal 1: End poverty in all its forms everywhere
- Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- Goal 3: Ensure healthy lives and promote well-being for all at all ages
- Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- Goal 5: Achieve gender equality and empower all women and girls
- Goal 6: Ensure availability and sustainable management of water and sanitation for all
- Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all
- Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- Goal 9: Industry, Innovation and Infrastructure
- Goal 10: Reduce inequality within and among countries
- Goal 11: Sustainable Cities and Communities
- Goal 12: Responsible Consumption and Production
- Goal 13: Climate Action
- Goal 14: Life Below Water
- Goal 15: Life on Land
- Goal 16: Peace, Justice and Strong Institutions
- Goal 17: Partnerships for the Goals

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