Environment Landscape: Opportunities and Challenges

Faith for Earth Councillor Online Convening & Training Workshop,
UNEP and URI,
Faith for Earth Initiative,
April, 2021

Pinaki Dasgupta, Secretary, Shristi,
office.shristi@gmail.com

Presentation Content

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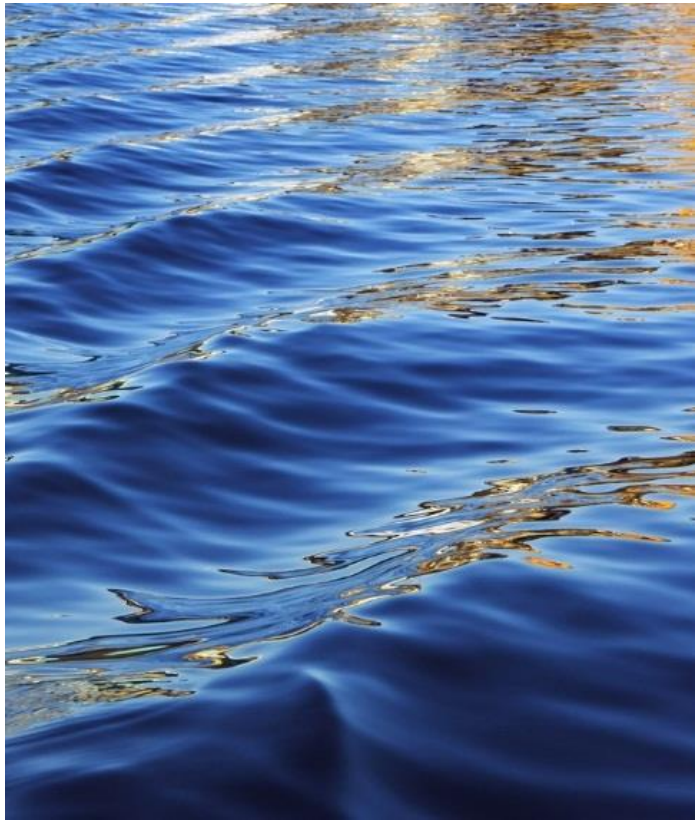
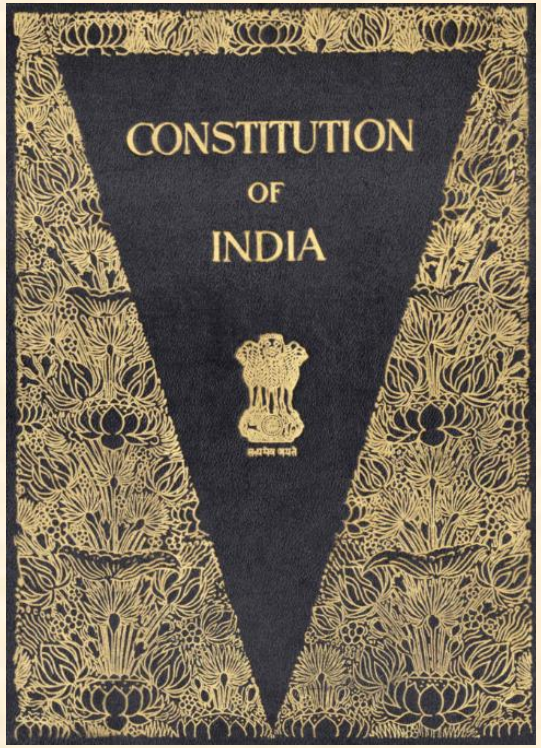
- Landscapes
  - Climate Change
  - Pollution
  - Biodiversity Loss
- Opportunities
- Challenges
- Next Steps

Statutory References

National and International Regulations





Article 21 in the Indian Constitution **guarantees fundamental right to life. Right to environment, free of danger of disease and infection is inherent in it. Right to healthy environment is important attribute of right to live with human dignity.**

One of the points under **Article 51(A)** of the Indian constitution says that it is the **responsibility and duty of every citizen to protect the environment.**

Article 48-A of the Directive Principles puts **the responsibility of conserving environment on the state.**

Fundamental Duty

To protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures

The National Environment Policy, 2006

7 Objectives and 14 Principles, intra and inter generational equity and offsetting for Environmental services

The Environmental Protection Act, 1986

4 Chapters, 26 Sections based on polluter pay principle, roles and responsibilities

The Environmental Protection Rules, 1986

Protecting and improving the quality of the environment **and preventing and abating** environmental pollution, **the standards for emission or discharge** of environmental pollutants from the industries, operations or processes for **104 pollution industries and processes**

Selected Environmental Rules

1. Water (Prevention and Control of Pollution) Rules, 1982, amended 1974
2. Air (Prevention and Control of Pollution) Rules, 1982, amended 1987
3. Environmental Protection Rules, 1986, amended various times, 2016-Vth amendment,
4. The Biological Diversity Act, 2002 (Act 18 of 2003)
5. Biological Diversity Rules, 2004.
6. Manufacture, Storage Import of Hazardous Chemicals Rules, 1989, amended 2002 and 2004
7. Solid Waste Management Rules, 2016
8. Hazardous Wastes (Management and Trans boundary), Rules 2016
9. E-Waste Management Rules, 2016
10. Biomedical Waste Management Rules, 2016
11. Plastic Waste Management Rules, 2016
12. The Construction and Demolition Waste Management Rules,2016

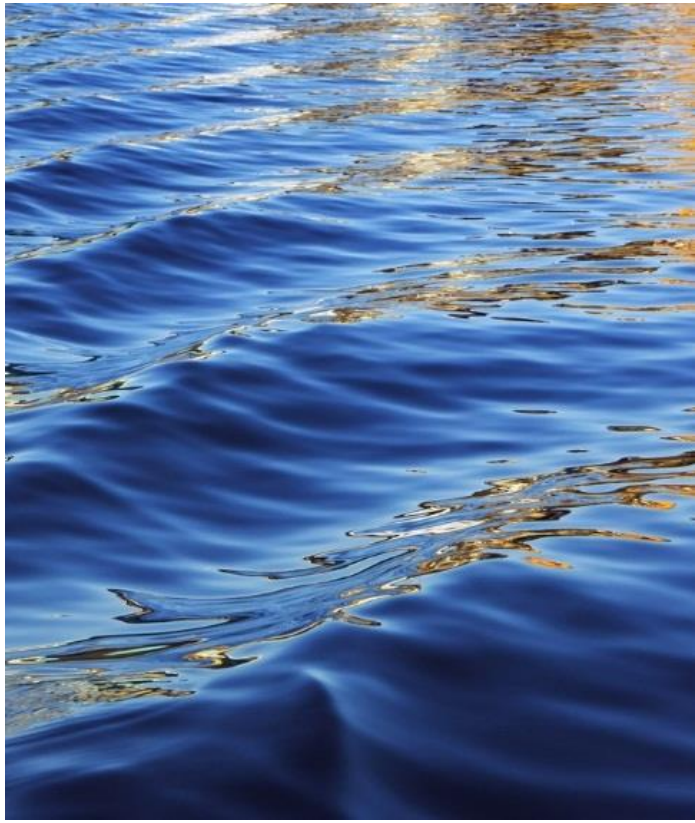
Signatories to International Conventions

1. United Nations Conference on the Human Environment held in Stockholm in June, 1972
2. CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), 1973, signed on 1976.
3. Montreal Protocol (Vienna Convention), 1987, adopted by India in 2002
4. Basel Convention on Hazardous Substances, 1989; ratified by India in 1992
5. United Nations Convention on Biological Diversity signed at Rio de Janeiro on the 5th day of June, 1992;
6. Rotterdam Convention, 2004; ratified by India in 2005
7. Stockholm Convention, Persistent Organic Pollutants, 2004; ratified by India in 2006
8. UNFCCC, Paris, 2015
9. UNCCD, Delhi, 2019

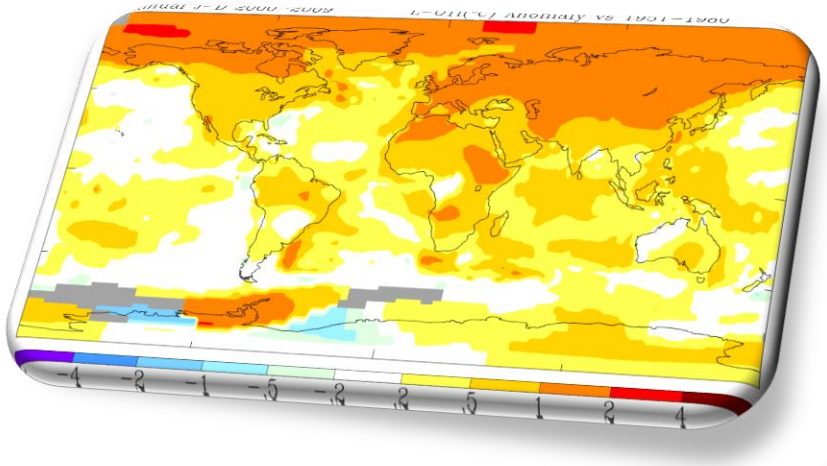
Month	Day	Date	Division
February	2	World Wetlands Day	NRCD
	28	National Science Day	RE Division
March	3	World Wildlife Day	Wildlife Division
	20	World Sparrow Day	Animal Welfare Division
	21	International Day of Forests	Forest Policy Division
	22	World Water Day	NRCD
	Last Saturday of March	Earth Hour day	
April	18	World Heritage Day	Wildlife Division
		International Mother Earth Day	Forest Policy Division
May	22	International Biodiversity Day	CS Division
	23	World Turtle Day	Wild Life Division
June	5	World Environment Day	Media division
	8	World Ocean day	Coastal/SICOM Division
	17	World Day to Combat Desertification	Desertification Cell Division
July	28	World Nature Conservation Day	Biodiversity Division
	29	International Tiger Day	Wild Life Division
August	10	International Biodiesel Day	CS Division
	12	World Elephant Day	Wild Life Division
	20	AkhshayUrjaDiwas	CT/CP Division
September	16	International Ozone day	Ozone Cell
	18	International Coastal Clean Up Day	IA-3/CS Division
	28	Green Consumer Day	CS Division
October	1 to 7	Wildlife Week	Wild Life Division
	4	World Animal welfare Day	Animal Welfare Division
	1st Monday Of October	World Habitat Day	IA Division
	2nd Wednesday of October	International Day for Natural Disaster Reduction	IA Division
	24	United Nations Day	GC Division
December	2	National Pollution Prevention Day	PC Division
	5	World Soil Day	DG/CT Division
	11	International Mountain Day	Mountain Division
	14	National Energy Conservation Day	IA/PC Division

Landscape

Three Planetary Crisis



The Three Planetary Crisis



Climate Change

Pollution

Biodiversity Loss

India's geo-ecology

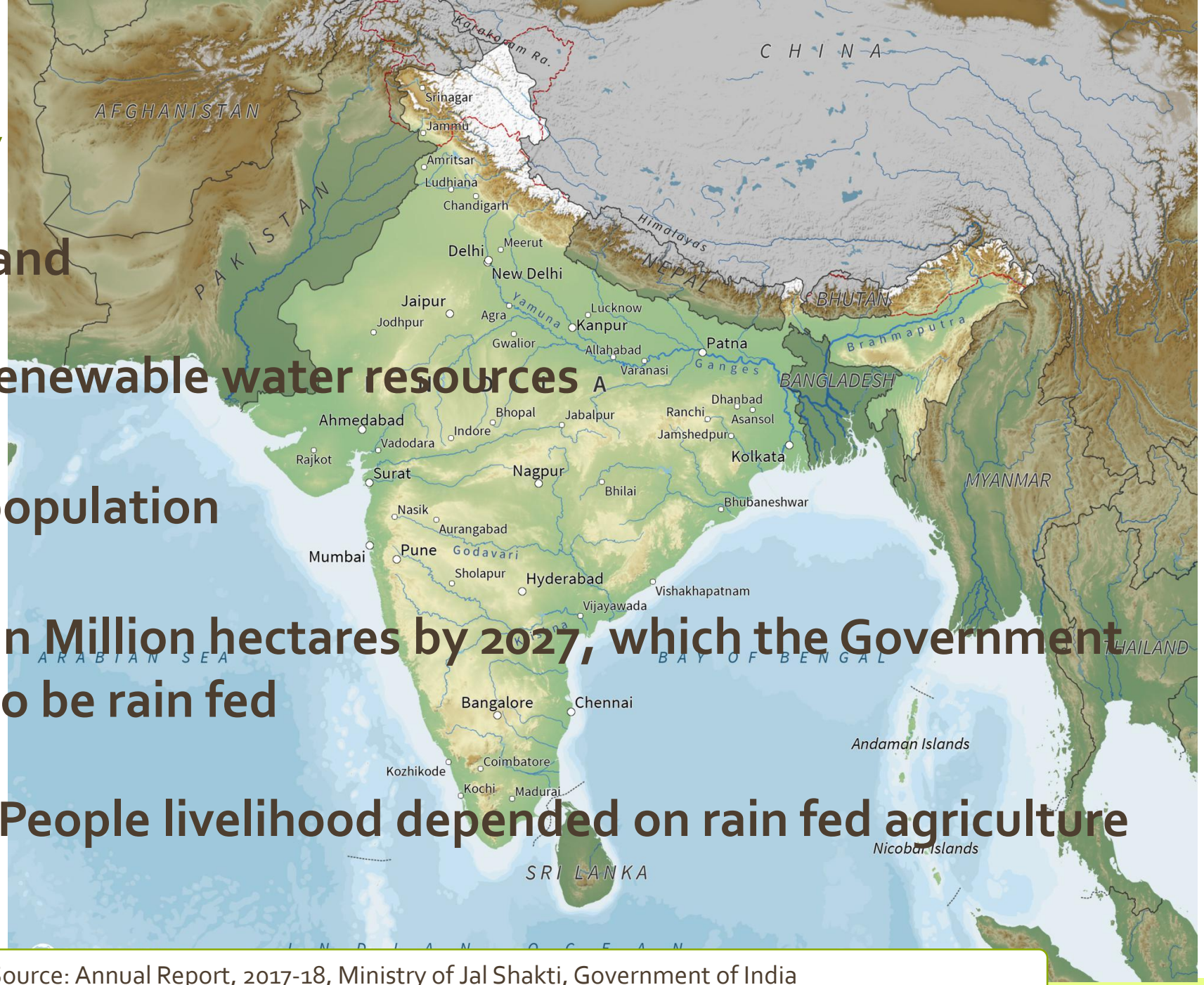
2% Global land

4% Global renewable water resources

18% Global population

55 Target in Million hectares by 2027, which the Government wants to be rain fed

480 Million People livelihood depended on rain fed agriculture



Source: Annual Report, 2017-18, Ministry of Jal Shakti, Government of India

India's distress

36 million people in India affected by chronic flooding

5x increase in concurrent hot and dry extremes

7x increase in flash droughts

1.67 million people died due to air pollution in 2018
Losses to the tune of 1.36% of GDP

45% Children stunted, 6 Lakhs under 5, die each year
37.7 million affected annually by water borne diseases,

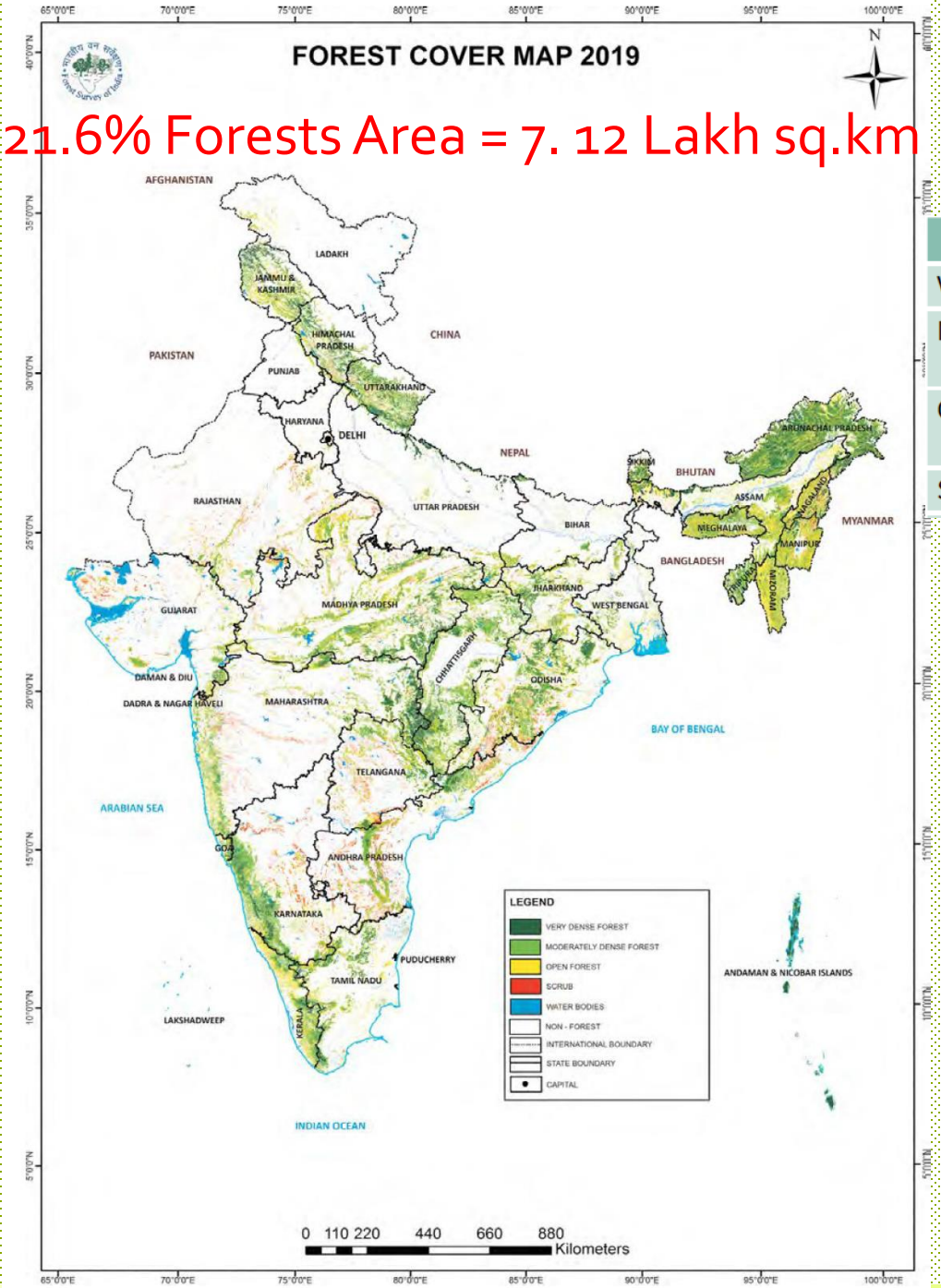
600 million in water Stress

3 % bird species face extinction
19 % amphibians threatened or critically endangered

Sources:
Air:
1. https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(20)30298-9/fulltext
Water:
1. https://www.wateraidindia.in/sites/g/files/jkxoof336/files/turn-the-tide-the-state-of-the-worlds-water-2021.pdf
2. Water: https://www.indiawaterportal.org/faqs/waterborne

Forests

21.6% Forests Area = 7. 12 Lakh sq.km



Four classifications in India

Class	Description
Very Dense Forest	All lands with tree canopy density of 70 percent and above.
Moderately Dense Forest	All lands with tree canopy density of 40 percent and more but less than 70 percent.
Open Forest	All lands with tree canopy density of 10 percent and more but less than 40 percent.
Scrub	Forest lands with canopy density less than 10 percent.

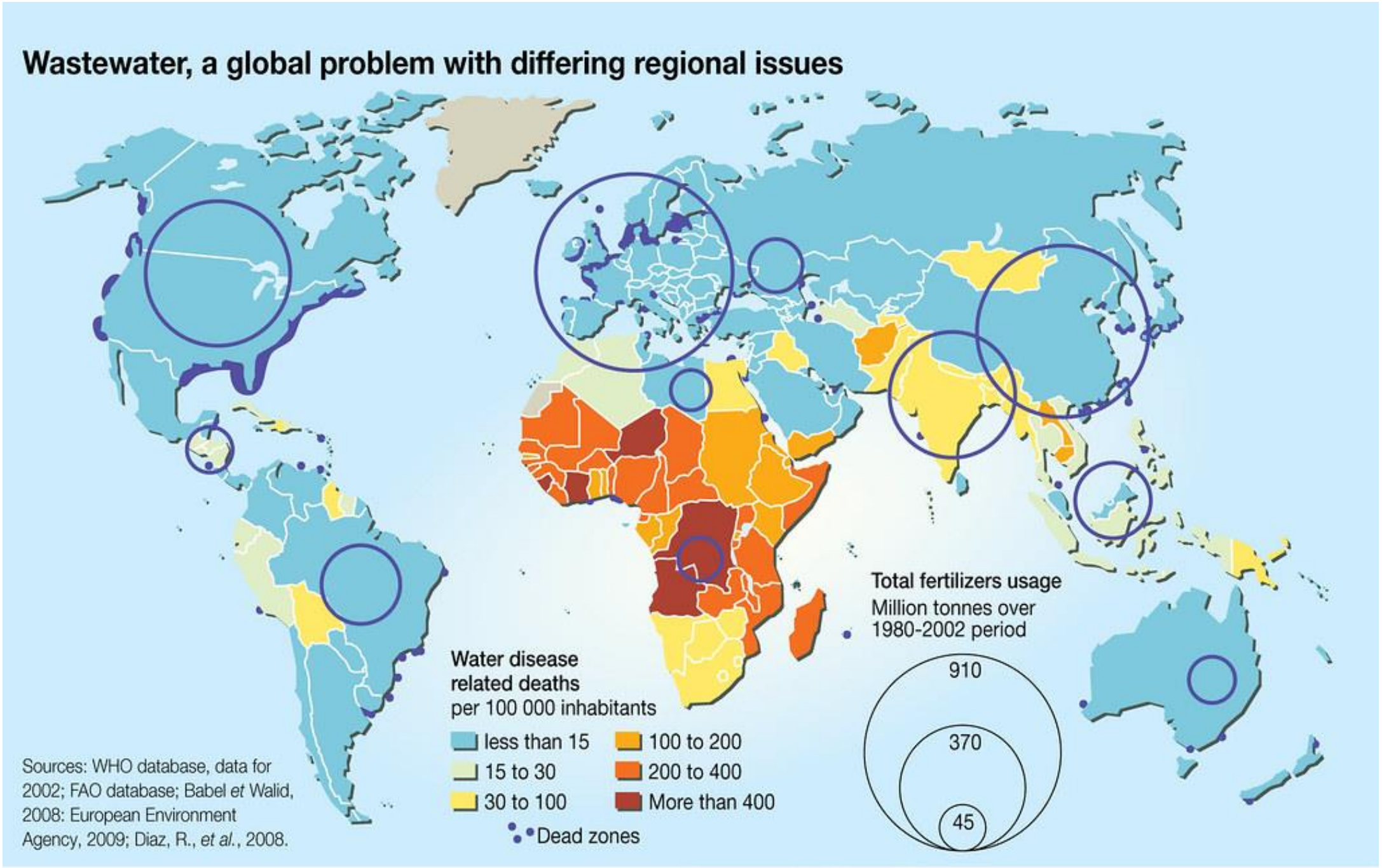
Top 5 states with **largest area** ('000 sq.km)

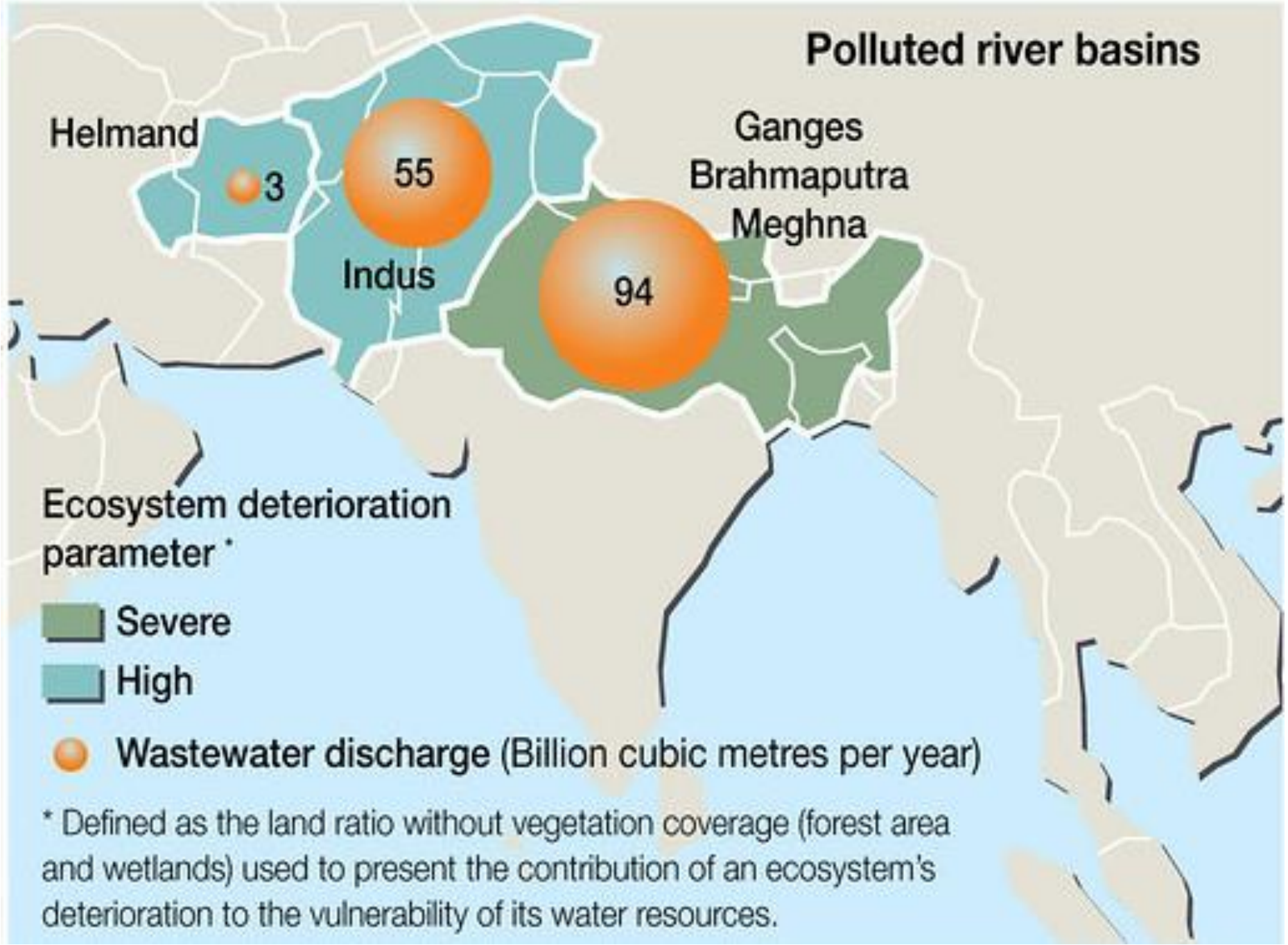
1. Madhya Pradesh > 77
2. Arunanchal Pradesh > 66
3. Chhattisgarh > 55
4. Odisha > 51
5. Maharashtra > 50

Sacred Forests
13,720 in India
~100,000
< 1 hectare

Carbon stock of **7.12 billion tonnes** led by

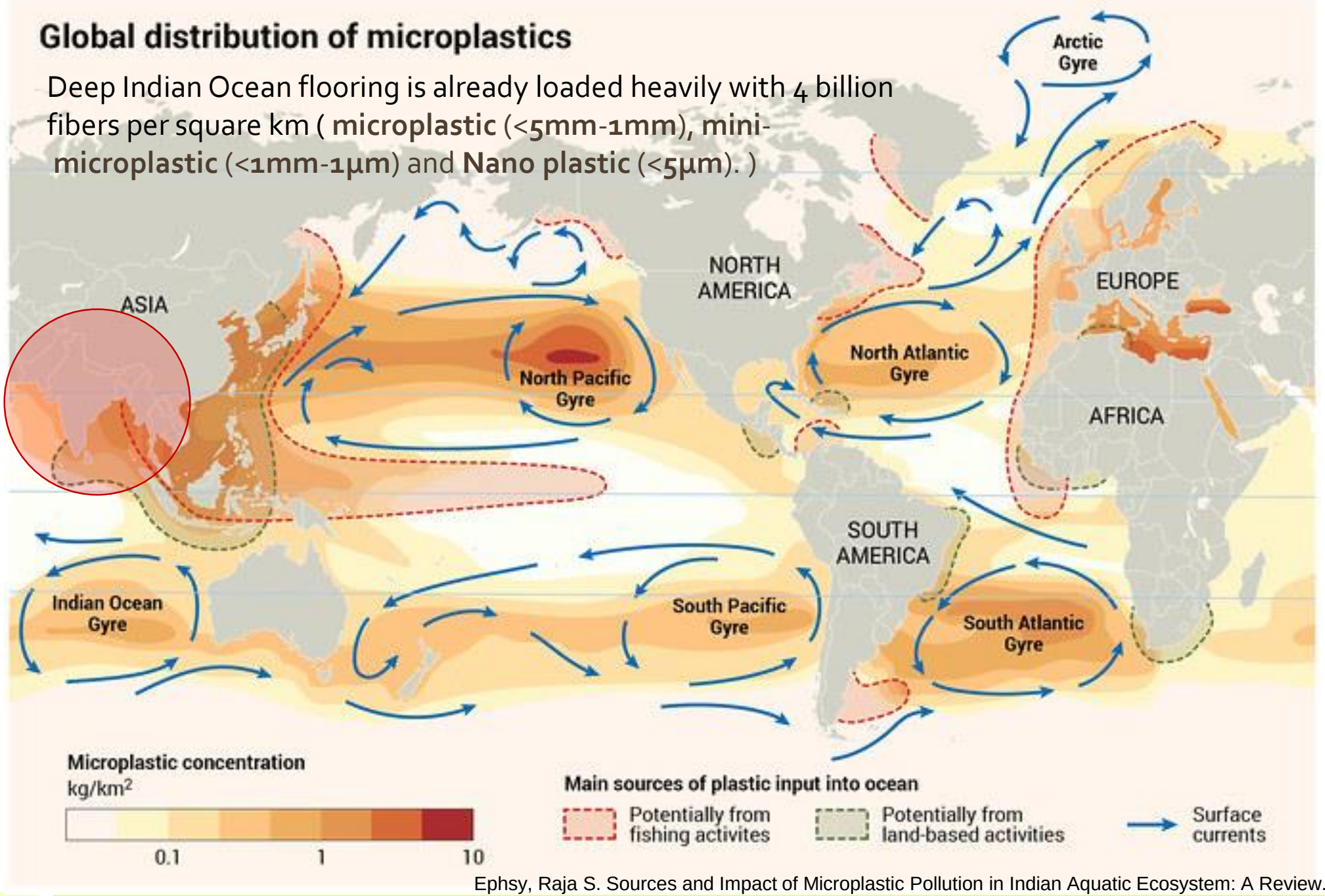
1. Arunanchal Pradesh > 1 billion
2. Madhya Pradesh > 0.58 billion
3. Chhattisgarh >0.48 billion
4. Maharashtra > 0.44 billion


Wastewater, a global problem with differing regional issues
Water disease related deaths per 100 000 inhabitants
less than 15
15 to 30
30 to 100
100 to 200
200 to 400
More than 400
Dead zones
Total fertilizers usage
Million tonnes over 1980-2002 period
910
370
45
Sources: WHO database, data for 2002; FAO database; Babel et Walid, 2008: European Environment Agency, 2009; Diaz, R., et al., 2008.

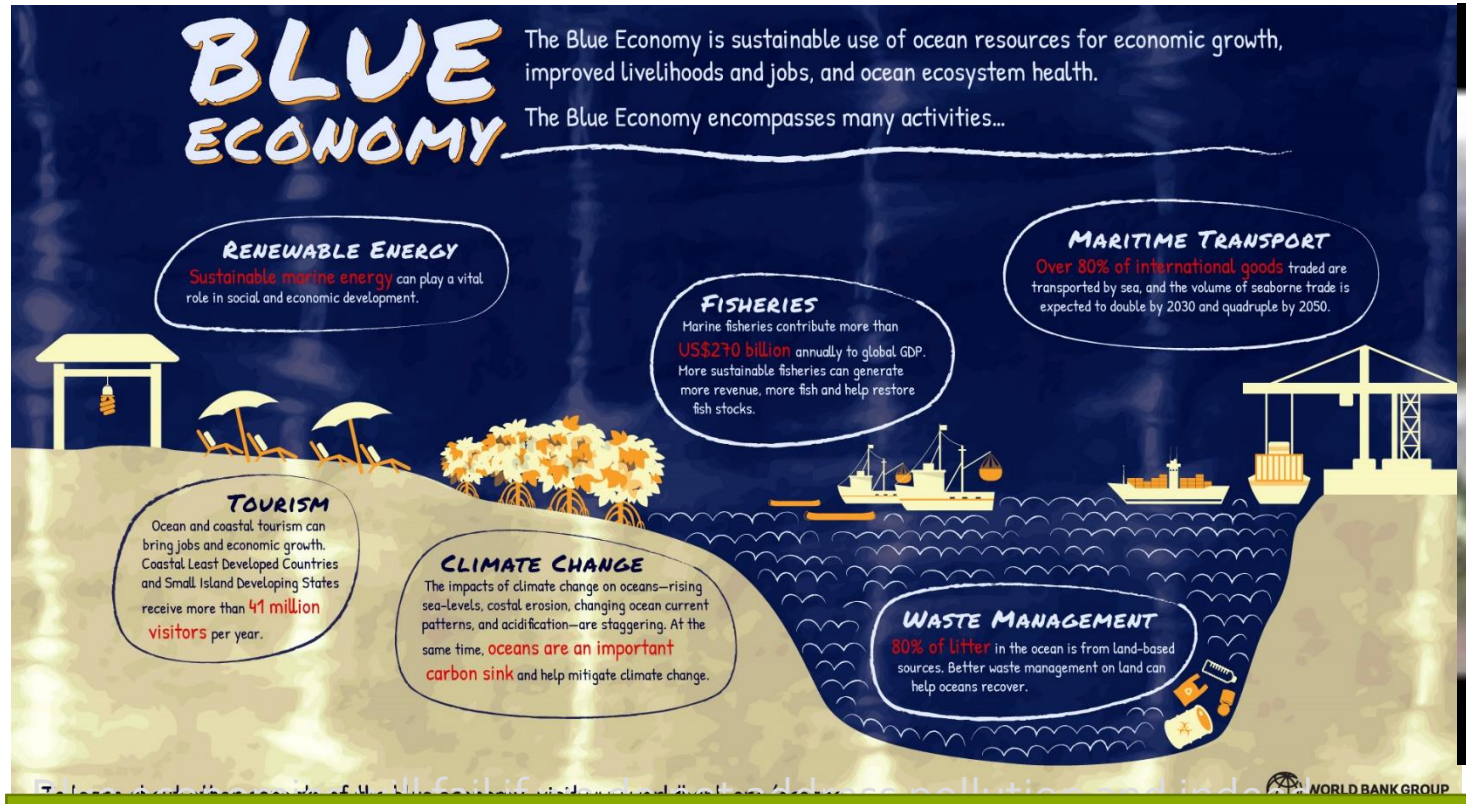

Polluted river basins
Helmand
3
55
Indus
Ganges
Brahmaputra
Meghna
94
Ecosystem deterioration parameter *
Severe
High
Wastewater discharge (Billion cubic metres per year)
* Defined as the land ratio without vegetation coverage (forest area and wetlands) used to present the contribution of an ecosystem's deterioration to the vulnerability of its water resources.

Global distribution of microplastics

Deep Indian Ocean flooring is already loaded heavily with 4 billion fibers per square km (**microplastic** (<5mm-1mm), **mini-microplastic** (<1mm-1µm) and **Nano plastic** (<5µm).)



Ephsy, Raja S. Sources and Impact of Microplastic Pollution in Indian Aquatic Ecosystem: A Review. Curr World Environ 2020; Special Issue (Sustainable Mining). DOI:http://dx.doi.org/10.12944/CWE.15.Special-Issue1.01



Blue economies will fail if we do not address pollution and indeed we will die unless we can think beyond self.

Whilst developing our Blue and Green economy curriculum, we opened our hearts to equity, equality and interculture awareness.

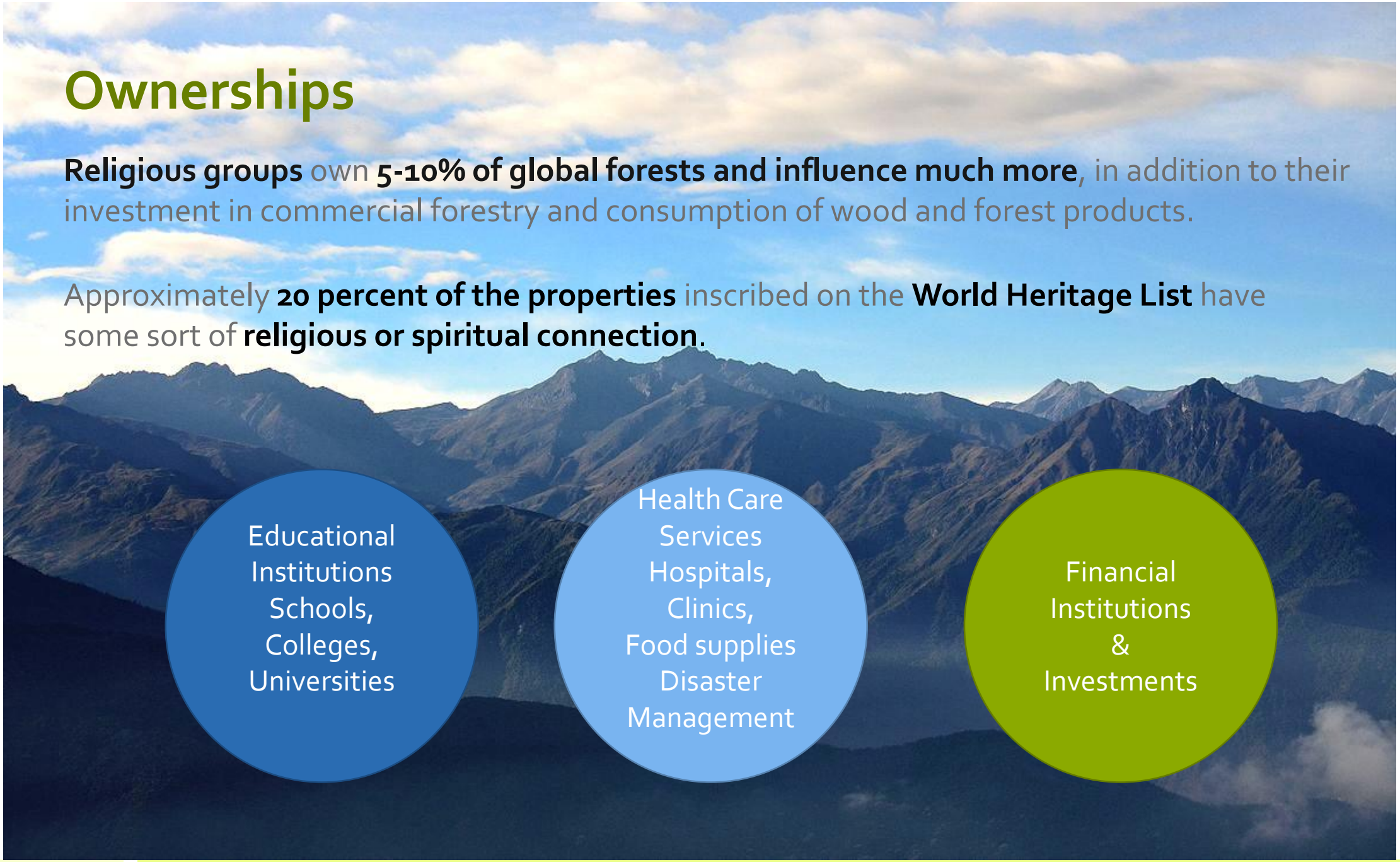
Tu Anh Ha from Vietnam shared here beliefs with students in Nigeria, Lunar new year act, to releasing the 3 fish is tradition to send message to the heaven. We cannot let pollution kill these messengers.

Journey in India- Interfaith and Environment

Ownerships

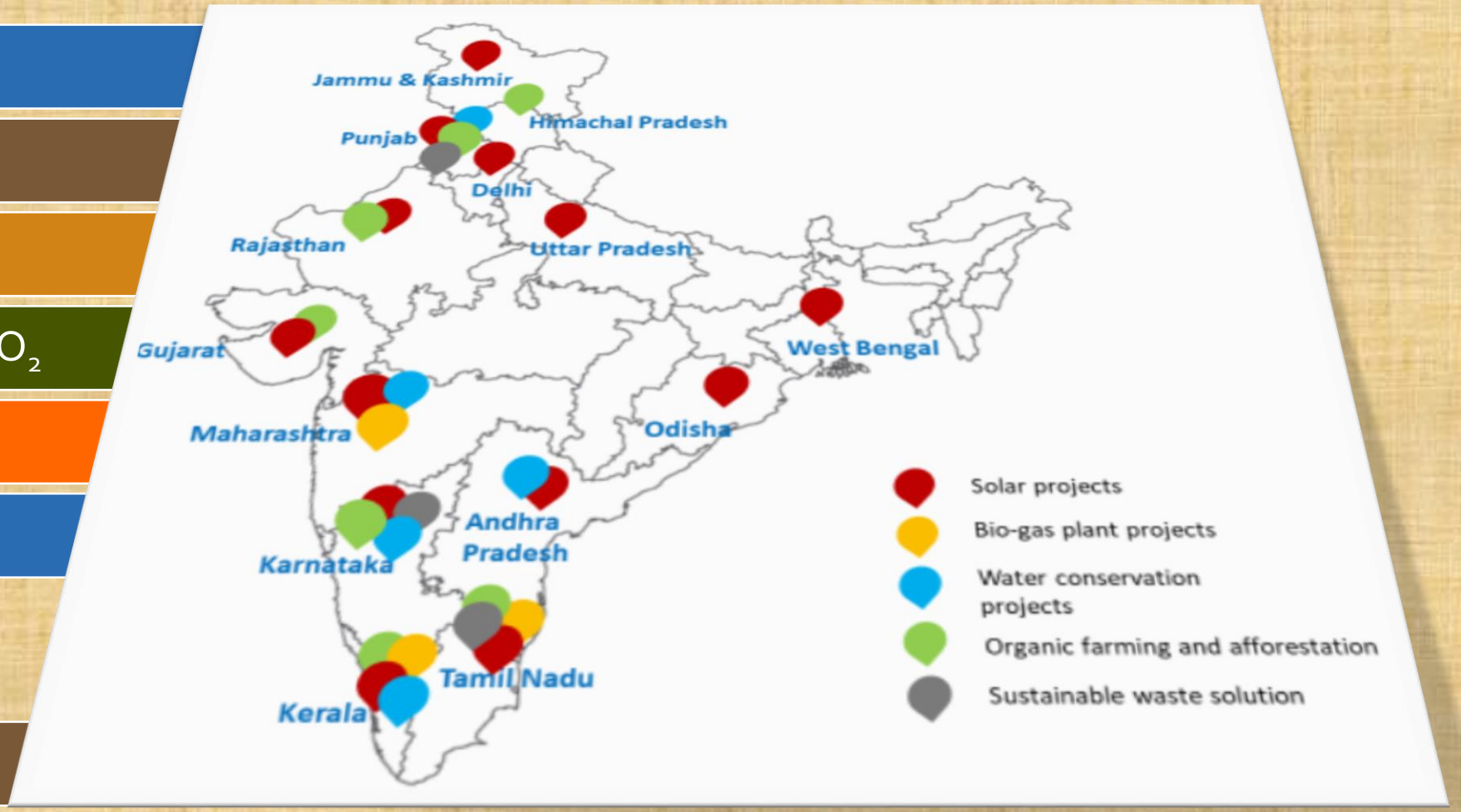
Religious groups own **5-10% of global forests and influence much more**, in addition to their investment in commercial forestry and consumption of wood and forest products.

Approximately **20 percent of the properties** inscribed on the **World Heritage List** have some sort of **religious or spiritual connection**.



Renewable Energy by Spiritual organisations in India

- 30 institutions
- 332K+ units energy savings
- Cost savings of £1 million
- Annual CO_2 reduction of 350 tCO_2
- Oldest installation dated 1999
- Variety of end uses such as
  - Cooking
  - Heating
  - Electricity purpose
- Biogas, Waste to Energy



Rise to Shine, The role of Indian Religious Institutions in Closing the Energy Access Gap, 2018, GreenFaith and The Bhumi Project

Inspirations by Implementation

- Solid Waste Management
  - Floral waste, essential oils, colours and dyes
  - Several Temples & Gurudwaras across India
  - Shrimad Rajchandra Mission, Dharampur
- Wastewater management
  - Treatment, recycle and reuse
  - Govardhan Eco-village, ISKCON
  - Golden Temple, Amritsar
  - Gali Anjaneya Swami Temple, Bangalore
- Plantation
  - Indigenous Tree plantation, reference from sacred texts
  - Hariyali Yatra, Global Interfaith WASH Alliance, Parmath Niketan and partners
  - Eco-Sikh - sacred forests
  - Church of South India (degraded or fallow landscapes)
  - Fruit Trees, All India Muslim Youth Majlis
  - Isha Foundation

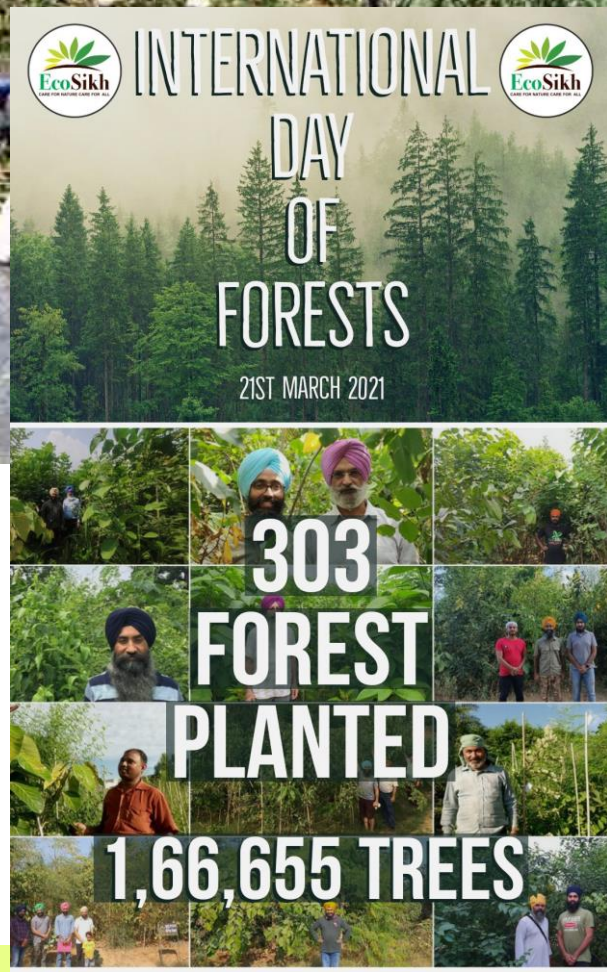
Segregation of Flowers in a Temple

Inspirations by Implementation

- Water Harvesting
  - St. Aloysius Church, Mangaluru
  - Sri Guru Basava Mahamane and Mullahalli Mutt
  - Shahi Masjid, Hyderabad
  - Hutheseeing Jain Temple, Ahmedabad
  - Gurudwara Shri Singh Sabha, Jalandhar
  - Ice Stupas, HIAL

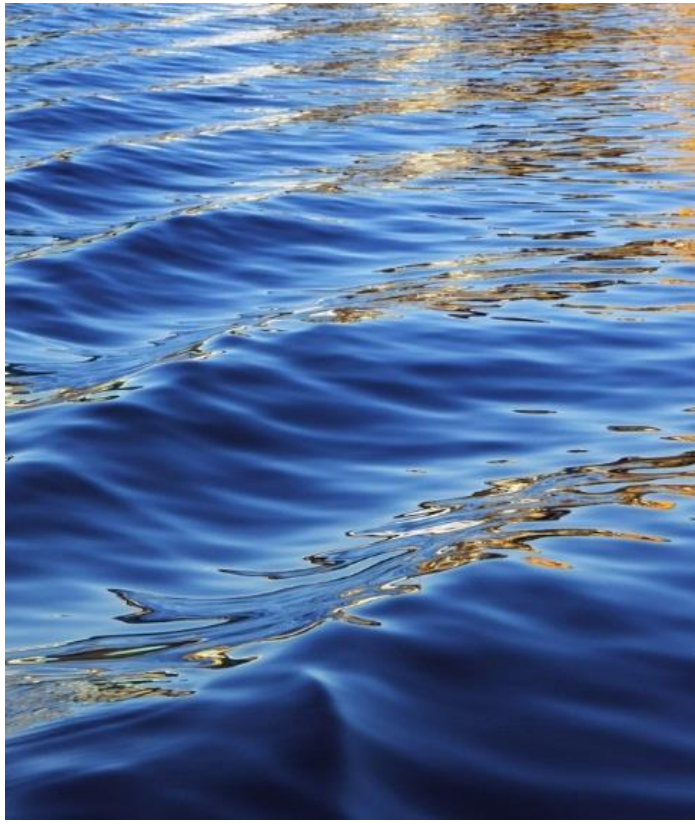
- River & Pond Rejuvenation
  - Sant Seechewal – Kali Ben River
  - ISHA Foundation
  - Art of Living Foundation

- Biodiversity
  - Buddhist Monastries, Tawang and West Kameng, Bhagajang wetland, Arunanchal Pradesh
  - Bishnoi community, Rajasthan
  - Muslim community, West Midnapore district, West Bengal
  - Plants conserved in temple yards of Shergarh sub district of Jodhpur district Rajasthan

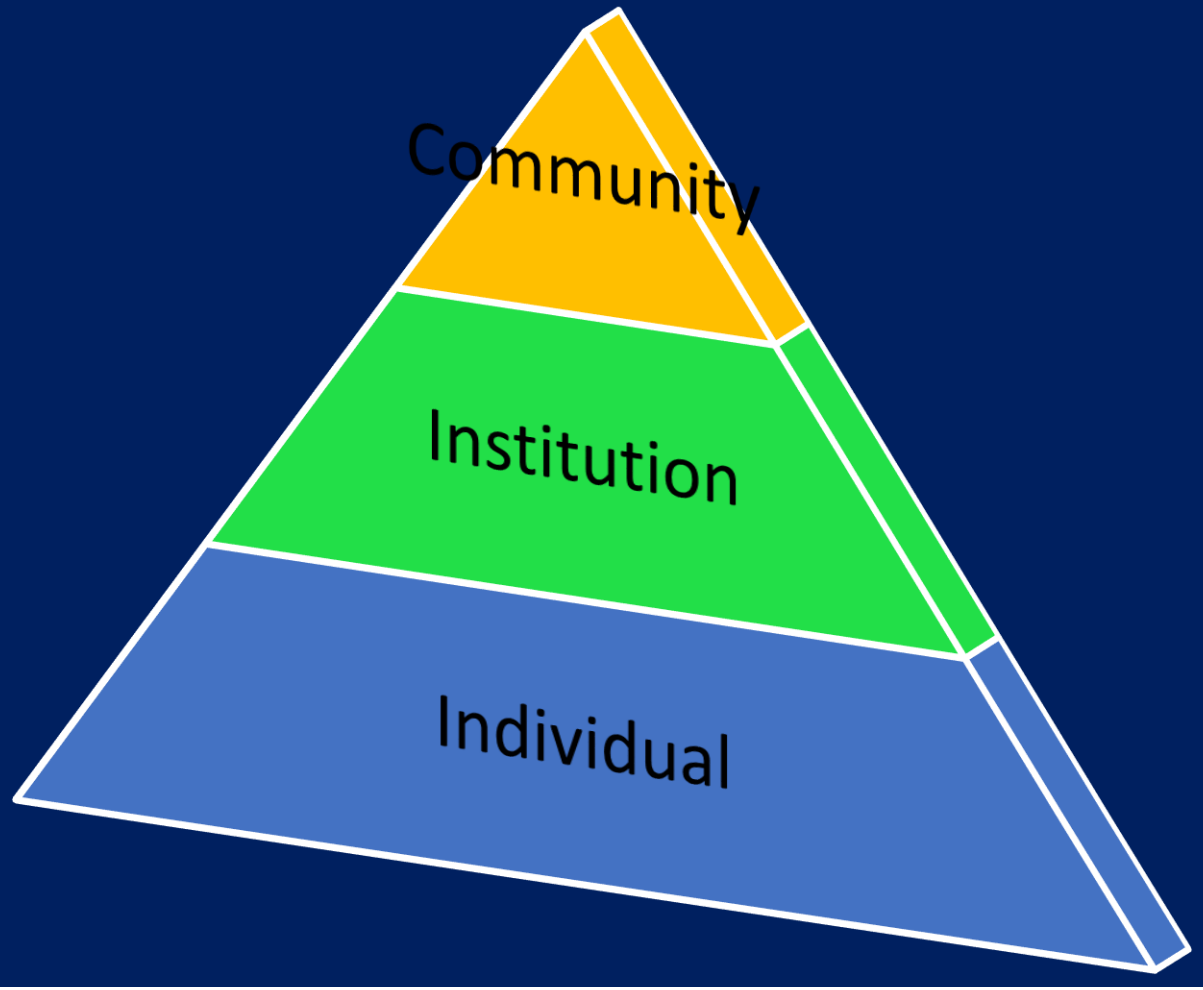


Opportunities and Challenges

Pathways, tools and methods



Opportunities
- 3 levels of Engagement and 5 approaches



5 Approaches

- Building a connection
- Obtaining Trust
- Enhance confidence
- Encourage Participation
- Appreciative Inquiry

Key Messages

Interfaith Engagement

Local relevance Global impact

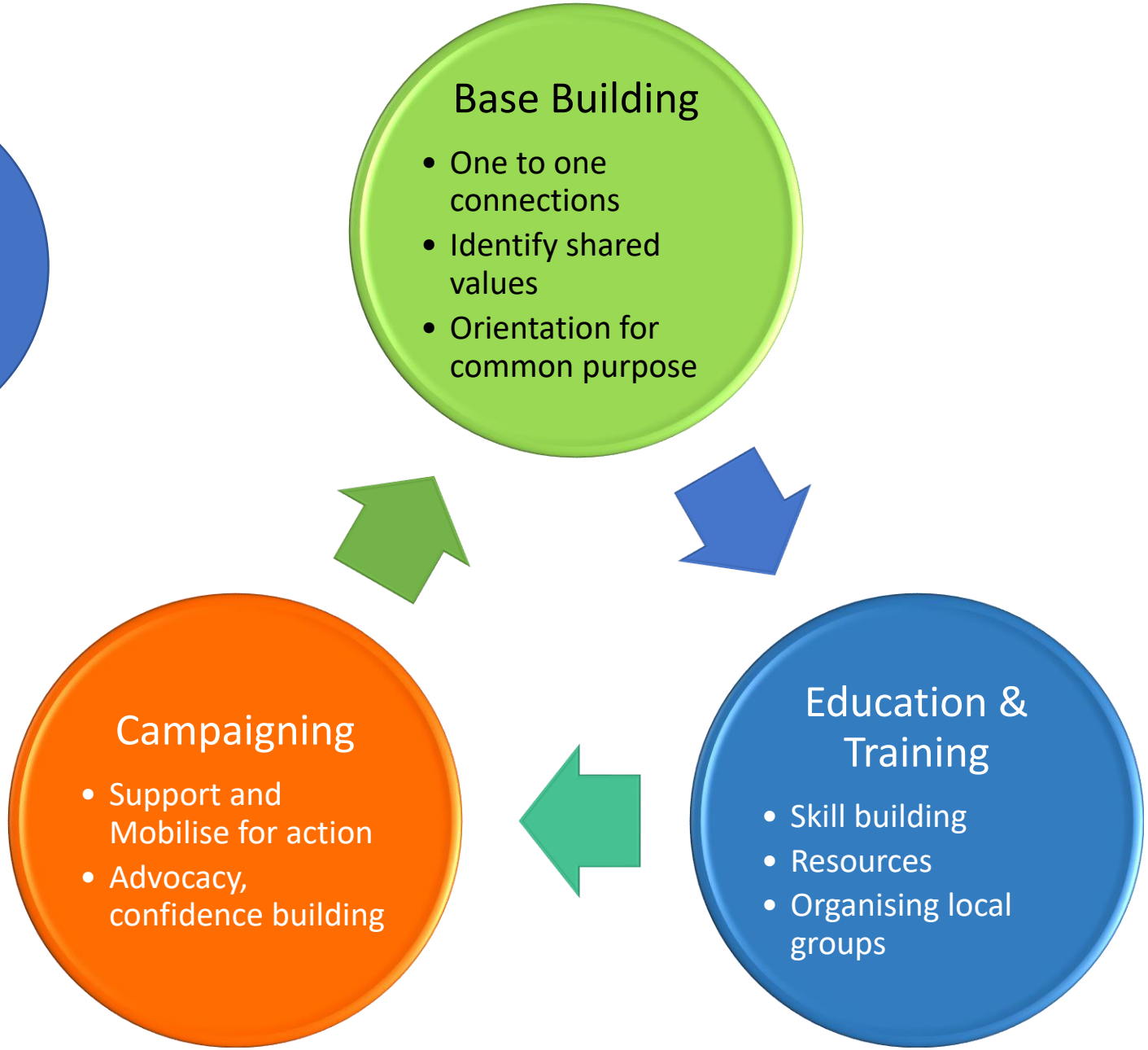
Neutral, Relevant and Lucid Communication

Peace as a foundation Ecology as a driver

Trust and Compassion

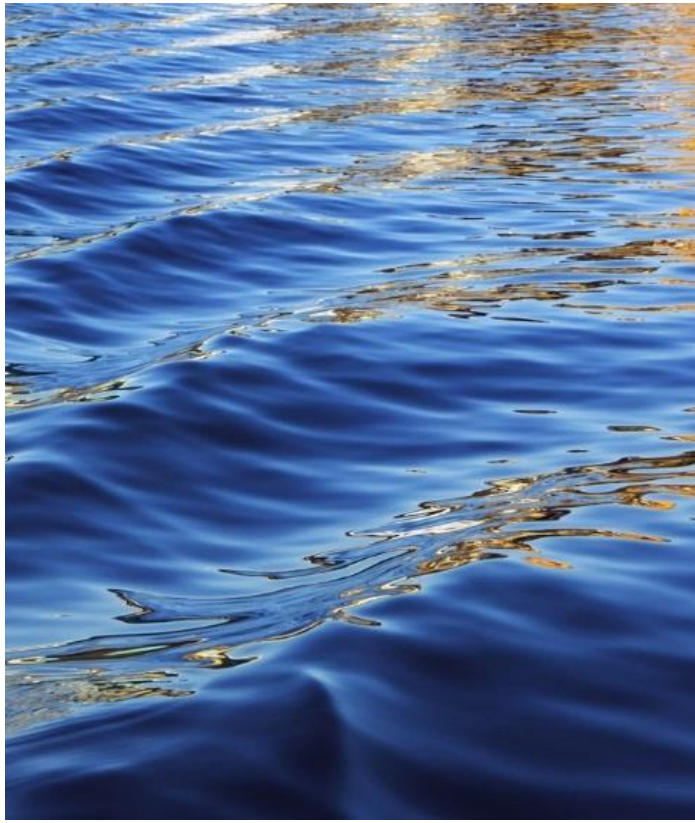
Challenges


Evidence and Research
Relation Organising
Community Development around 3 planetary crisis
Sharing Knowledge & Wisdom


Base Building
• One to one connections
• Identify shared values
• Orientation for common purpose
Education & Training
• Skill building
• Resources
• Organising local groups
Campaigning
• Support and Mobilise for action
• Advocacy, confidence building

Next Steps

Management of Change



Understand
&
Appreciate
Relationships
Between
The
Three subject
areas
And
Various
parameters

Biodiversity and human health

Health "is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity".

Biological diversity (biodiversity) is "the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems."

Biodiversity underpins ecosystem functioning and the provision of goods and services that are essential to human health and well being.

The links between **biodiversity and health** are manifested at various spatial and temporal scales. Biodiversity and human health, and the respective policies and activities, are interlinked in various ways.

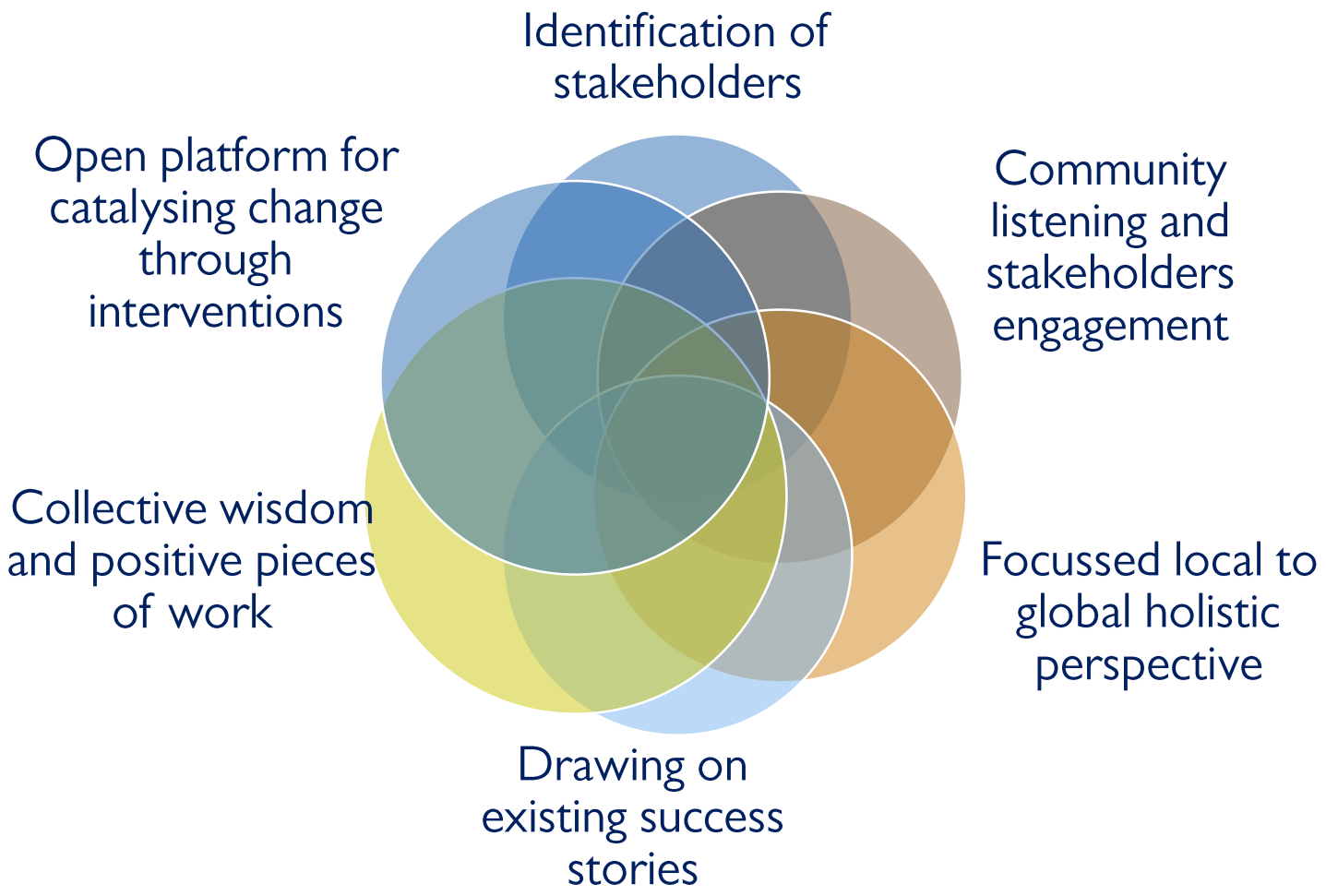
Direct drivers of biodiversity loss include land-use change, habitat loss, over-exploitation, pollution, invasive species and climate change. Many of these drivers affect human health directly and through their impacts on biodiversity.

Women and men have different roles in the conservation and use of biodiversity and varying health impacts.

Human population health is determined, to a large extent, by social, economic and environmental factors.

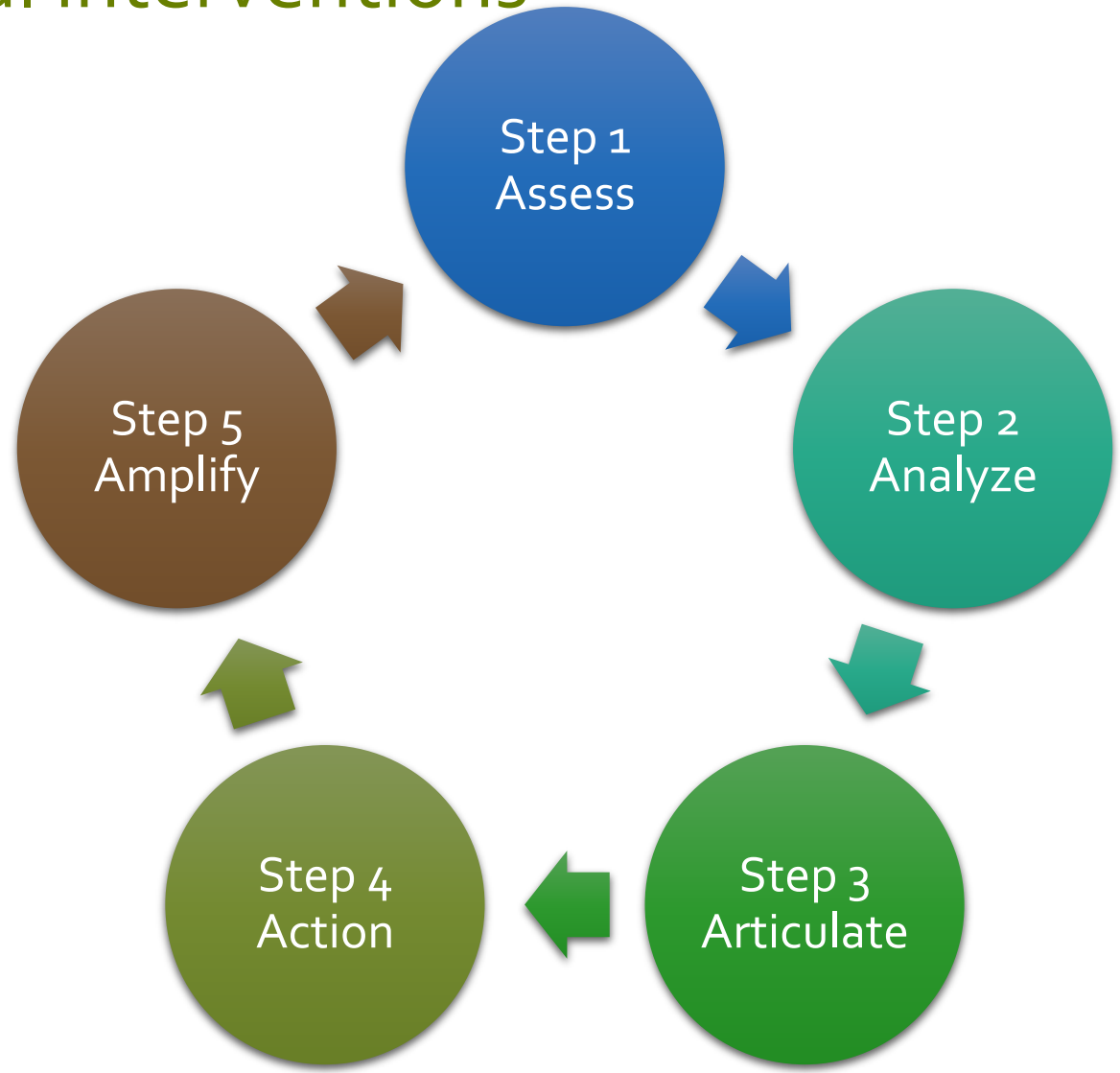
The social and natural sciences are important contributors to biodiversity and health research and policy. Integrative approaches such as the Ecosystem Approach, Ecohealth and One Health unite different fields and require the development of mutual understanding and cooperation across disciplines.

Macro Level- 6 Priority Areas-collaborations



Building momentum – 5As- Local interventions

- Assessment –undertake qualitative and quantitative outlook of situation
- Analysis – break down the situation or opportunity into smaller parts
- Articulate- look what might work best for your organization
- Action- formulate an action based strategy and implementation
- Amplify- Augmentation of the action taken



Acknowledgements

- Alan Dean, MD, Burning2Learn, UK
- Gopal Patel, The Bhumi Global, US
- Subhi Dhupar, URI
- Colleagues, volunteers and Interns, URI
- UNEP and Faith for Earth Team
- Shristi management and research team

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- Ephsy, Raja S. Sources and Impact of Microplastic Pollution in Indian Aquatic Ecosystem: A Review. Curr World Environ 2020; Special Issue (Sustainable Mining). DOI:http://dx.doi.org/10.12944/CWE.15.Special-Issue1.01
- Examples of Case studies obtained from secondary research through public information as well as reliable sources. These are also available on search engines

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