

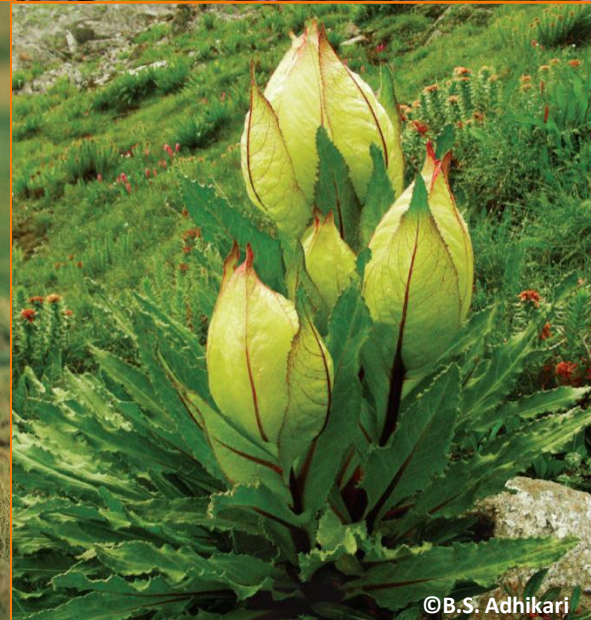
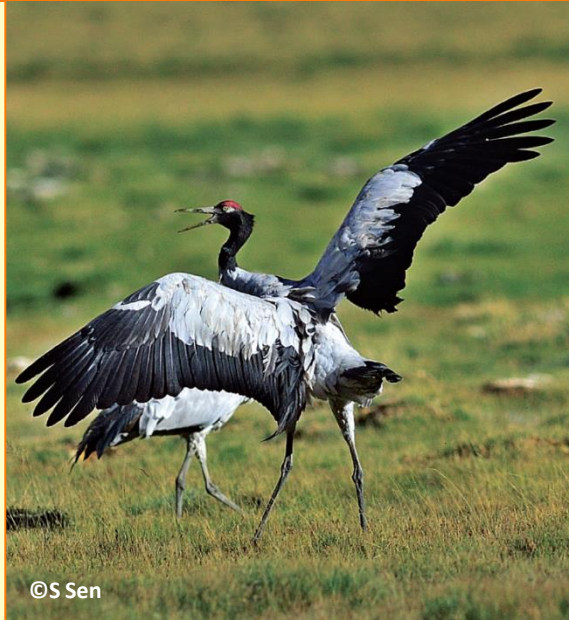
**WHY  
CONSERVE  
FORESTS ?**

# Importance of Forests



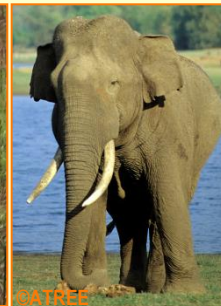
**An Overview of India's  
Forests & Wildlife**

# Home to innumerable endangered, rare and threatened species



# Seven Natural World Heritage Sites

(Nanda Devi, Kaziranga, Manas, Sunderbans, Western Ghats, Keoladeo and Great Himalayan NP)



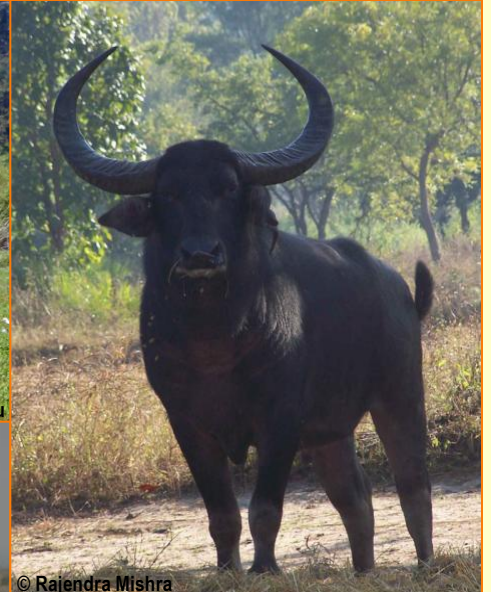
# 104 National Parks and 544 Wildlife Sanctuaries 156700 Sq. Km. area 4.95% of GA



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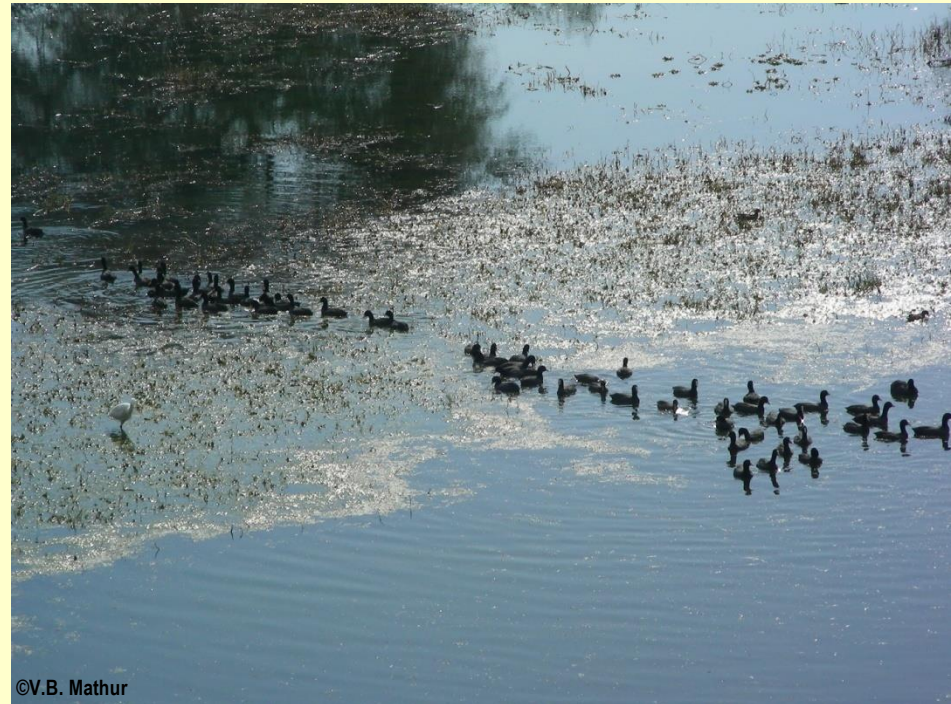


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# 18 Biosphere Reserves

- **Parts of Waynad, Nagarhole, Bandipur Madumalai, Nilambur, Silent Valley and Siruvani hills (Tamil Nadu, Kerala and Karnataka). Part of Chamoli, Pithoragarh and Bageshwar districts (Uttarakhand).**

# 7,57,060 Wetlands covering 15.26 mha



# 465 Important Bird Areas in India



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# Goods and services from nature

Nothing in the nature lives for itself.  
Rivers don't drink their own water.  
Trees don't eat their own fruit.  
Sun doesn't give heat for itself.  
Flowers don't spread fragrance for themselves.

**LIVING FOR OTHERS IS THE  
RULE OF NATURE**



# We depend on forests for our Living & well-being

## Provisioning services

- Fuel, Food & Fibre
- Water
- Genetic resources

## Regulating Services

- Climate regulation
- Water and waste purification
- Air purification
- Erosion control
- Natural hazards mitigation
- Pollination
- Biological control

## Cultural Services

- Aesthetics, Landscape value, recreation and tourism
- Cultural values and inspirational services

## Supporting Services

- *Soil formation*

## + Resilience

*e.g. to climate change*

# Source of sustenance to over 275 million people

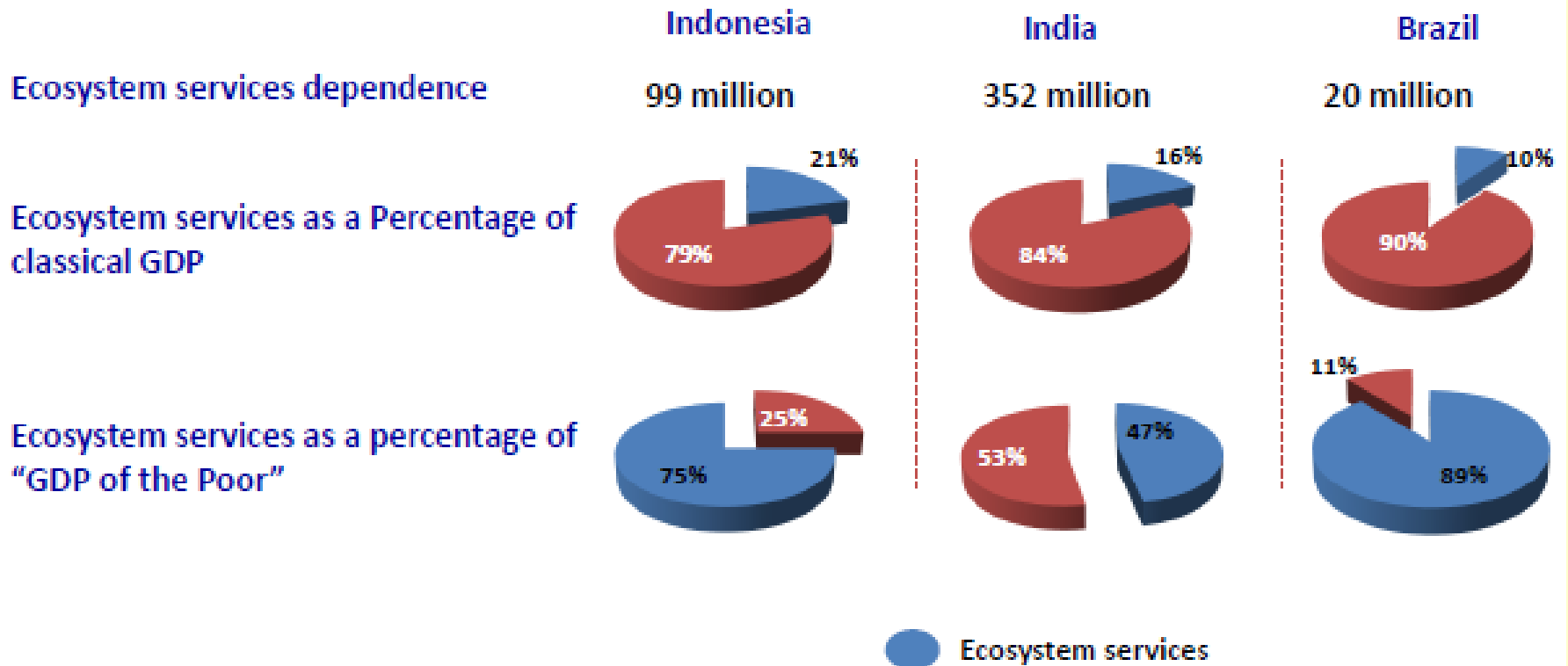


# Meets over 56% rural fuel and fodder needs



# Dependence of Poor on Ecosystem Services

"GDP of the Poor" is the most seriously hit by ecosystem losses



Source: Gundimeda and Sukhdev, TEEB for National Policy

# ES valuation: complex

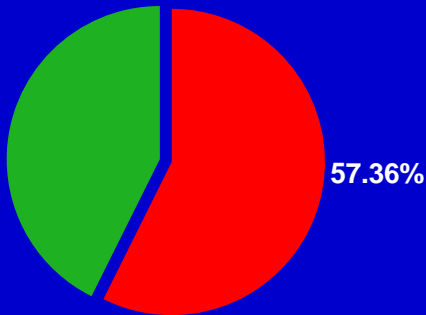
## Present models unable to capture full values

- Various ES benefits in Uttarakhand: US\$ 2.46 billion per year, but climate moderation effects of forests un-quantified and not included (Semwal et al. 2007)
- 911 km<sup>2</sup> of Mangroves in Gujarat: benefits INR 1,603 Crore per year (fodder, timber, firewood, fishing, storm protection; other regulatory services not included ; Hirway and Goswmy 2004)
- 39 mHa of Dense Forests of India prevented soil loss @ INR 5,000 Crore and additional recharge of ground water @ INR 132 crores in 2003; Loss of Dense forests → INR 8,126 per Ha of flood damage (Kumar et al. 2006)
- A 12 year old plantation in Gujarat accumulated INR 2124/ha worth of Phosphorus and INR 5112/ha worth of Potassium, but lost INR 948/ha worth of Nitrogen (Kiran and Kaur 2011)

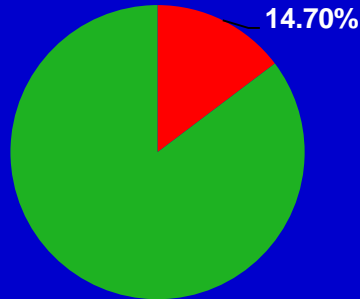
# India's forests face tremendous Biotic pressure



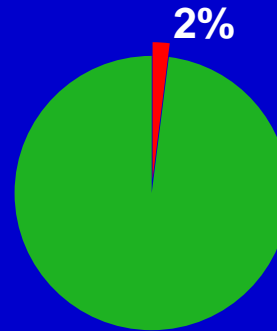
**Buffalo**



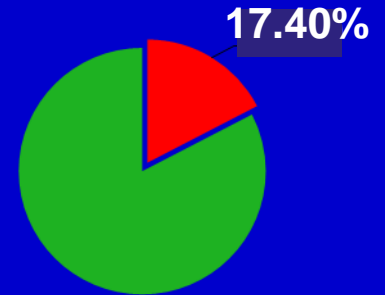
**Cattle**



**Geographical Area**



**Human**



## **Intangible benefits:-**

- 1. Forest Produces Oxygen**
- 2. Forest Cleans the Soil**
- 3. Forest Controls Noise Pollution**
- 4. Forest Storm Water Runoff**
- 5. Forest Is Carbon Sinks**
- 6. Forest Cleans Air**
- 7. Forest Shade and Cool**
- 8. Forest Acts as Windbreaks**
- 9. Forest Fights Soil Erosion**
- 10. Forest Increases Property Values**



**THE DAMAGES DUE  
TO LOSS OF  
FORESTS**

- 1. Air-, Soil & Water pollution**
- 2. Increase in Noise Pollution**
- 3. Soil erosion, Land slips & land slides**
- 4. Reduction in Carbon Sinks**
- 5. Increase in atmospheric temperature & Global warming**
- 6. Floods & draughts**

# Development – Environment

