

Green Economy for Sustainable Mountain Development

International Centre for Integrated Mountain Development

Kathmandu, Nepal

Outline

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1. Why Green Economy?
2. Why mountain matters in Green Economy?
3. What are the opportunities mountain regions of developing countries in promoting GE ?
4. What are the Challenges?
5. What policies & insitutional measures are needed to promote green economy & sustainable mountain development?
6. Role of Media in Promoting Green Economy

Why do we need Green Economy?

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- Conventional growth oriented economic model failed to sustain economic growth, reduce poverty, protect environment
- High carbon emissions, climate change, resource depletion, loss of biodiversity, energy crisis, water shortage, food insecurity, persistent poverty

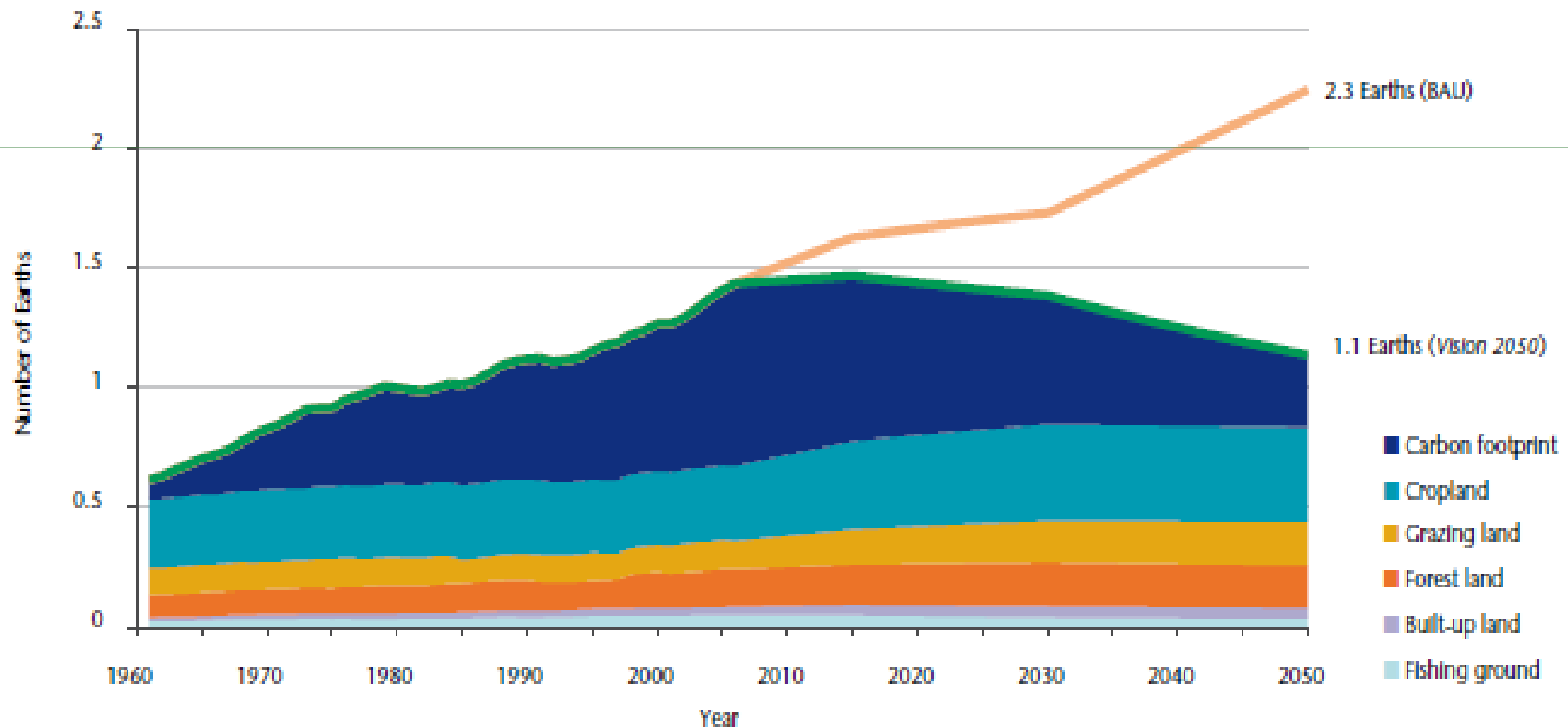


Why do we need Green Economy?

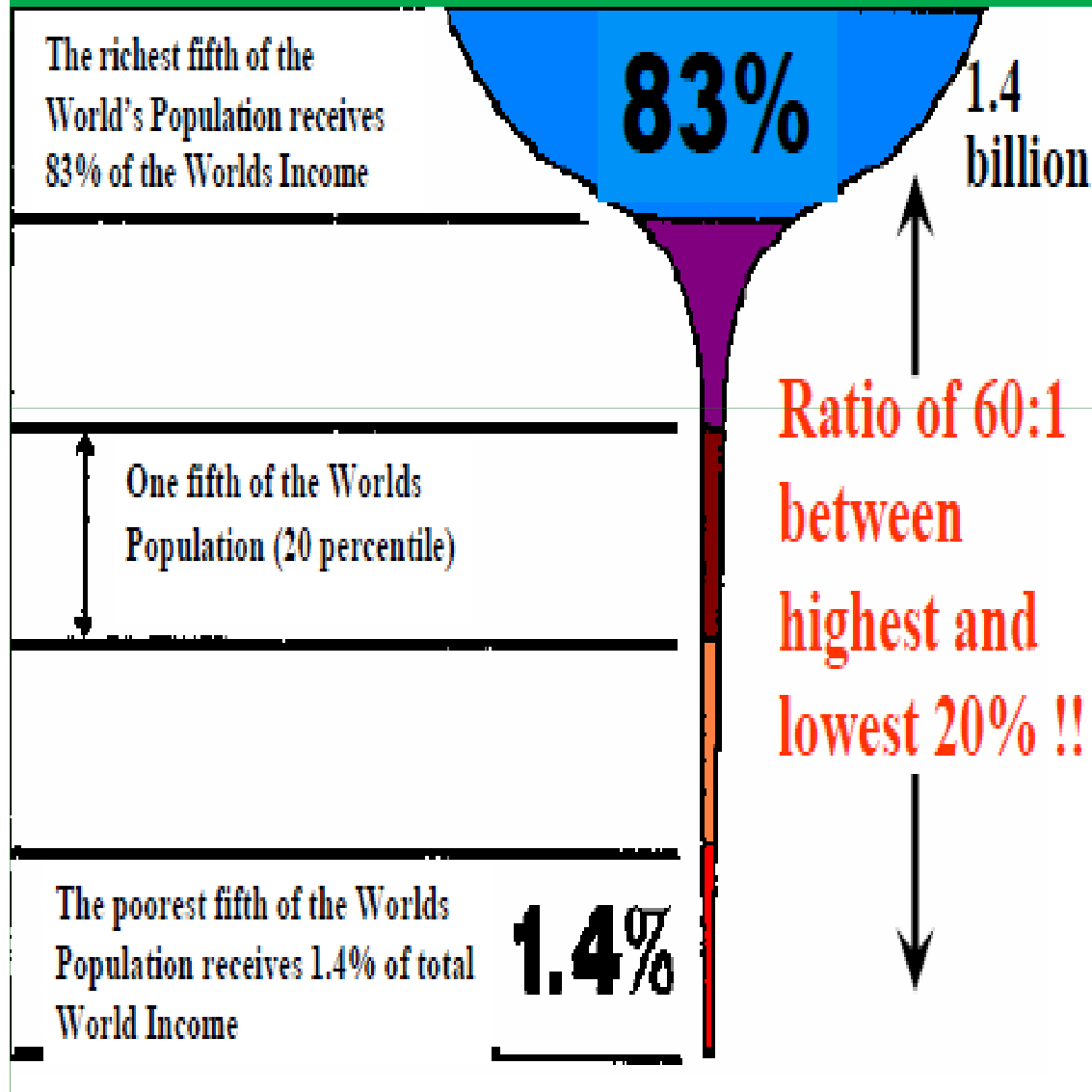
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• Need 2.3 earth to support 9 billion people in 2050



Why do we need Green Economy?



- **Persistent Poverty, Growing Inequality**

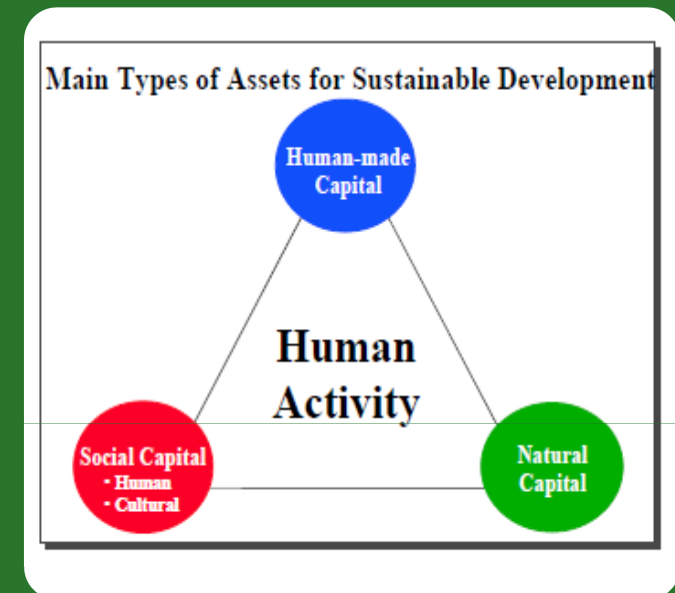


Why do we need Green Economy?

- Green economy - aims to enhance human well being, social equity and reduce environmental risks and ecological scarcities - is a key topic in Rio+20
- Concept of green economy is important for mountain regions -large number of mountain people depend on natural environment for livelihoods & prosperity
- From mountain perspective it is vital to reduce poverty & conserve natural resources

Why mountains matter in Green Economy ?

- Economic security & human wellbeing are fundamentally dependent on **ecosystem goods & services**
- About half of the world's population depends on mountains for fresh water, clean energy, irrigation water, minerals, forest , NTFPs, recreation, & genetic resources
- Mountains are low carbon economies but with high poverty

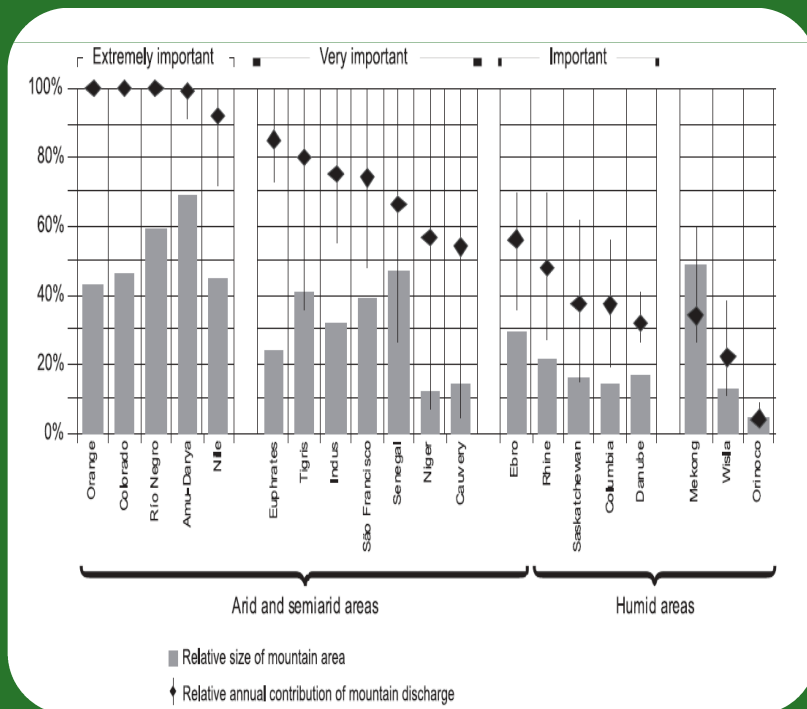


Why mountains matter in Green Economy ?

Water: Mountains are the **water towers of the world**

Almost all of the world's major rivers, and many smaller ones, originate in mountains

Mean contribution of mountain discharge in water flow



Permanent snow and ice in the Himalayan region

Sub-region	Volume (km ³)	Surface area (km ²)
Hindu Kush	930	6,200
Karakorum	2,180	15,670
Himalayas	5,000	43,000
Tibet	4,820	32,150
Total	12,930	97,020

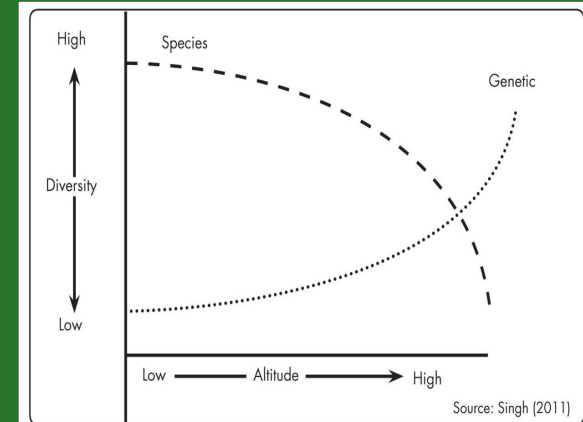
Why mountains matter in Green Economy ?

- **Hydropower & clean energy**
 - Mountains are important sources of hydropower – which provides more than 15% of the world's hydropower & other forms of clean energy
- **Mountains are sources of water storage, ground water discharge**



Why mountains matter in Green Economy ?

- Biodiversity
 - Mountains support **25% of the planet's biodiversity**, have **50% of the world's biodiversity hotspots**
 - **32% of global PAs are in mountains**
 - Himalayan has 488 PAs covering 39% of the region's terrestrial area
- Mountain communities are custodians of agrobiodiversity
 - Six of 20 plant crop species that supply 80% of the world's food originated in the mountains
- Mountains: a source of cultural, spiritual & recreational resources



Why mountains matter in Green Economy ?

Regional & global climate regulation

- Mountain ecosystems contribute in regulating global climate by mediating carbon, energy, and water balance at the land surface
- The Himalayas, for example, influence the monsoon & rainfall patterns of the Indian subcontinent



- Mountain ecosystem services provide both **direct & indirect contributions** in the mountains & downstream
- Mountains provide a large share of the world's resources for forestry, mining, water for drinking, irrigation, hydropower, and wind power
- Total value of forest ecosystem services in Uttarakhand, India estimated to be US\$ 2.4 billion per year

Economic Contribution of Mountain Ecosystem Services

Intangible benefits of forest ecosystem services is larger than tangible benefits

Ecosystem service	US\$/ha/yr
Climatic regulation	167.6
Disturbance regulation	2.3
Water regulation and water supply	5.2
Erosion control	114.6
Soil formation	11.6
Nutrient cycling	429.6
Waste treatment	102.7
Biological control	2.3
Food production	50.7
Raw material	164
Genetic resource	18.5
Recreation	78.6
Cultural	2.3
Total	1,150

Source: Singh, 2007

Economic Contribution of Mountain Ecosystem Services

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- Feeding the world's growing population
- Protecting against hazards
- Protecting against climate change impacts

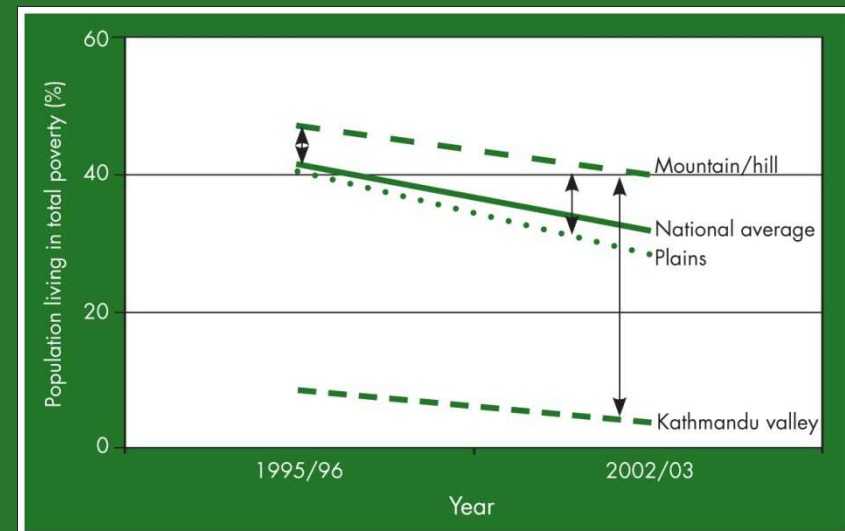


What are the Challenge?

- Mountain issues are not reflected in national, regional, and international policies & priorities.
- Inadequate recognition of mountain ecosystems services. Insufficient compensation for mountain ecosystem services
- Challenges to provide economic value of MESs, regulating, supporting services
- Lack of disaggregated mountain-specific data
- Unclear property rights

What are the Challenges

- Nascent market for mountain ecosystem services. Complicated procedures in global market-based instruments such as CDM, REDD(+)
- Persistent poverty & marginalisation of mountain areas
- Mountain ecosystems are fragile
- **Mountains are prone of conflict & violence**



Trend of people living under the poverty line in different regions of Nepal (%)

- Green economy recognises the value of ecosystems & their services.
- Green economy offer opportunity for enhancing recognition of the value of MESs.
- Growing realisation of the role of ecosystem services.
Policy innovations in government for conservation & development of ecosystems
 - **Fiscal transfers**: India, ...
 - **Ecological compensation**: China
- Growing market for mountain niche products

- Emergence of market & non-market mechanisms for mountain ecosystem services: PES, REDD(+), green certification, green marketing, eco-labelling, access & benefit sharing initiatives, ecotourism, policy support
- New investment & employment opportunities
- Opportunity of utilizing migration & remittances more productive way
- Alternative energy technology: improving lives & reducing carbon footprint (Black Carbon Reduction)

- Mountains are global natural capital & support about half of the humanity. Economic growth & sustainability in the lowlands depend highly on MESs
- Mountains can contribute to address the current global challenges: climate change, environmental degradation, providing new business & economic opportunities,
- Green Economy can contribute in fighting poverty, achieving MDGs, conserving resources & promoting SMD

What policies & insitutional measures are needed ?

- A comprehensive policy & institutional framework, concerted action needed at : **national, regional & global levels.**
- **National Level**
 - Institutionalizing the compensation of MESs
 - **Create market for MESs:** encourage private sector through appropriate policy & regulatory support
 - Correct policy, institutional & market failures
 - **Strengthen institutional framework** for decentralized resource governance, efficient functioning of market, develop well-defined property rights, fair access & benefit sharing, investment in mountains

What policies & insitutional measures are needed ?

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- **Regional Level**

- Promote and strengthen network and partnership among mountain regions to frame issues, helping states with ideas to address trans-boundary issues
- Strengthen the information & knowledge base, capacity building
- Promote and strengthen networks & partnerships among mountain regions
- Promote trans-boundary approaches regional mechanisms for the compensation of MESs

What policies & insitutional measures are needed ?

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- **Global Level**

- Establish principles & instruments to provide adequate incentives for conservation of mountain ecosystem services.
- Promote funding mechanisms to reward the conservation & development of globally significant MESs. Create global market for globally significant MESs
- Global commitment to and resources for conservation of mountain ecosystems. Differentiated approach for conservation of mountain ecosystems.
- Remove trade barriers & price distortions on green goods & services of mountain regions. Strengthen research for green accounting to include the use of natural resources in the

- Guide society for sustainable future-aware, educate, engage, build opinion, guide action
- *Enhance Public understanding -science communication :*
- *Constructive Engagement- public engagement*

Thank you

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