



Green Economy : Cities & Buildings



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“Towards a Green Economy” (UNEP)

<p style="text-align: center;">FOCUS</p> <ul style="list-style-type: none"> • Design and drive transformation in key sectors critical / highly material for “greening” the global economy 	<p style="text-align: center;">STRATEGY</p> <ul style="list-style-type: none"> • Establish “Enabling Conditions” (regulations, subsidies, taxes and related reforms) • Promote public and private investment
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KEY SECTORS

- **Agriculture, Freshwater, Forests, Fisheries, Energy, Transportation, Manufacturing, Waste, Buildings, Cities, Tourism**

SCENARIO ANALYSIS

- “T-21” model, includes **Natural Capital** , to forecast outcomes on **Capital stock, GDP growth, Employment**

Source: UNEP Green Economy Initiative




Cities & Buildings Critical for “Green” vs “Brown” Economy”

Buildings Sector’s ecological footprint is Massive...

- single largest contributor to GHG emissions
- one third of global energy use in buildings.
- construction sector consumes > a third of global resources, including 12 % of fresh water
- solid waste est. at 40 % of the total volume

City development decides “green”/“brown” economy

- Urban age : 50% population, est. 60-80% energy/carbon
- Rapid urbanisation : pressure on fresh water, sewage, living environment, public health, urban poor.
- Urban sprawl and peripheralisation : socially divisive, increases energy demand, carbon emissions, eco-footprint



Buildings : “Green Economy” Opportunities

- **Constructing new green buildings and retrofitting existing energy- & resource intensive buildings stock can achieve significant savings :**
Emission reductions through increased energy efficiency in buildings can have negative abatement costs of -US\$ 35 per tonne CO₂, reflecting energy cost savings, compared to -US\$ 10 in the transport sector or US\$ 20 the power sector
- **Greening buildings also brings significant health and productivity benefits**
- **Greening the building sector can lead to an increase in jobs**
In developed countries, every US\$ 1 million invested in building efficiency retrofits creates 10 to 14 direct jobs and 3 to 4 indirect jobs
- **Developing countries can lay the foundations of energy-efficient building stocks for the future**
Significant new construction expected, to provide housing for over 500 million people, & access to electricity for 1.5 billion people.




Cities : “Green Economy” Opportunities

Unique opportunities for cities to lead the greening of the global economy.

Green cities combine greater productivity and innovation capacity with lower costs and reduced environmental impact.
Relatively high densities are a central feature of green cities, bringing efficiency gains and technological innovation

In most countries, cities will be important sites for the emerging green economy

- proximity, density and variety deliver productivity benefits for companies & stimulate innovation
- green industries are dominated by service activity – such as public transport, energy provision, installation and repair – which tends to be concentrated in urban area
- cities will also develop high-tech green manufacturing clusters close to urban cores, drawing on knowledge and skill spillovers from universities and research labs.



Cities : “Green Economy” Opportunities

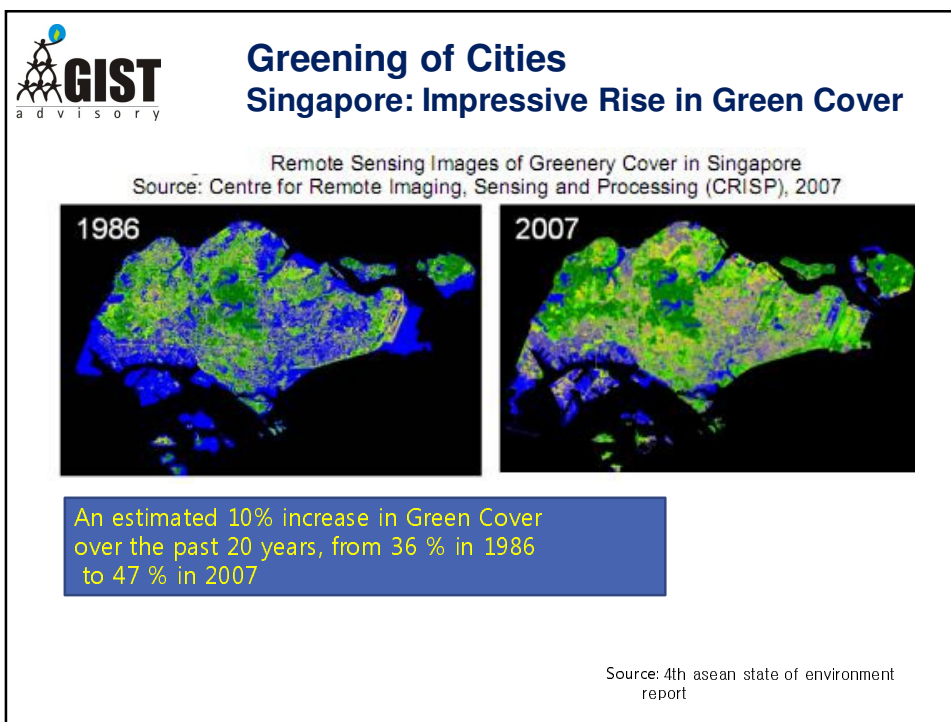
Introducing measures to green cities can increase social equity and quality of life.


- Enhancing public transport systems can reduce inequality by improving access to public services and other amenities
- children who live in close proximity to green space are more resistant to stress, have a lower incidence of behavioural disorders, anxiety, and depression
- Green space also stimulates social interaction and enhances human well-being.

Only a coalition of actors and effective multilevel governance can ensure the success of green cities

Numerous instruments for enabling green cities are available and tested but need to be applied in a tailored, relevant way

- strong local government enables a range of planning, regulatory, information and financing instruments applied at the local level to advance green infrastructure investment green economic development and a multitrack approach to urban sustainability.
- In other contexts, local governments, in a more pragmatic approach, could target a few key sectors such as water, waste, energy and transport and target a limited number of specific goals






GIST and Singapore : City Biodiversity Index

1. **Self assessment index** assisting cities to benchmark biodiversity conservation efforts.
2. **Aims to :**
 1. Help evaluate progress in reducing the rate of biodiversity loss in urban ecosystems;
 2. Measure the ecological footprint of cities,
 3. Help identify important information gaps about biodiversity
4. **23 indicators** to calculate scores based on 3 components:
 - Native biodiversity (10);
 - Ecosystem services provided by biodiversity (4);
 - Governance and management of native biodiversity (9).
4. More than **30 cities worldwide** following the Singapore Index.

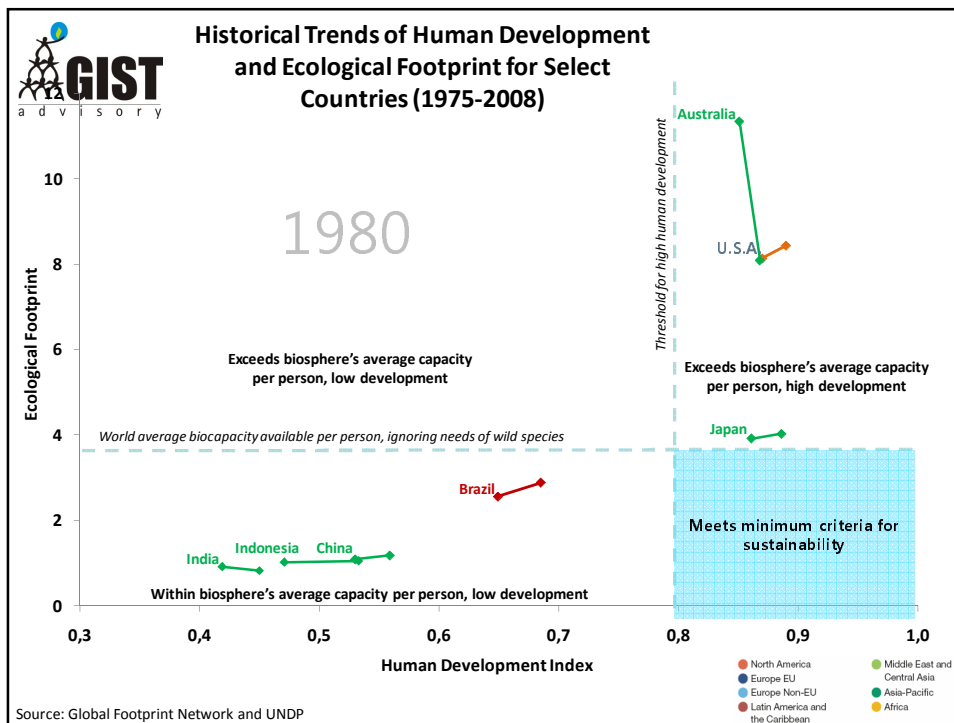
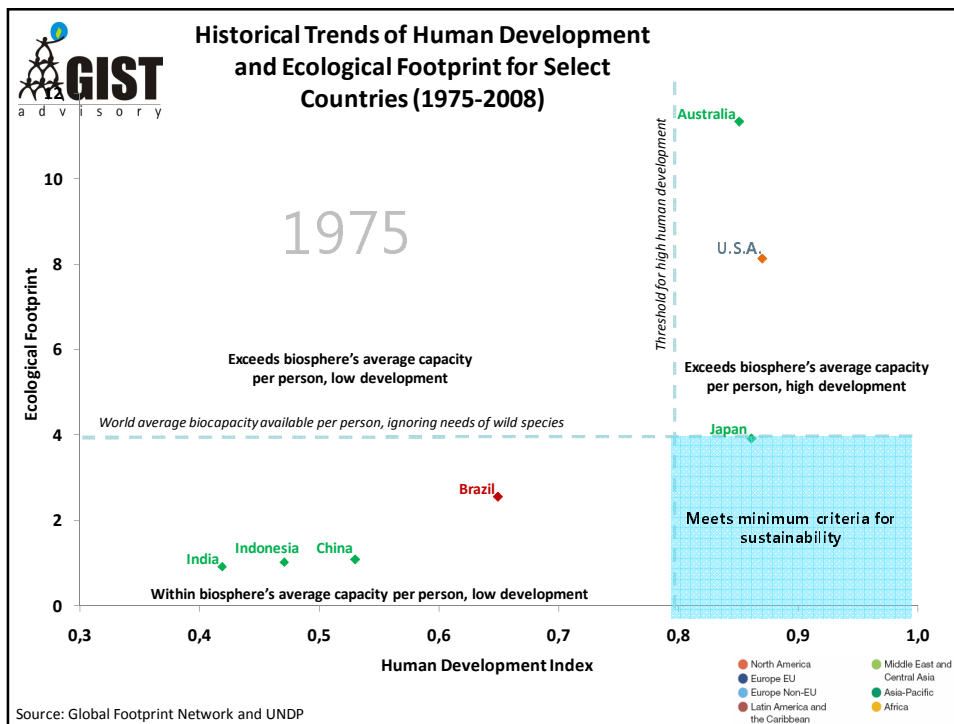
Source: CBD 2009 TEEB case by S. Rodricks (2010) Singapore City Biodiversity Index available at: TEEBweb.org

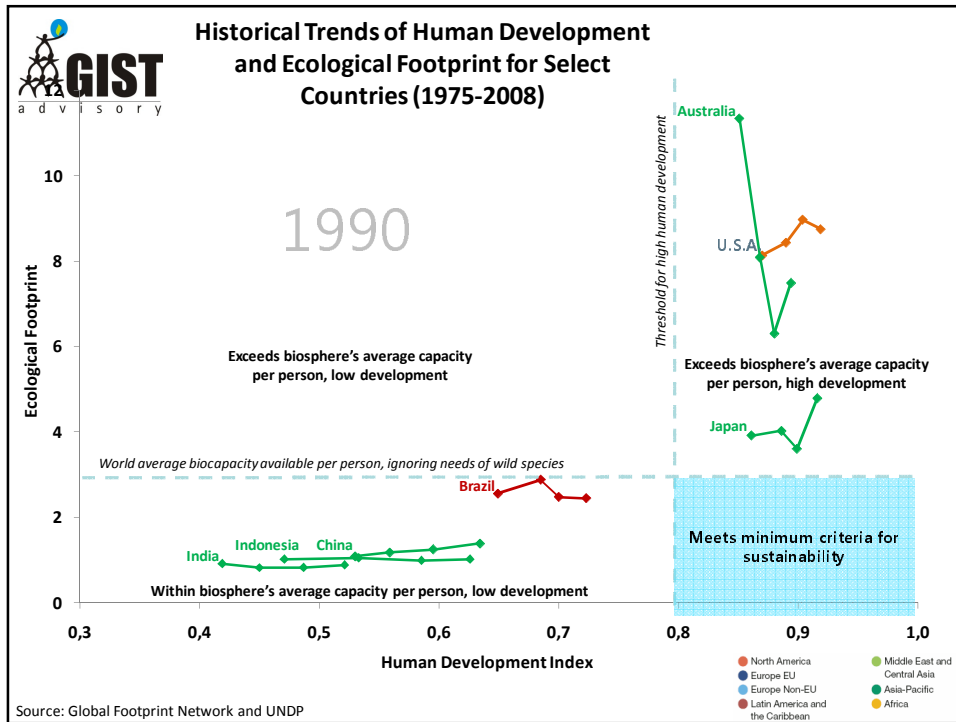
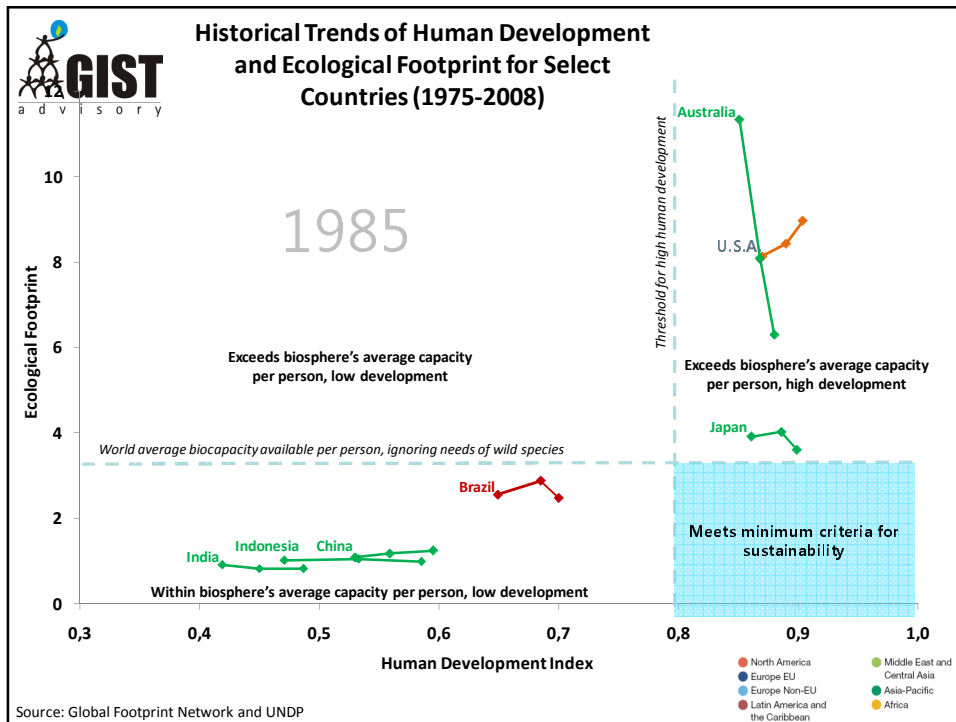


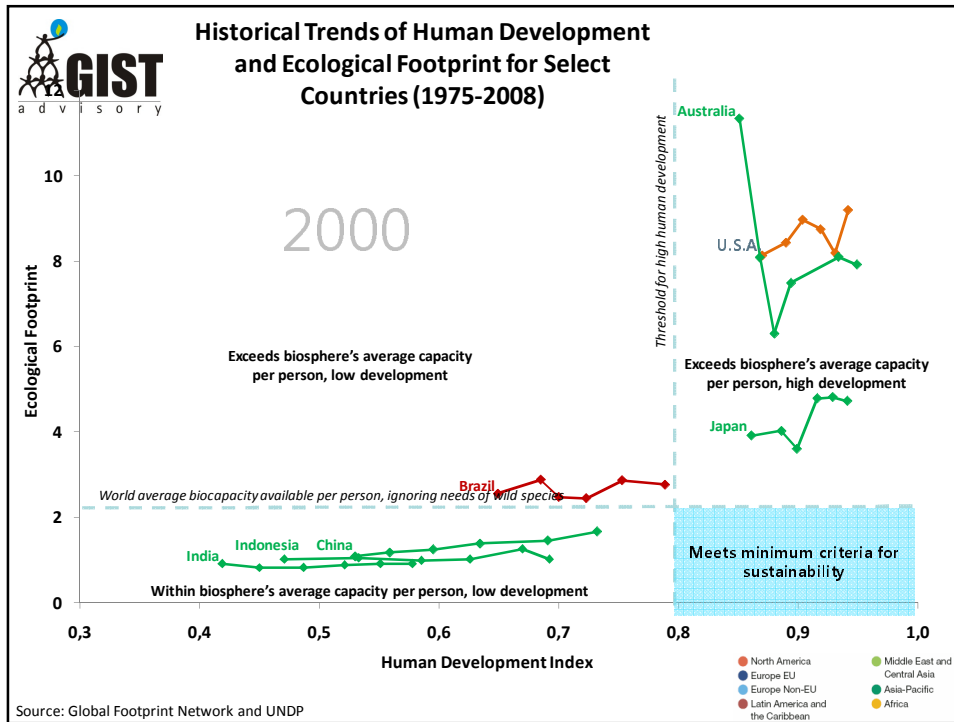
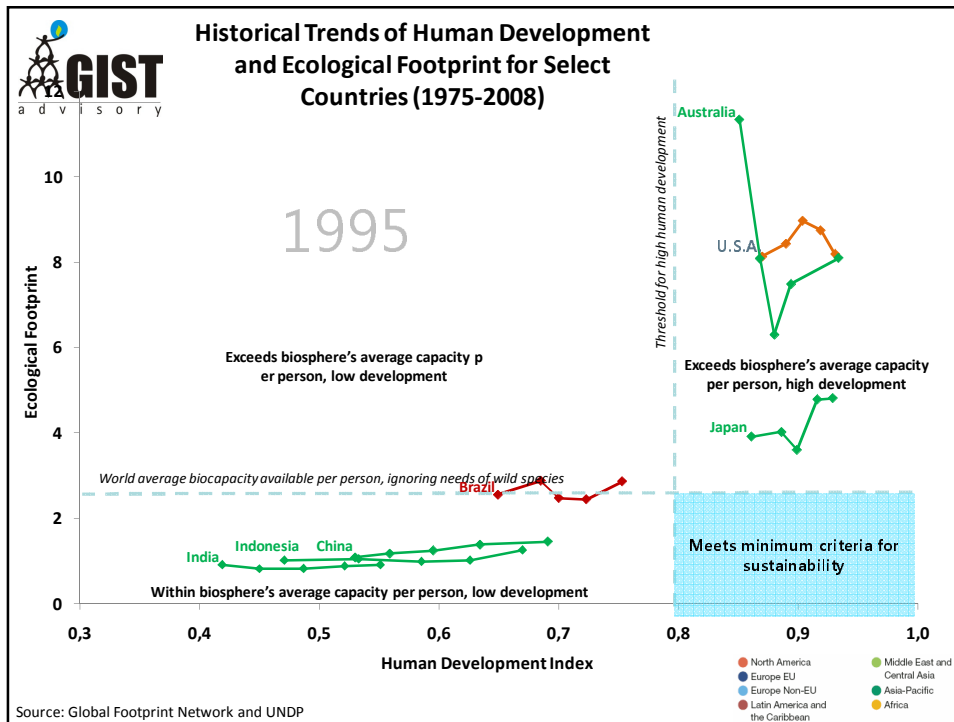
Goals of Sustainable Development

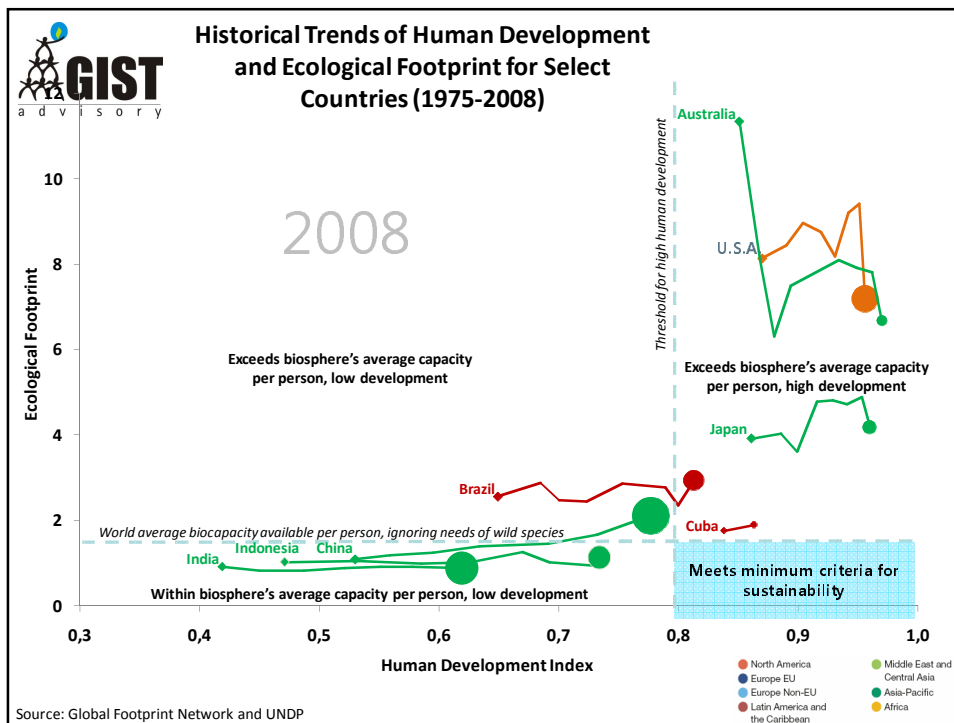
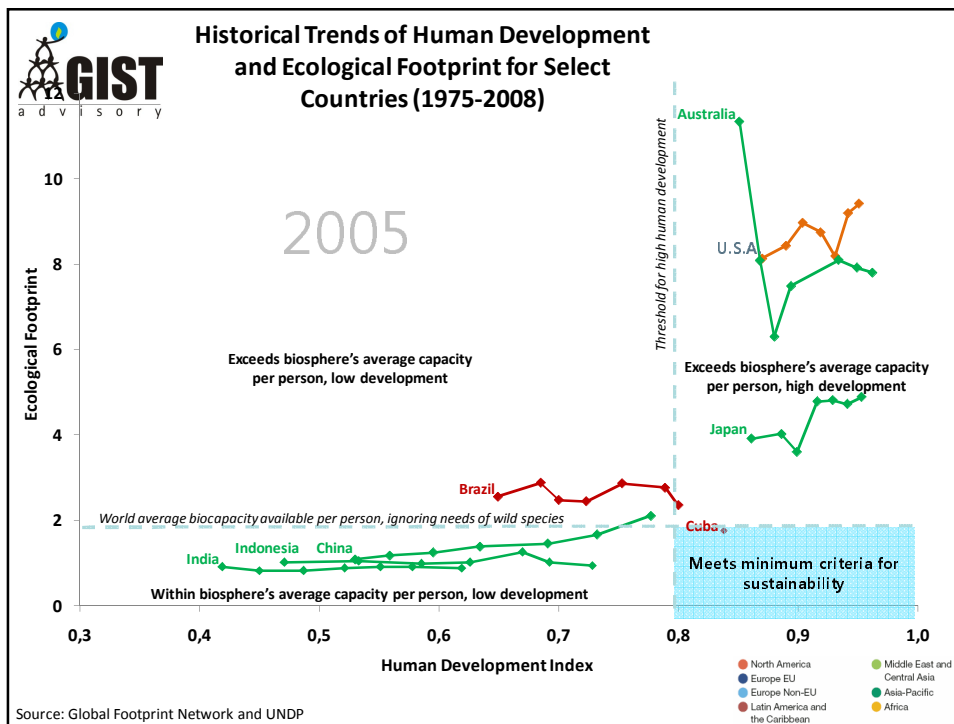
Four key and broad goals of Sustainable Development are :-

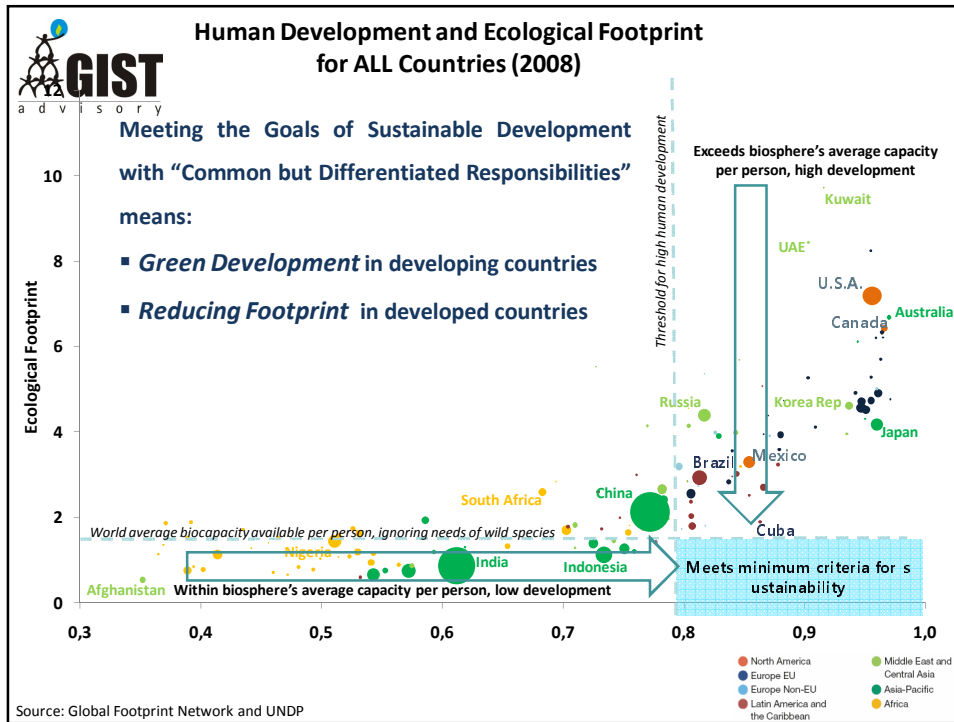
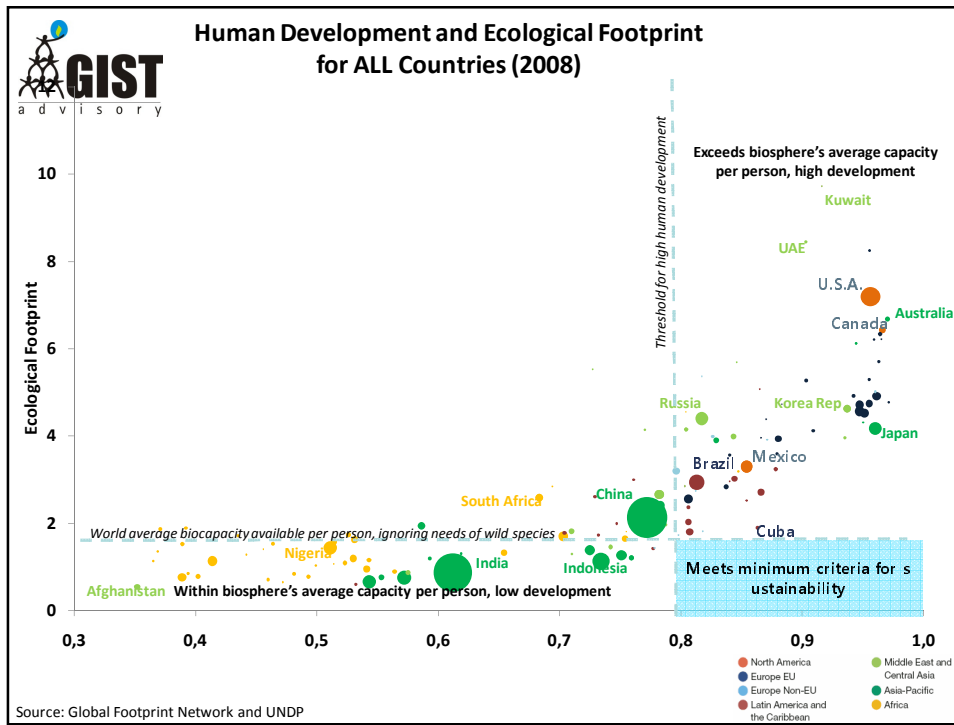
1. **Improved human well-being** : Better health, education, & wealth for all ; high employment to ensure dignity of life and labour
2. **Increased social equity** : Ending persistent poverty ; improving the income of the poor farmer and city dweller; ensuring inclusion at every level – social, economic, financial
3. **Reduced environmental risks** : Concerted efforts to reduce damages from Climate Change, Ocean Acidification, Hazardous chemicals, Pollutants, & excessive or mis-managed Waste
4. **Reduced ecological scarcities** : Freshwater availability (exported foodgrain means imported water shortage), Soil fertility (ecosystem degradation & excessive fertilizer use are root causes of lost soil fertility), Land availability (for crops & livestock), Coastal & Coral seas (for fish)











  Towards a **GREEN economy**

Thank You!
www.unep.org/greeneconomy
www.gistadvisory.com

