

**Southern Africa Regional Workshop for Updating National
Biodiversity Strategies and Action Plans:
incorporating work on valuation and incentive measures**

The Economics of Ecosystems and Biodiversity (TEEB) and Ecosystems Approach as Mainstreaming Tools

15 March 2011

Joshua Bishop, IUCN & TEEB

Outline

- TEEB and the Ecosystems Approach
- Mainstreaming in the CBD



TEEB mandate:



Potsdam Initiative – Biological Diversity 2010

“In a global study we will initiate the process of analysing the global economic benefit of biological diversity, the costs of the loss of biodiversity and the failure to take protective measures versus the costs of effective conservation.”

http://www.bmu.de/files/pdfs/allgemein/application/pdf/potsdam_initiative_en.pdf



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TEEB origins (1):

- Founded on the concept of ecosystem services for human well-being, under-pinned by biodiversity
- Focus on underlying economic drivers of ecosystem decline and economic solutions
- Fill gap in economic evidence provided by the MA



ECOSYSTEMS AND HUMAN WELL-BEING

Biodiversity Synthesis



MILLENNIUM ECOSYSTEM ASSESSMENT

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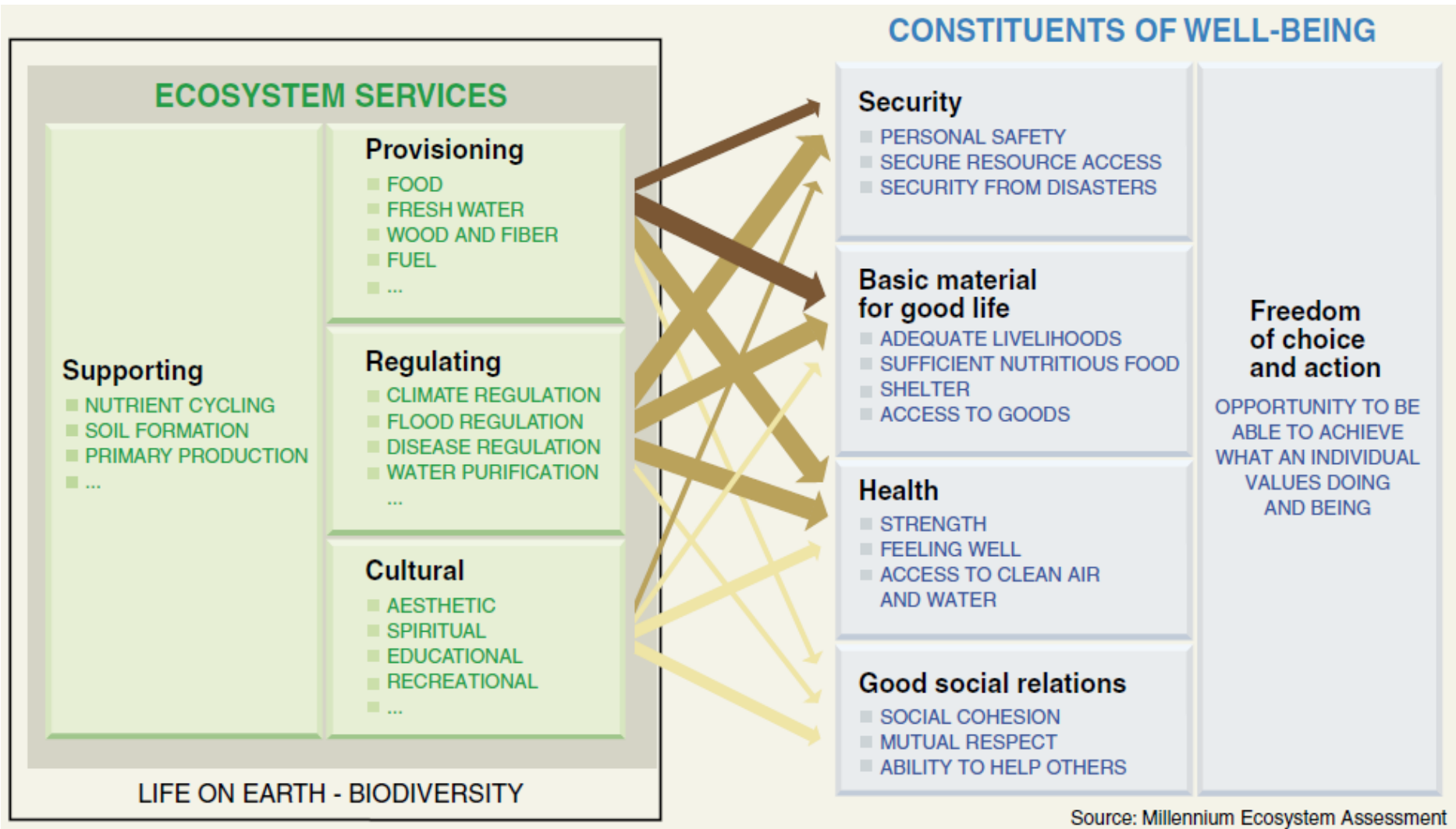
ECOSYSTEMS AND HUMAN WELL-BEING

Biodiversity Synthesis



MILLENNIUM ECOSYSTEM ASSESSMENT

Biodiversity as the basis of ecosystem services and human well-being



MA revealed that 60% of ecosystem services are in decline

“Enhanced”

Crops
Livestock
Aquaculture
Carbon sequestration

“Degraded”

Capture fisheries
Wild foods
Wood fuel
Genetic resources
Biochemicals
Fresh water
Air quality regulation
Erosion regulation
Water purification
Pest regulation
Pollination
Natural hazard regulation
Regional & local climate regulation
Spiritual & religious
Aesthetic values

“Mixed”

Timber
Fiber
Water regulation
Disease regulation
Recreation & ecotourism

TEEB focus on values of ecosystem services and MA's “promising (economic) responses”

Promising responses (selected from MA 2005):

- Incorporation of nonmarket values of ecosystems in resource management decisions
- Elimination of subsidies that promote excessive use of ecosystem services (and, where possible, transfer these subsidies to payments for non-marketed ecosystem services)
- Measures to reduce aggregate consumption of unsustainably managed ecosystem services
- Greater use of economic instruments and market-based approaches in the management of ecosystem services (where enabling conditions exist)

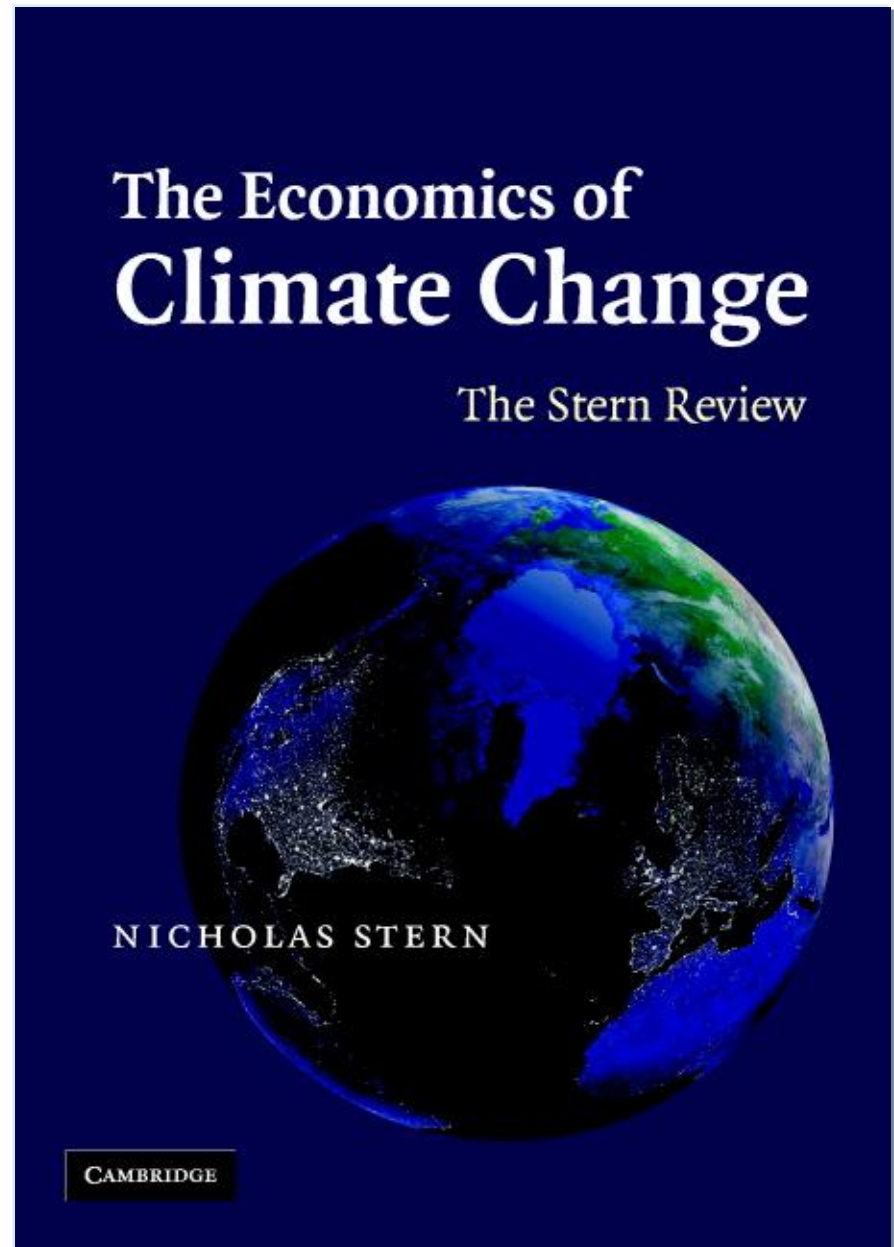
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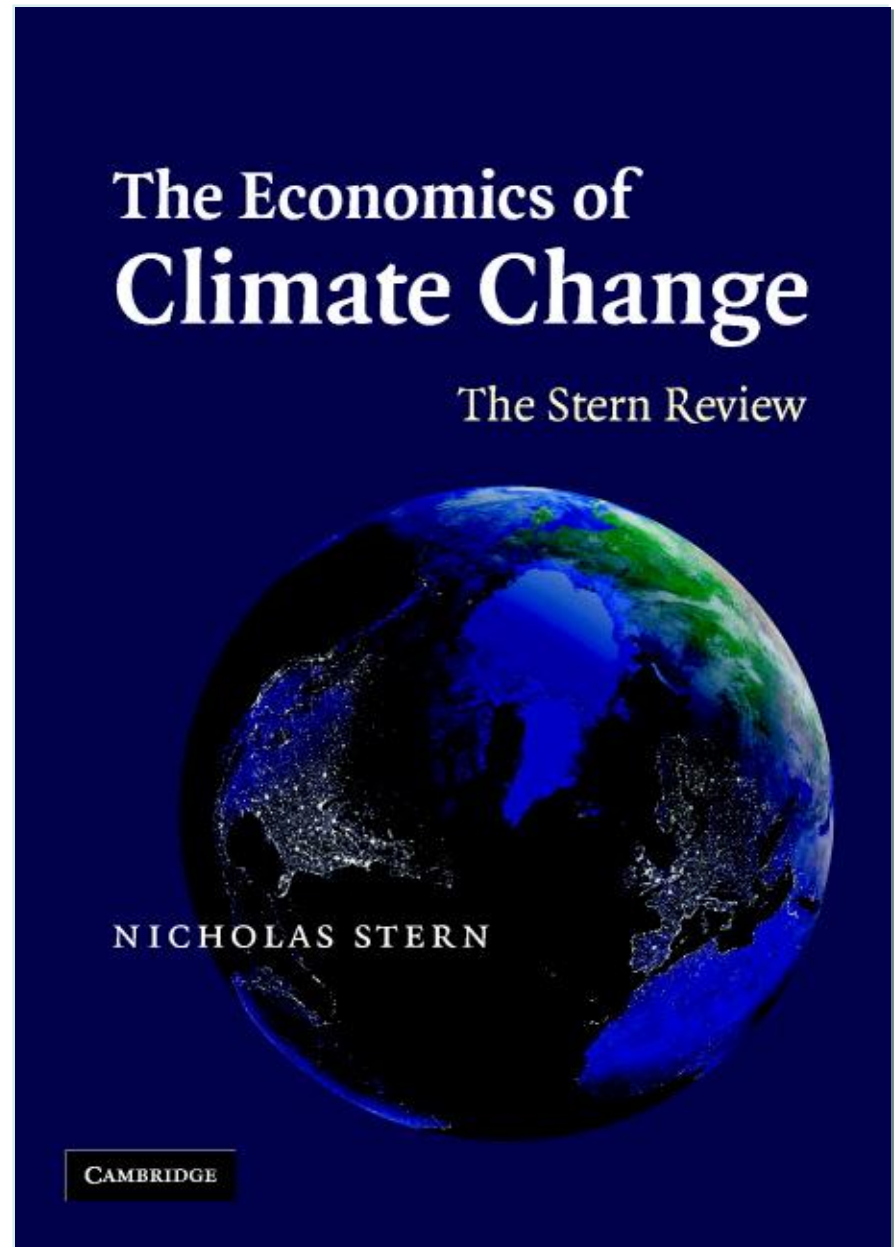
TEEB origins (2):

- Inspired by the Stern Review's economic arguments for action on climate change
- Consider costs of action as well as the benefits
- Focus on mainstreaming environment in economic policy, investment, technology and markets



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- Focus on **mainstreaming** environment in economic policy, investment, technology and markets



Who is TEEB?

- Study Leader: Pavan Sukhdev
- Advisory Board: 14 scientific & policy leaders (including SG CBD)
- Administration: UNEP
- Scientific coordination: UFZ, Leipzig
- Over **500** individual editors, authors and reviewers
- Financial donors and other institutional partners (partial list):





What has TEEB produced?



Interim Report
May 2008



Climate Issues Update
September 2009



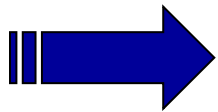
National & International Policy-
Makers November 2009



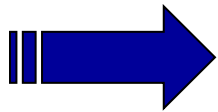
Business
July 2010



Local & Regional Policy-
Makers September 2010



Ecological & Economic
Foundations
October 2010



Final Synthesis Report
October 2010

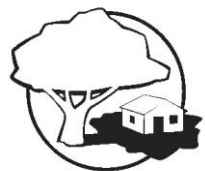


TEEB approach to “valuation”

1. Recognizing value: a feature of all human societies and communities

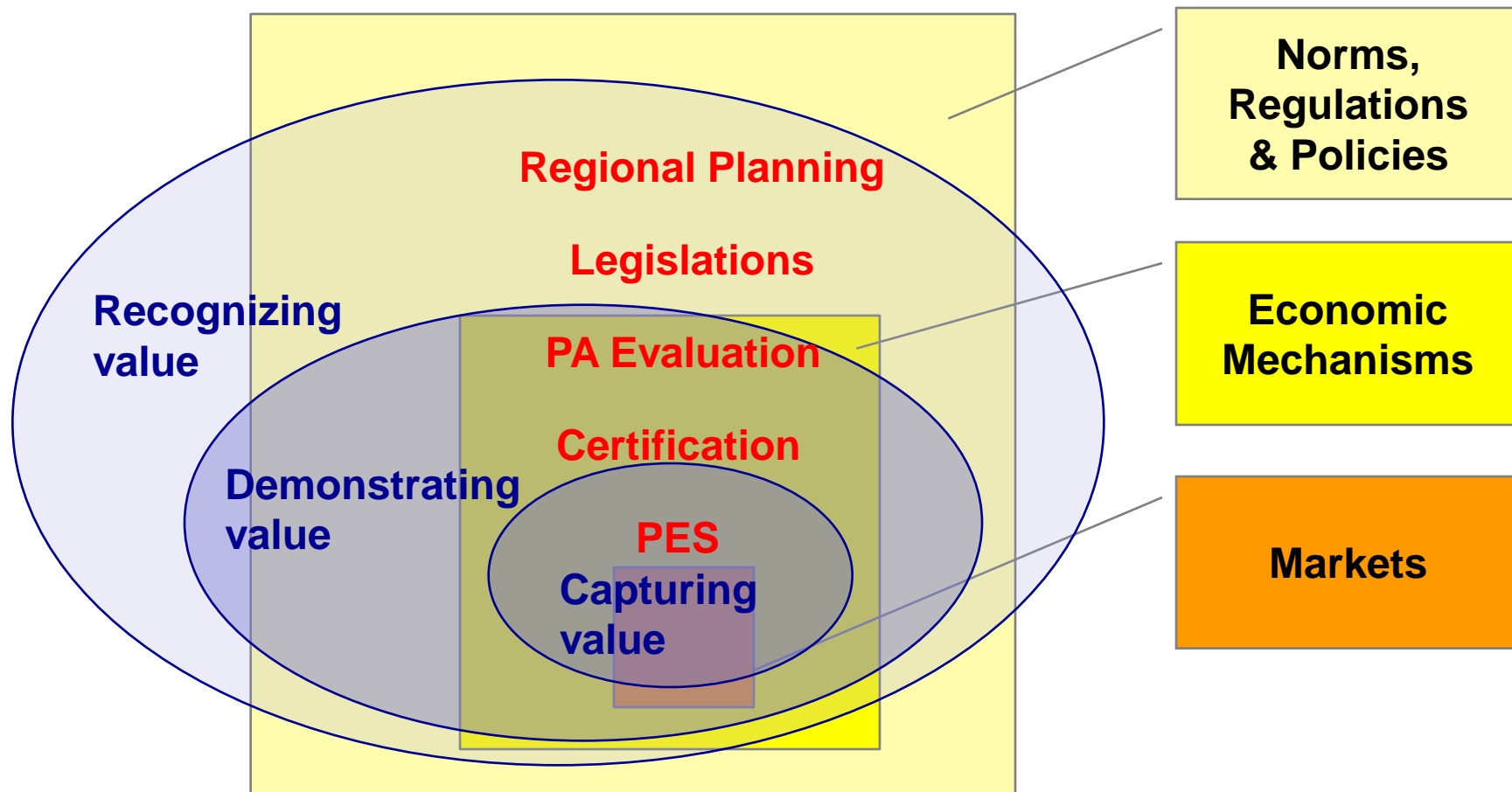
2. Demonstrating value: in economic terms, to support decision making

3. Capturing value: introduce mechanisms that incorporate the values of ecosystems into decision making



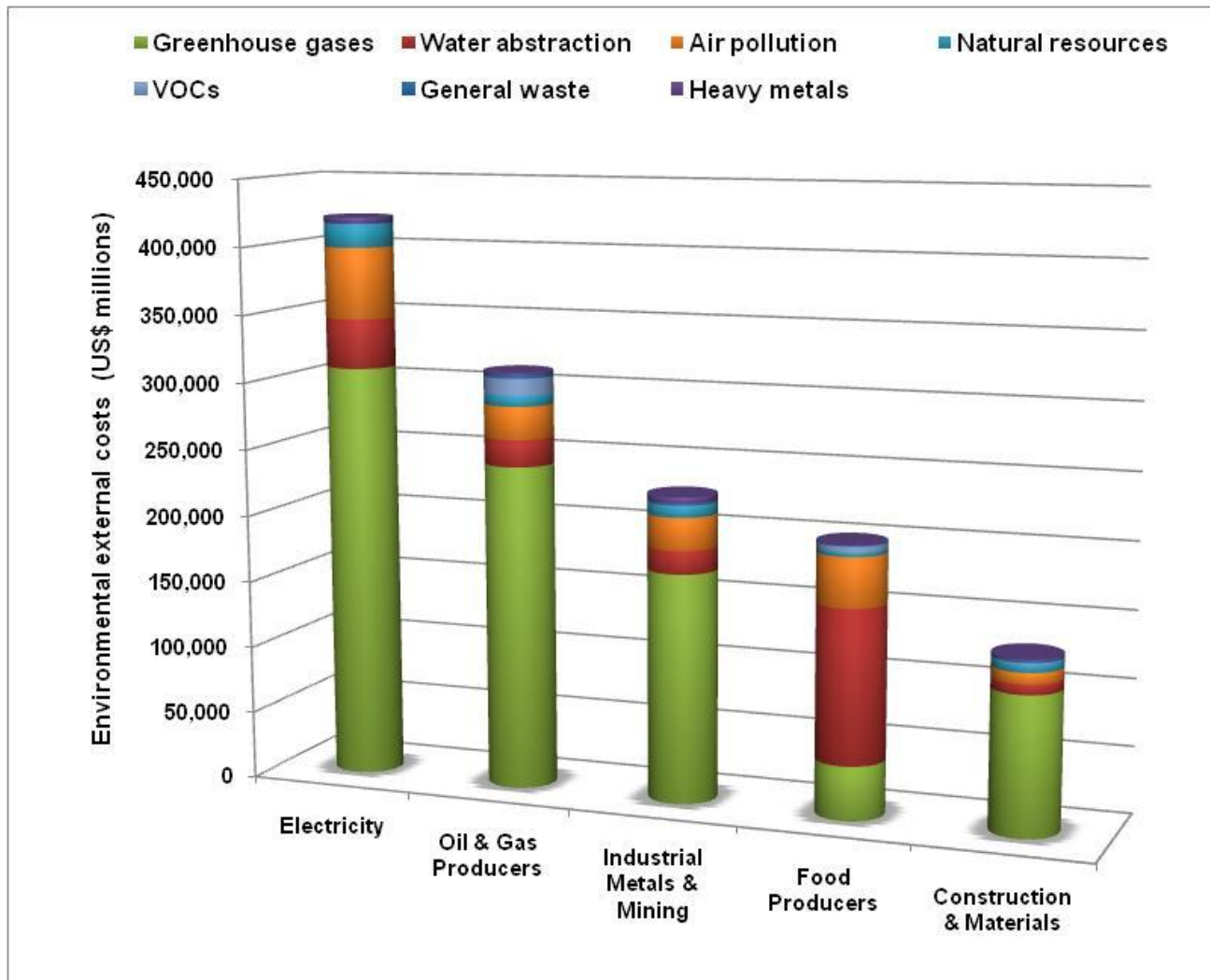


Applying the TEEB Approach ...





Demonstrating value: economic impacts



- US\$ 6.6 trillion/year estimated global environmental costs of economic activity (11% of 2008 GDP)
- Five sectors account for about 60% of environmental costs

Source: Trucost for UNPRI, 2010.



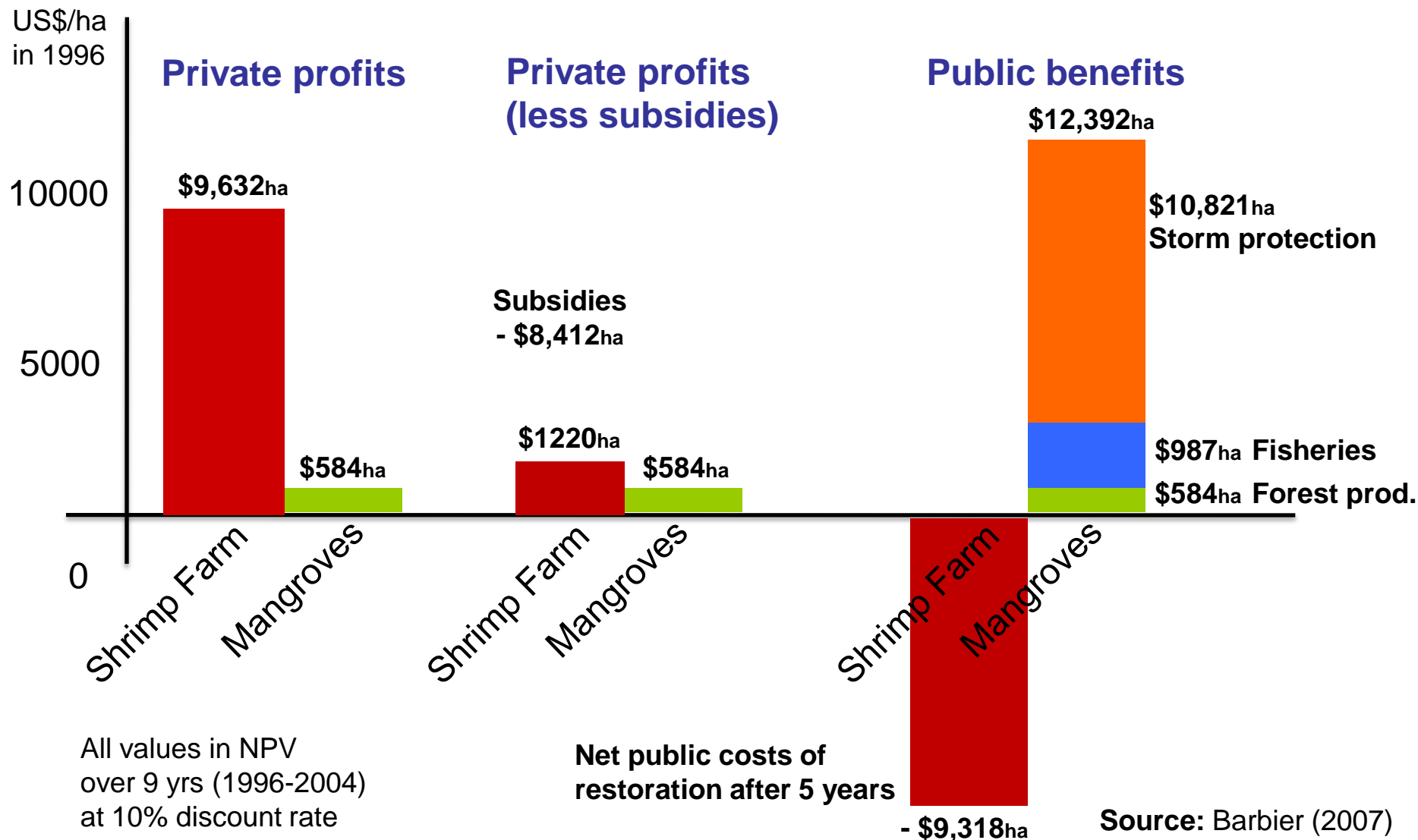
Demonstrating value: dependence

- Value of insect pollination to food crops: €153 billion in 2005 = 10% of VA in the agriculture sector (Gallai et al. 2008)
- Example: Michigan USA blueberry crop worth US\$ 124 million/year; totally reliant on pollination by bees at cost of about US\$ 1.5 million/year (renting hives)
- Example: Wild pollinators increase coffee yields by 20% on farms within 1 km of forest in Costa Rica (Ricketts et al. 2004)
- Pollination services to agriculture are threatened by 'colony collapse disorder' mainly affecting domesticated bees





Trade-offs: Shrimp farms vs mangroves





Ecological infrastructure: Kampala wetland

- Nakivubo swamp provides natural water treatment & supports small-scale income generation (reed harvesting, brick making, and fish farming)
- Natural water treatment services are valued at US\$ 1-1.75 million per year
- If the swamp is converted then additional investment in a sewage treatment plant would be required with running costs of over US\$ 2 million / year



Sources: Emerton 2003; Emerton et al. 1999



Equity impacts of ecosystem decline

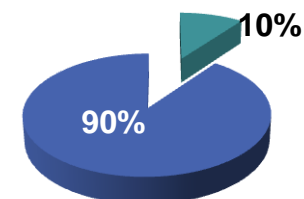
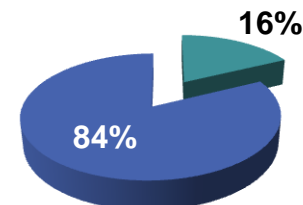
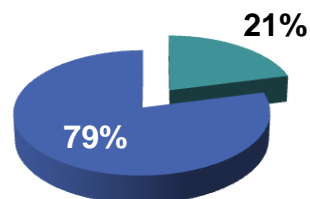
Ecosystem services dependency

Indonesia
99 million

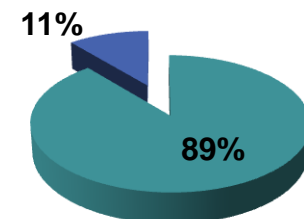
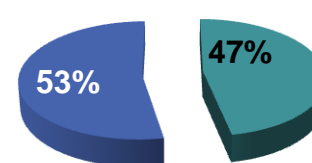
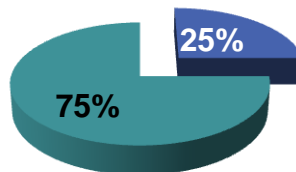
India
352 million

Brazil
20 million

Ecosystem services as percent of classical GDP



Ecosystem services as percent of “GDP of the Poor”



 **Ecosystem services**



Capturing value: “biodiversity business”

Adding BES to existing business

- Agriculture
- Biodiversity mgmt services
- Cosmetics
- Extractive industries
- Finance
- Fisheries
- Forestry
- Garments
- Handicrafts
- Pharmaceuticals
- Retail
- Tourism



New markets for BES

- Bio-carbon & REDD-plus
- Water quality trading
- Biodiversity banking



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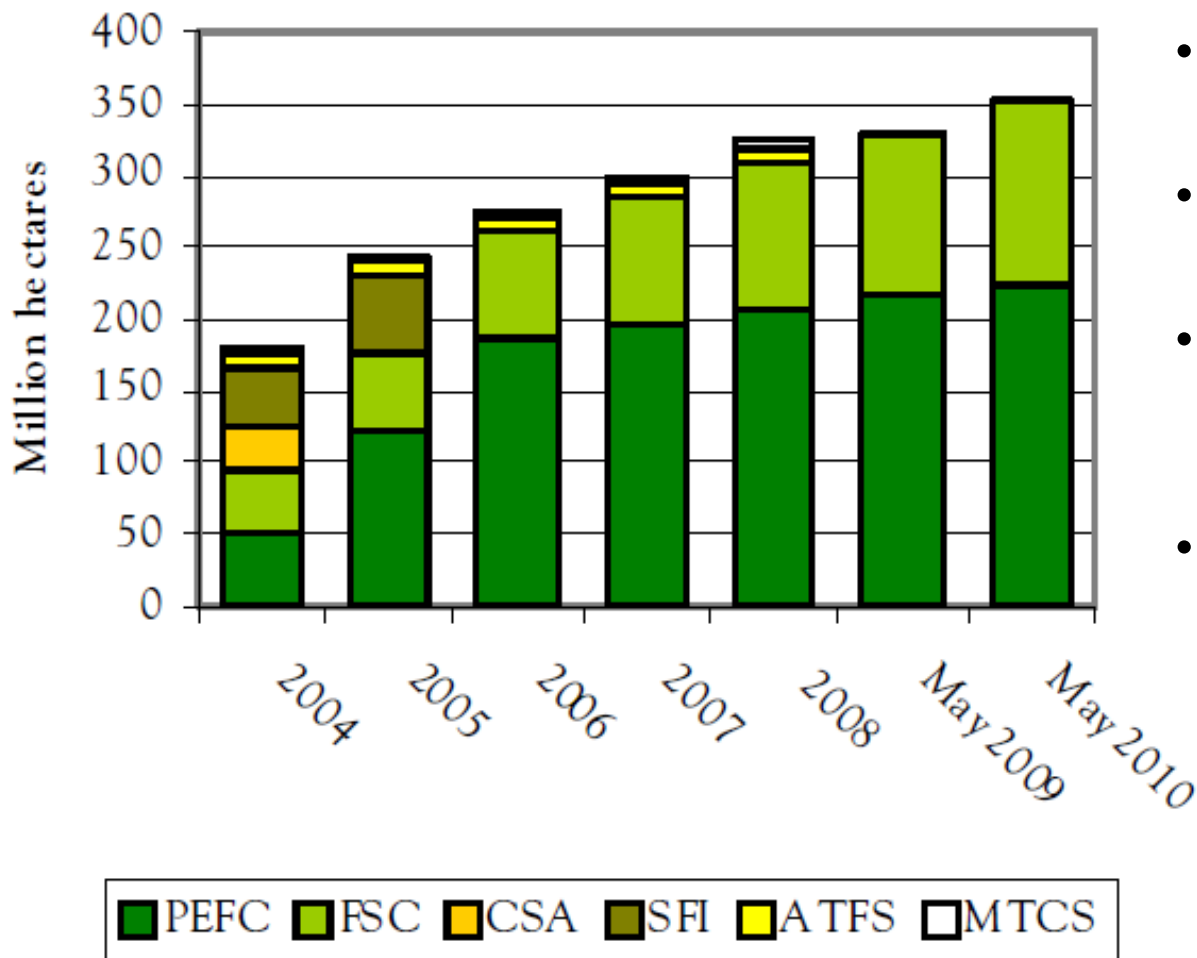


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Capturing value: Forest certification



- 355 million hectares (9% of world's forests)
- 26% of global supply of industrial roundwood
- 84% of certified forests are in North America and Western Europe
- 2 schemes dominate: FSC, PEFC

Source:
UNECE/FAO
Forest Products
Annual Market
Review 2009-2010



What next for TEEB?

- Capacity building for developing countries (CBD, etc)
- “Country” & “Regional” analysis (Brazil, India, Germany...)
- Green National Accounts (World Bank & partners)
- Business & biodiversity (indicators, valuation, reporting, etc)
- Filling ecological & valuation knowledge gaps
- Communicating the issue to society at large

Outline

- TEEB and the Ecosystems Approach
- **Mainstreaming in the CBD**

COP-10 Decisions

- X/1. Nagoya Protocol on Access Benefit Sharing
- X/2. The Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets
- X/3. Strategy for Resource Mobilization
- X/4. Global Biodiversity Outlook
- X/5. Implementation of the Convention
- X/6. Biodiversity and poverty eradication and development
- X/7. Goals and targets and associated indicators
- X/8. UN Decade on Biodiversity 2011-2020
- X/9. The multi-year programme of work
- X/10. National reporting
- X/11. IPBES
- X/12. Ways and means to improve the effectiveness of SBSTTA
- X/13. New and emerging issues
- X/14. Retirement of decisions
- X/15. Clearing-house mechanism
- X/16. Technology transfer and cooperation
- X/17. Global Strategy for Plant Conservation 2011-2020
- X/18. CEPA and IYB
- X/19. Gender mainstreaming
- X/20. Cooperation with other conventions and initiatives
- X/21. Business engagement
- X/22. Plan of Action on Cities and Local Authorities
- X/23. South-South Cooperation
- X/24. Review of guidance to the financial mechanism
- X/25. Additional guidance to the financial mechanism
- X/26. Assessment of the amount of funds needed for GEF-6
- X/27. 4th review of the effectiveness of the financial mechanism
- X/28. Inland waters biodiversity
- X/29. Marine and coastal biodiversity
- X/30. Mountain biological diversity
- X/31. Protected areas
- X/32. Sustainable use of biodiversity
- X/33. Biodiversity and climate change
- X/34. Agricultural biodiversity
- X/35. Biodiversity of dry and sub-humid lands
- X/36. Forest biodiversity
- X/37. Biofuels and biodiversity
- X/38. Invasive alien species
- X/39. Global Taxonomy Initiative
- X/40. Mechanisms for the effective participation of indigenous and local communities
- X/41. Elements of *sui generis* systems for the protection of traditional knowledge
- X/42. The Tkarihwaí:ri code of ethical conduct
- X/43. Multi-year programme of work on Article 8(j) and related provisions
- X/44. Incentive measures
- X/45. Administration and budget 2011-2012
- X/46. Date and venue of COP-11
- X/47. Tribute to the Government and people of Japan



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X/2. Strategic Plan and Aichi Biodiversity Targets

- 1 Awareness of biodiversity values and steps people can take
- 2 Biodiversity values in national accounts and development policy
- 3 Negative and positive incentives
- 4 Sustainable production and consumption
- 5 The rate of loss, degradation and fragmentation of habitats
- 6 Fisheries and other living marine and aquatic resources
- 7 Agriculture, aquaculture and forestry
- 8 Pollution control
- 9 Invasive alien species
- 10 Coral reefs and other vulnerable ecosystems impacted by climate change
- 11 Protected area coverage
- 12 Status of threatened species
- 13 Genetic diversity of socio-economically valuable species
- 14 Conservation, restoration and equitable access to ecosystem services
- 15 Climate change mitigation and adaptation and combating desertification
- 16 Access and benefit sharing
- 17 National biodiversity strategy and action plan
- 18 Traditional knowledge
- 19 Science base and technologies
- 20 Capacity for implementing the Convention

X/2. Strategic Plan and Aichi Biodiversity Targets

1	Awareness of biodiversity values and steps people can take	D1/2/3/4
2	Biodiversity values in national accounts and development policy	D1/2
3	Negative and positive incentives	D1/2/3
4	Sustainable production and consumption	D1/2/3/4
5	The rate of loss, degradation and fragmentation of habitats	D0
6	Fisheries and other living marine and aquatic resources	D1/3
7	Agriculture, aquaculture and forestry	D1/2/3, CIU, Synth
8	Pollution control	D1
9	Invasive alien species	D1
10	Coral reefs and other vulnerable ecosystems impacted by climate change	CIU
11	Protected area coverage	D1(8)
12	Status of threatened species	D0
13	Genetic diversity of socio-economically valuable species	D0
14	Conservation, restoration and equitable access to ecosystem services	D1/2/3
15	Climate change mitigation and adaptation and combating desertification	CIU
16	Access and benefit sharing	D1(5.3)
17	National biodiversity strategy and action plan	D1/2
18	Traditional knowledge	D0
19	Science base and technologies	D0
20	Capacity for implementing the Convention	D1/2/3

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19	Science base and technologies	D0
20	Capacity for implementing the Convention	D1/2/3

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By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into nation accounting, as appropriate, and reporting systems

TEEB Ecological & Economic Foundations

Ch4 - Socio-cultural context of ecosystem and biodiversity valuation

Ch5 - The economics of valuing ecosystem services and biodiversity

TEEB for National & International Policy-Makers

Ch3 - Strengthening indicators and accounting systems for natural capital

Ch4 - Integrating ecosystem and biodiversity values into policy assessment

Ch8 - Recognising the value of protected areas

Ch9 - Investing in ecological infrastructure

TEEB for Local & Regional Policy-Makers

Ch3 - Methods to consider ecosystem services (cost-benefit analysis)

Ch6 - Spatial planning instruments and Impact Assessment

TEEB for Business

Ch3 - Measuring & reporting biodiversity & ecosystem impacts & dependence

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X/44. Incentive measures (paragraph 7)

Requests the Executive Secretary, ... to convene regional workshops for the exchange among practitioners on practical experiences on the removal and mitigation of perverse incentive measures, including, but not limited to, harmful subsidies, and on the promotion of positive incentives, including, but not limited to, market-based incentives, with a view to build or enhance capacities of, and promote common understanding among, practitioners

TEEB for National & International Policy-Makers

Ch5 - Rewarding benefits through payments and markets

Ch6 - Reforming subsidies

Ch7 - Addressing losses through regulation and pricing

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Ch8 - Market-based instruments for conservation

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Thank you!

for more information

www.teeb4me.com

www.teebweb.org