



Future of TEEB and Natural Capital

International Union for Conservation of Nature, Japan

15th February 2014

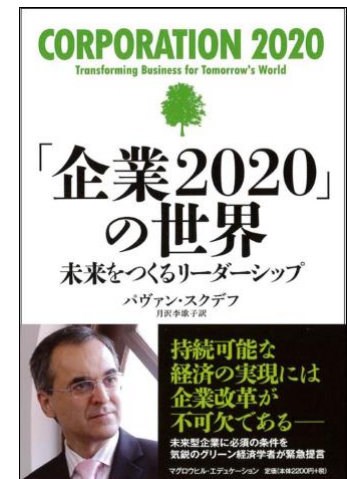
Pavan Sukhdev

Founder & CEO, GIST Advisory

UNEP Goodwill Ambassador

Board Member, Conservation International

Author, "Corporation 2020"





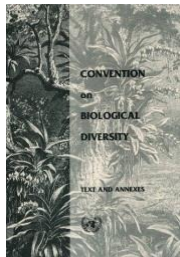
Introduction

THE ECONOMICS OF ECOSYSTEMS AND BIODIVERSITY (TEEB)

The Economics of Ecosystems & Biodiversity

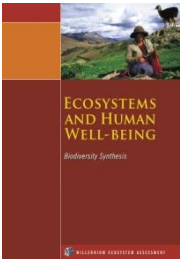


TEEB Phase 1 & 2 (2007-2010)



G8 2007
Environment Ministers Meeting
 Potsdam, 15-17 March 2007

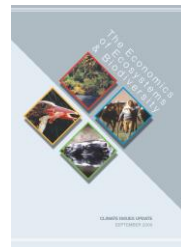
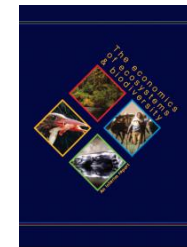
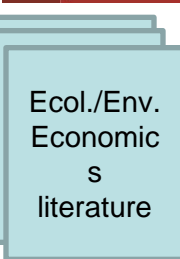
“Potsdam Initiative – Biological Diversity 2010”
 The economic significance of the global loss of biological diversity....



Interim Report

Climate Issues Update

TEEB End User Reports Brussels 2009, London 2010



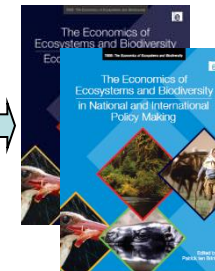
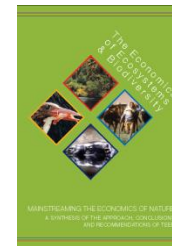
TEEB Synthesis

TEEB Books

CBD COP 9 Bonn 2008

Input to UNFCCC 2009

India, Brazil, Belgium, Japan & South Africa Sept. 2010



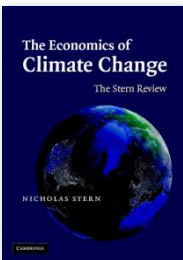
CBD COP11 India

Country TEEB Programs

Sectoral TEEB Programs

Business Externalities Work

Rio+20 Brazil



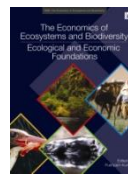
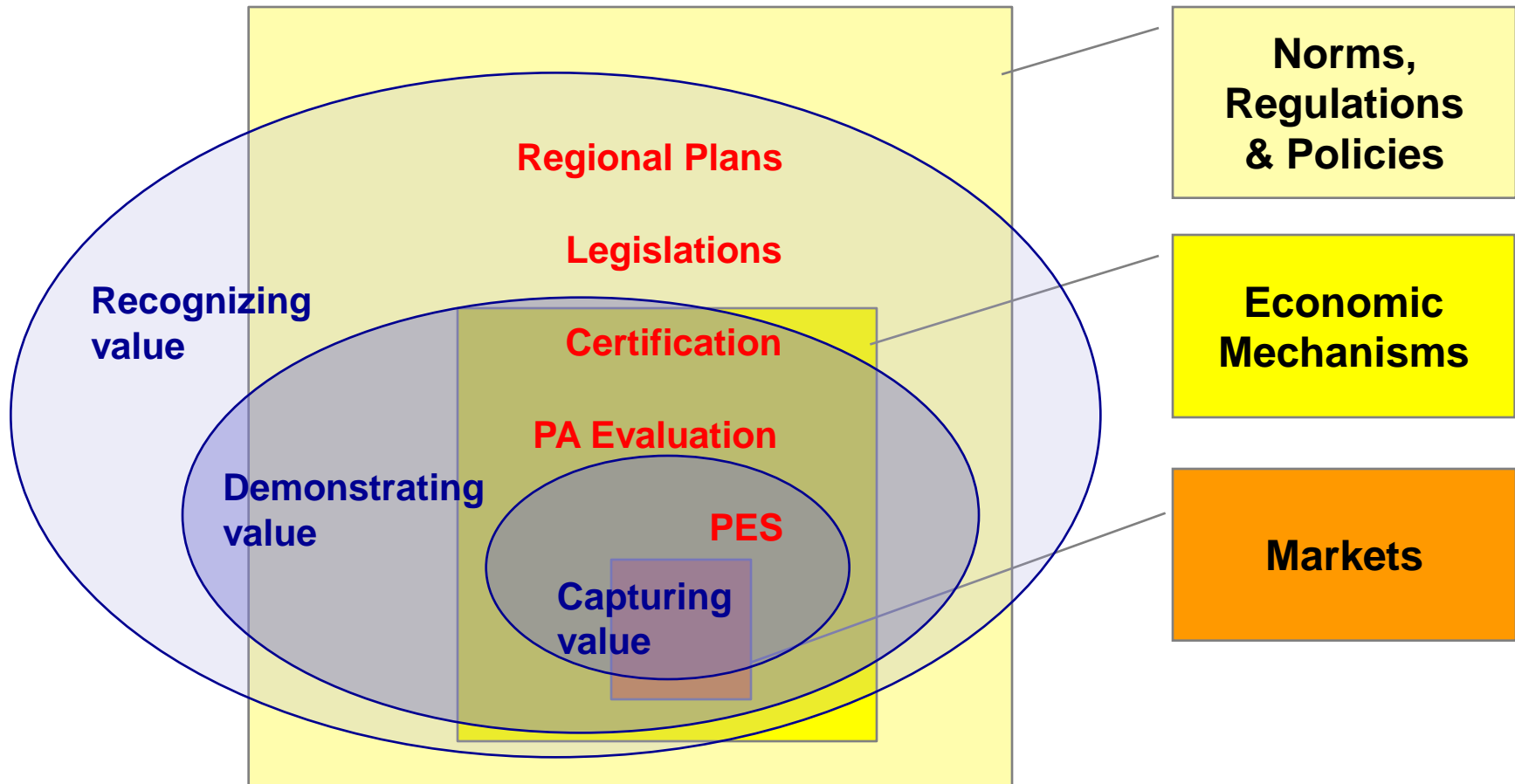
BD COP 10 Nagoya, Oct 2010



- TEEB is *not* about “Selling Mother Nature”
- TEEB is *not* some simple-minded cost-benefit-based stewardship model for the whole Earth
- TEEB *is* about preventing the economic invisibility of Nature from leading to bad policies & trade-offs
- TEEB *is* about recognizing, demonstrating, capturing and rewarding the benefits that ecosystems and biodiversity provide to society in general and to poor people in particular



Valuations, Operating Spaces, **Strategies...**



Ch.5



Ch.4



Ch.3



Ch.3



Case Study: 'Satoyama' Landscapes, Japan

75-100% reduction in pesticides, traditional winter flooding rice farming adopted and White Stork rice and other certified products sold at a "premium"

PES

2003-2007: farmers paid 40,000 JYen per 1,000m² of rice paddies. Currently granted 7,000 JYen per 1,000m² by Toyo-oka City.

CERTIFICATION

Rice sold at 23 % higher rate for reduced pesticide use and 54 % more for organic farming

- White Stork habitat increased from 0.7 ha in 2003 to 212.3 ha
- Extinct in 1971, now has over 40 breeding pairs
- 1 billion JPY annually in tourism, & municipal income raised by 1.4 %



Konotori no Mai / Flying Oriental White Stork



Why is it TEEB important?

- **Development** : Ecosystem Services 45%-90% of the “GDP of the Poor” in rural and forest areas
- **Risks** : Fisheries (protein for 1 bn, jobs, \$ 50 bn/yr underperformance), Coral reefs (fish, jobs)
- **Losses** : land ecosystem services valued at \$2tr-\$4.5tr in terms of human welfare benefits
- **Solutions** : Effective, Equitable and Economically justifiable solutions - 120+ examples described !



Future of TEEB

TEEB FOR AGRICULTURE & FOOD ("TEEBAF")



TEEB: Next steps – Food and Agriculture (Recent Workshop, 22-23, 2014)

- Agricultural systems
 - Ecosystem services going in
 - Ecosystem services coming out (including provisioning services – food)
- Food security
 - Availability
 - Access
 - Utilisation
 - Stability
- These dimensions of food security will themselves be dependent upon different ecosystem services

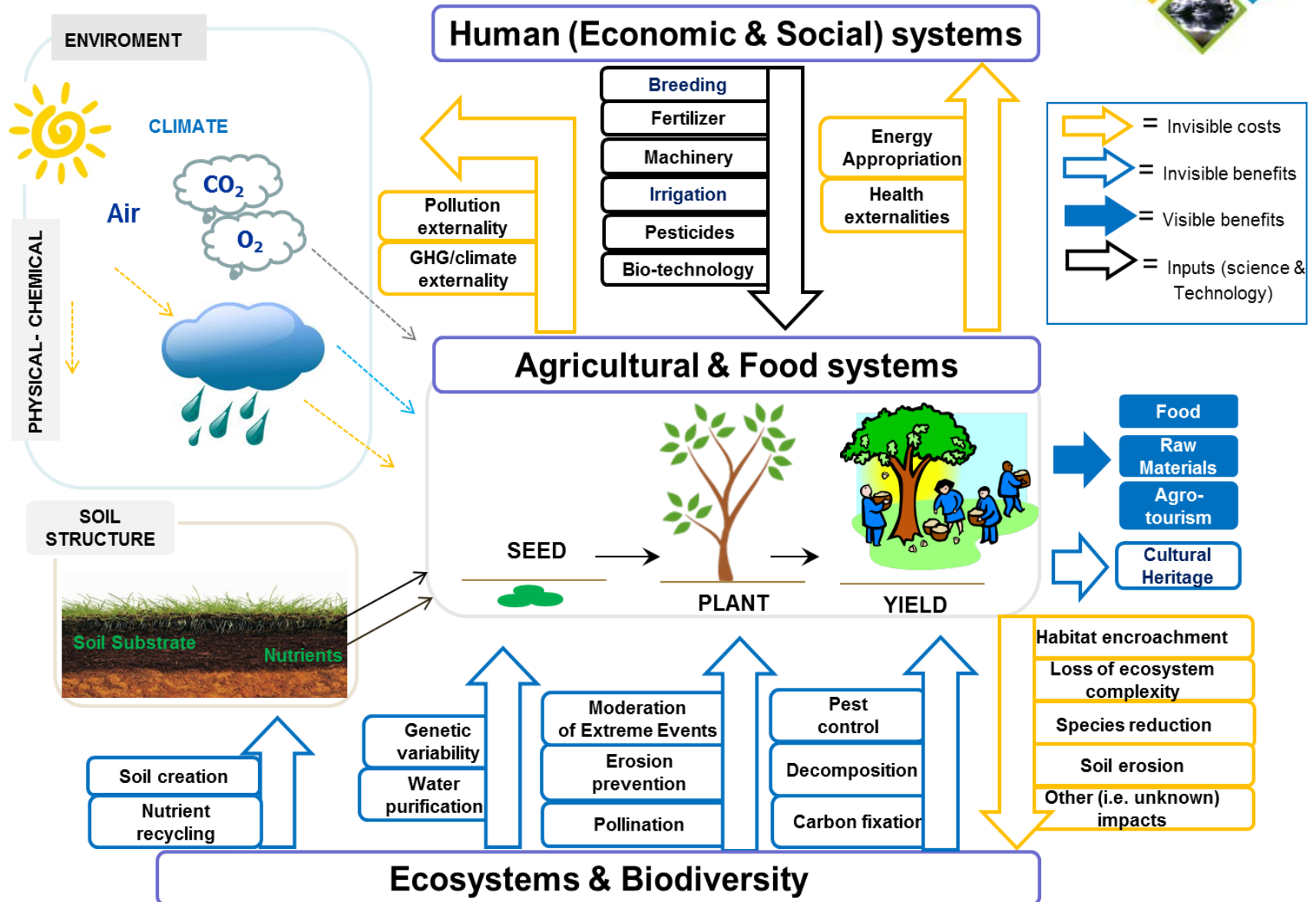




The TEEBAF study is designed to provide a comprehensive economic evaluation of the ‘eco-agri-food systems’ complex, and demonstrate that the economic environment in which farmers operate is distorted by significant externalities, both negative and positive.

A “double-whammy” of economic invisibility of impacts, from both ecosystems and agricultural/ food systems, is a root cause of poor management, increased fragility, and lower resilience to shocks in both ecological and human systems.

The Economics of Ecosystems & Biodiversity





TEEB for Agri and Food Scoping Workshop

DG-DEVCO, EU Commission, Brussels 22nd-23rd Jan 2014

- Three Reports:
 - 1st Report: Interim Report (Q1-2015)
 - 2nd Report: Science/Economics Report (2016)
 - 3rd Report: Policy/Producer/Consumer Report (2016)



Future of TEEB

TEEB AT THE COUNTRY LEVEL

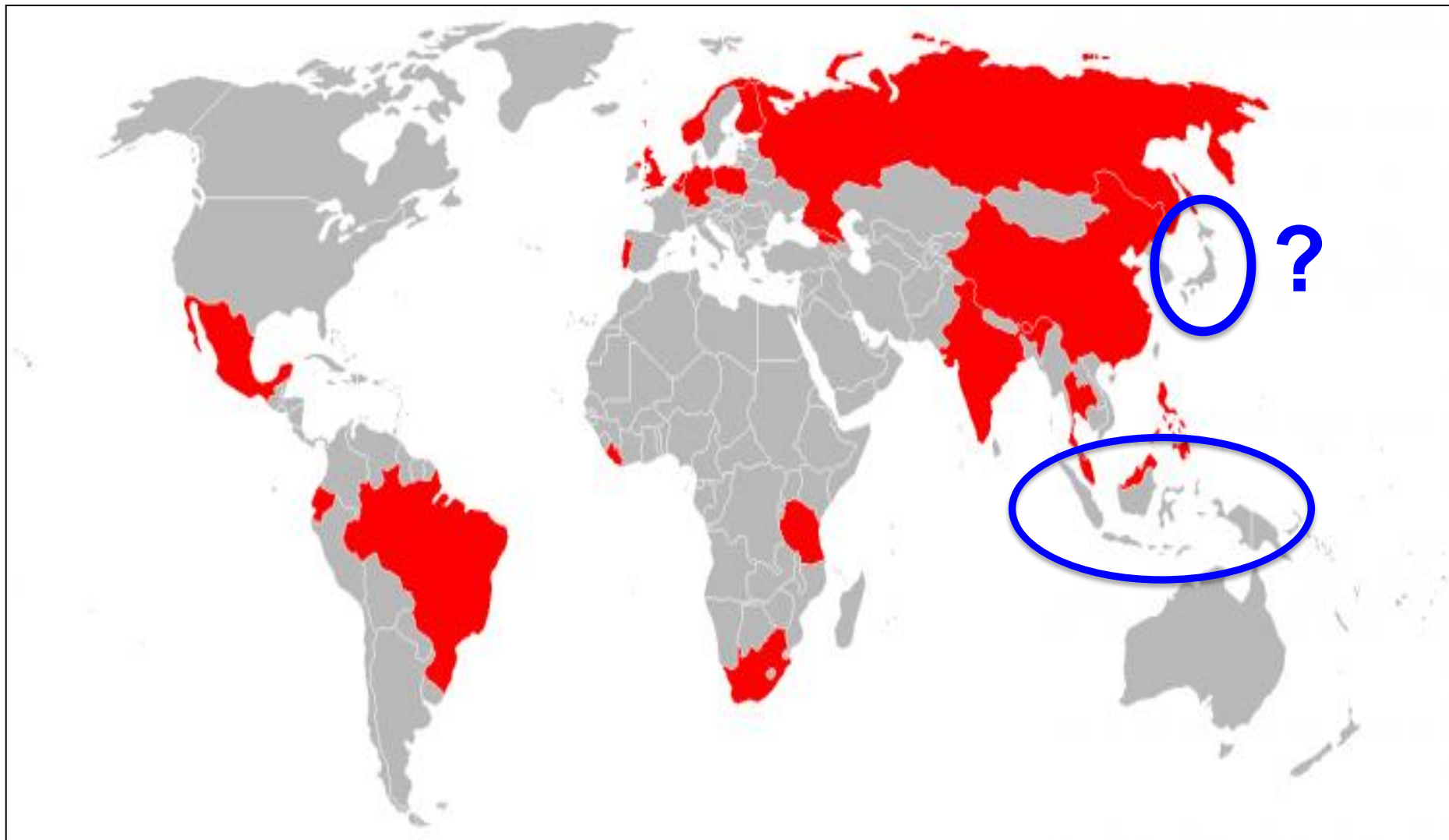


TEEB Inspired Studies Across the Globe





TEEB Inspired Studies Across the Globe





Corporations

TEEB FOR BUSINESS

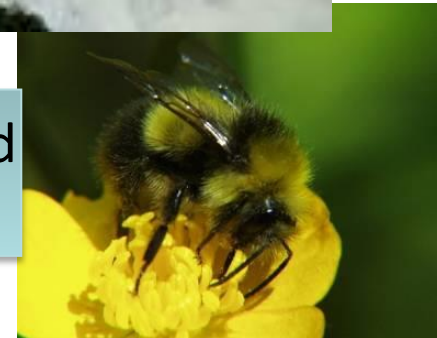


BUSINESS IMPACTS AND DEPENDENCE ON BES

Business has direct and indirect impacts on biodiversity and ecosystems

Ecosystem change creates business **risks** and **opportunities**

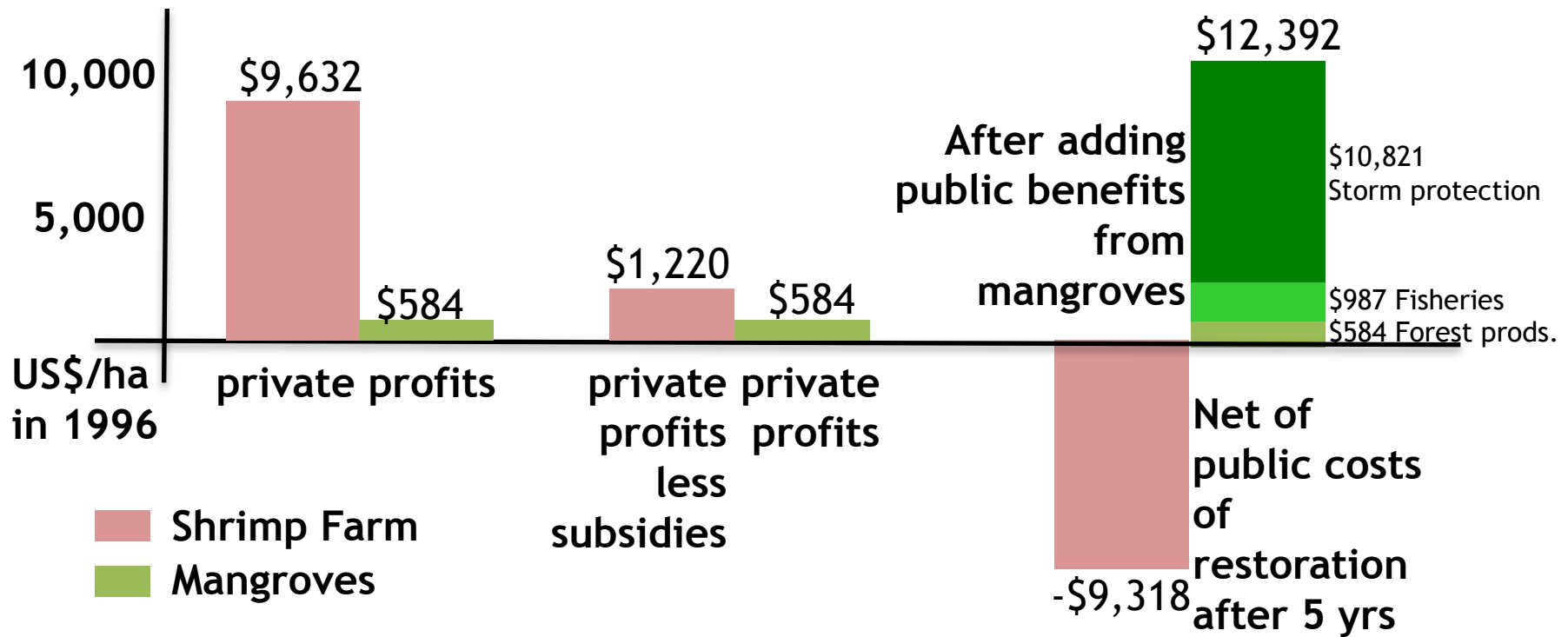
Businesses depend upon biodiversity and ecosystem services





Private Profits, Public Losses

Shrimp farms in South Thailand

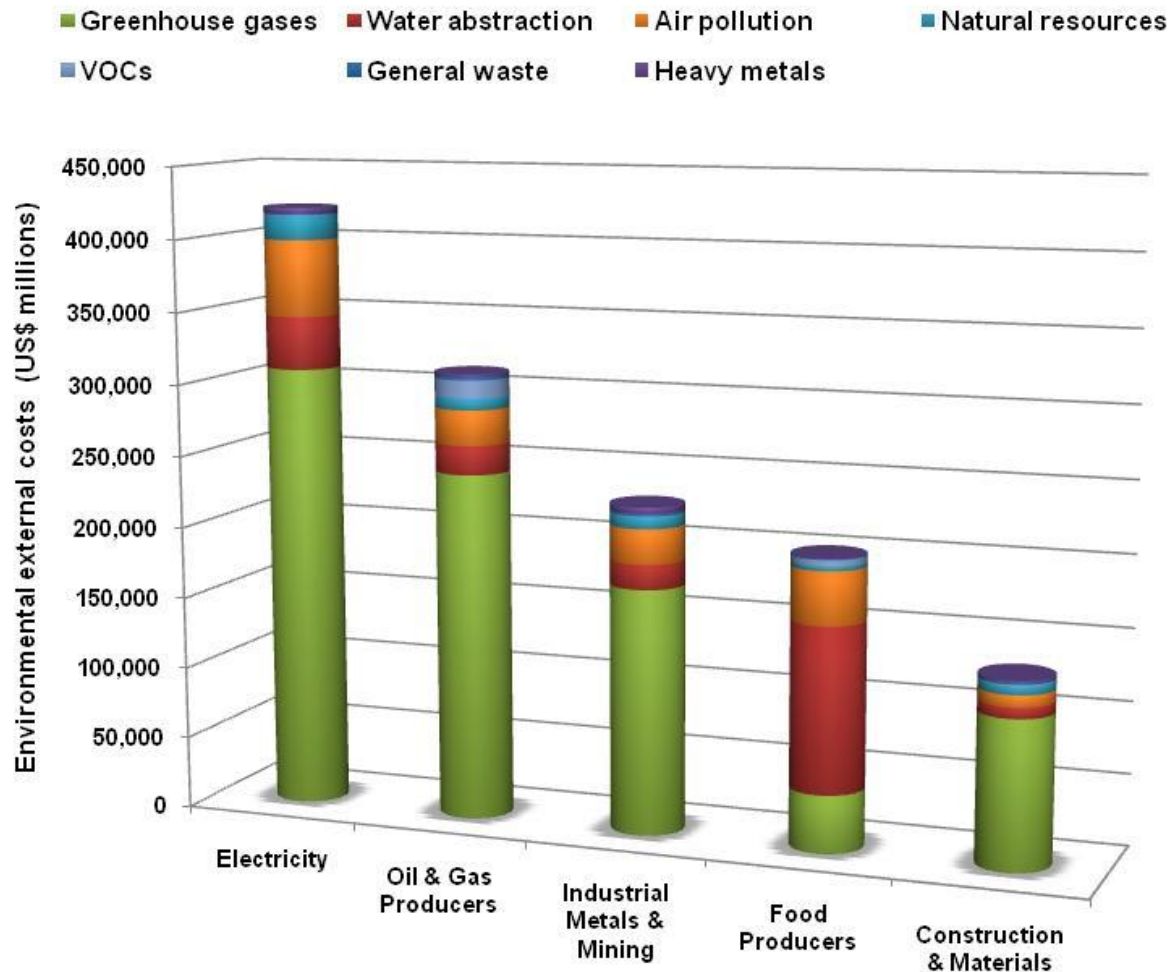


Data from Barbier (2007)

All values in NPV over 9 yrs (1996-2004) at 10% discount rate



Private “Profits”, Public Losses Top 3,000 Listed Corporations



- **US\$ 2.15 trillion/year estimated global environmental costs of economic activity**
- **Five sectors account for about 60% of environmental costs**



Environmental Externalities Measuring & Disclosing : PUMA

	Water use	GHGs	Land use	Air pollution	Waste	TOTAL	
	€ million	€ million	€ million	€ million	€ million	€ million	% of total
	33%	32%	26%	7%	2%	100%	
TOTAL	47	47	37	11	3	145	100%
PUMA operations	<1	7	<1	1	<1	8	6%
Tier 1	1	9	<1	1	2	13	9%
Tier 2	4	7	<1	2	1	14	10%
Tier 3	17	7	<1	3	<1	27	19%
Tier 4	25	17	37	4	<1	83	57%
EMEA	4	8	1	1	<1	14	10%
Americas	2	10	20	3	<1	35	24%
Asia/Pacific	41	29	16	7	3	96	66%
Footwear	25	28	34	7	2	96	66%
Apparel	18	14	3	3	1	39	27%
Accessories	4	5	<1	1	<1	10	7%

Source: PPR /PUMA Press Release, 16th Nov

2011



Next Stage for EP&L...

- *Product-level* disclosure





TEEB for Biz Coalition: Valuing Externalities For Business Sectors / Regions



NATURAL CAPITAL AT RISK:

THE TOP 100 EXTERNALITIES OF BUSINESS

RANKING OF THE 5 REGION-SECTORS WITH THE GREATEST OVERALL NATURAL CAPITAL IMPACT

RANK	SECTOR	REGION	NATURAL CAPITAL COST, \$BN	REVENUE, \$BN	IMPACT RATIO
1	COAL POWER GENERATION	EASTERN ASIA	452.8	443.1	1.0
2	CATTLE RANCHING AND FARMING	SOUTH AMERICA	353.8	16.6	18.8
3	COAL POWER GENERATION	NORTHERN AMERICA	316.8	246.7	1.3
4	WHEAT FARMING	SOUTHERN ASIA	266.6	31.8	8.4
5	RICE FARMING	SOUTHERN ASIA	235.6	65.8	3.6



Exploring

NATURAL CAPITAL



A Puzzle from 2008....

- **Financial Capital Loss (Credit Crisis, 2008) in 2008 was estimated around \$1.0 to $\$1.5 \times 10^{12}$**
- **Natural Capital Lost (Ecological Losses, 1985 onwards) in 2008 is estimated around \$ 2.0 - $\$ 4.5 \times 10^{12}$**

How many Front Page Newspaper Headlines did each Crisis Generate ?



Natural Capital

- **‘Natural Capital’** includes both ‘dead’ (sub-soil assets/ non-renewable) and ‘alive’ (wilderness, cultivated areas, oceans... renewable.. *But declining and at risk*)
- **Natural Capital Defined:** the services of nature that directly or indirectly add to human welfare. Services include (provisioning of) timber, water, energy and minerals; also includes genetic & species biodiversity (supporting services); parks, rare species, leisure & tourism (cultural) and ecological (regulating) services.
- **(1) Capital is a *Stock*; (2) Capital is the *Economic dimension* of wealth; (3) Capital generates Income (4) Capital is the Present value of Future Income**



Investing to build Natural Capital

- **Turning catastrophes into opportunities:** investment in natural capital to transition to a ‘Green Economy’
- **Putting precaution into practice through green investment:** every dollar invested in disaster reduction measures saves seven dollars in losses from natural disasters (WB)
- **Developing an integrated economic perspective:** to identify & capture the benefits of maintaining and restoring our limited and increasingly threatened stocks of *renewable* natural capital
- **Country TEEB:** systematic policy-focussed assessment of national natural capital – maps, stocks, flows,
- **Stakeholder Performance Report:**

GIST-360™ Analysis



In evaluating third-party impacts across these categories of capital, we find that there are **eleven major drivers of externalities** arising from typical business activities, which most commonly generate the most significant third-party impacts.

Environmental Drivers

GHG emissions

Freshwater extraction

Waste generation

Land-use change

Air pollution

Land & Water pollution

Human Capital Drivers

Employee training programs

Employee health and safety (EHS) standards

Social Capital Drivers

CSR programs

Business model and supply chain features

Company policies

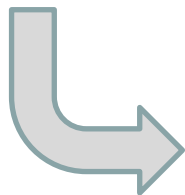
SUSTAINABLE DEVELOPMENT, GREEN ECONOMY, CORPORATION 2020...

“Green Economy” is the right economic vehicle to achieve Sustainable Development Goals..

www.unep.org/greeneconomy



“Corporation 2020” is the right economic agent to achieve a Green Economy...



www.corp2020.com

@corp2020





Natural Capital on a Global Scale

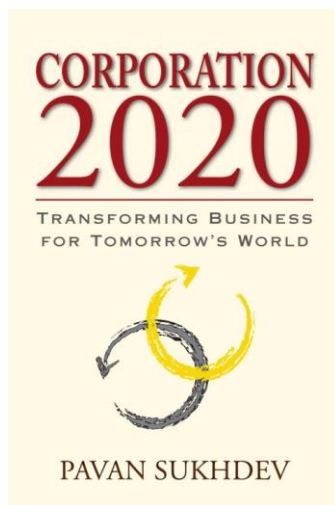
- The following is a brief list of international “Natural Capital” Forums, Organizations, Institutes and Projects around the world.... As at end 2013

Natural Capital Committee	Center for Natural Capital	Natural Capital Project (NatCap)
CIWEM's Natural Capital Network (NCN)	Natural Capital Center	Monitoring Natural Capital from Space
Natural Capital Group	Natural Capital Forum	Natural capital superpower initiative
RNC Alliance	Natural Capital Market	Natural Capital Investment Fund (NCIF)
Natural Capital Leaders Platform	Natural Capital Advisors	World Forum on Natural Capital
Natural Capital Coalition	Natural Capital Resources Inc	Natural Capital Services (NCS)
GM Natural Capital group	Natural Capital Ltd	Natural Capital Mapping Project (NCMP)
Natural Capital Declaration (NCD)	Natural Capital Pty Ltd	Natural Capital Management System (NCMS)

It is essential that objectives are set, timelines decided, and delivery focussed on: planetary boundaries are getting closer all the time



THANK YOU!



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