



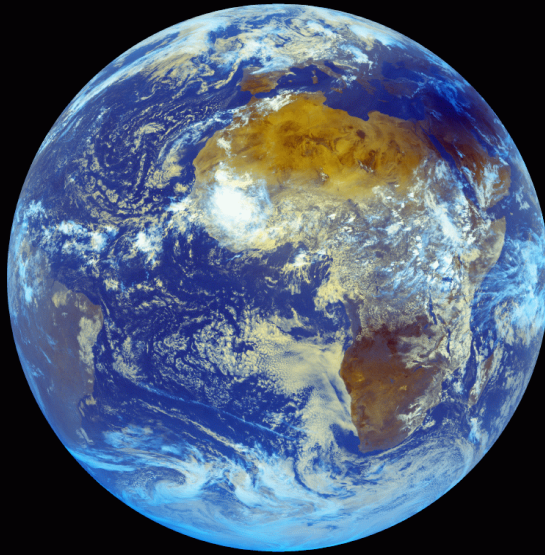
## **Basic concepts of sustainable development**

*Sustainability Field Trip of Students from Czech Universities*

***Lüneburg, 10. June 2013  
PD Dr. phil. Maik Adomßent***

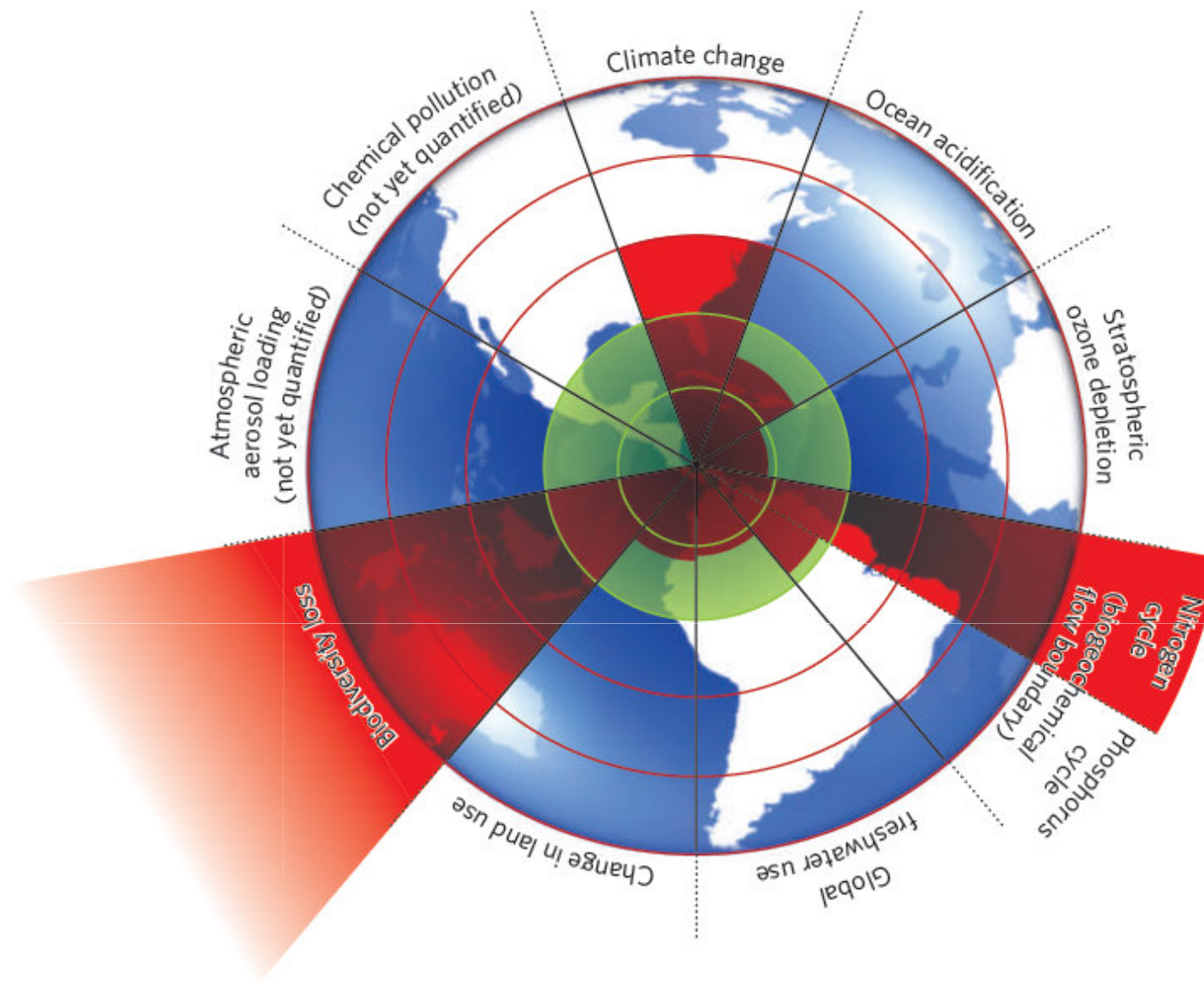
Sustainability?





»We went to explore the  
Moon, and in fact  
discovered the Earth.«

**Eugene Cernan,**  
*Commander Apollo 17,  
Last astronaut on the moon  
(1972)*

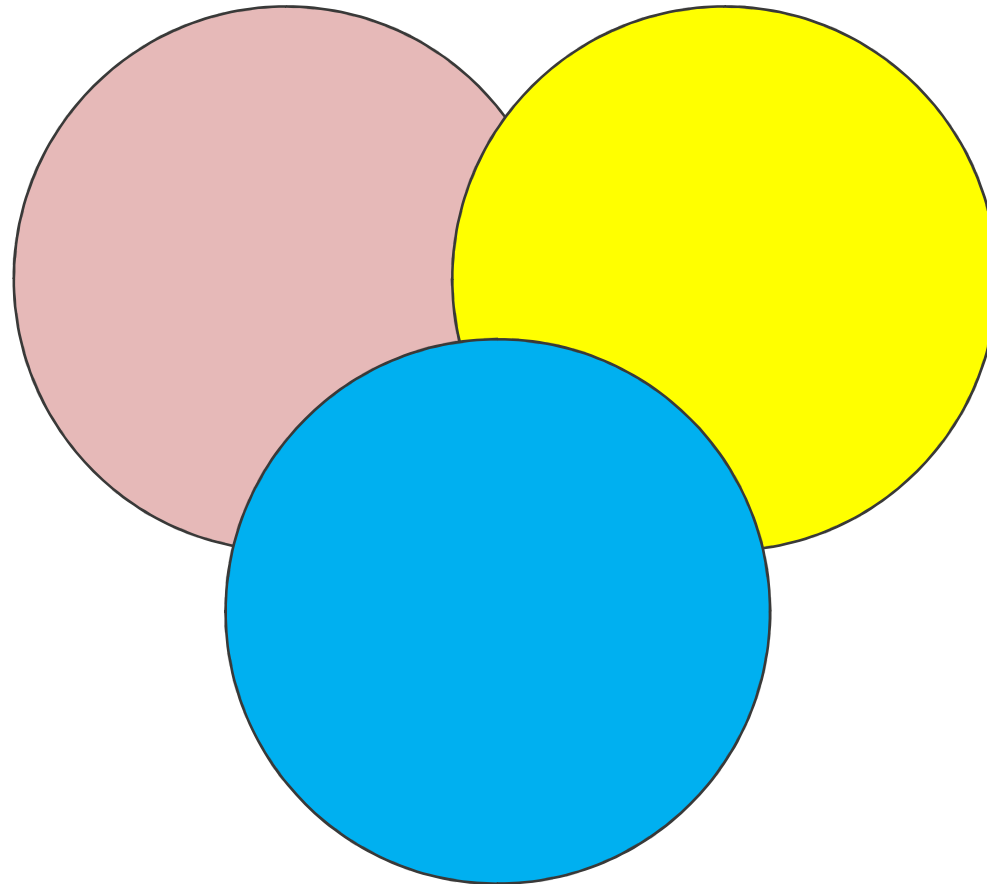


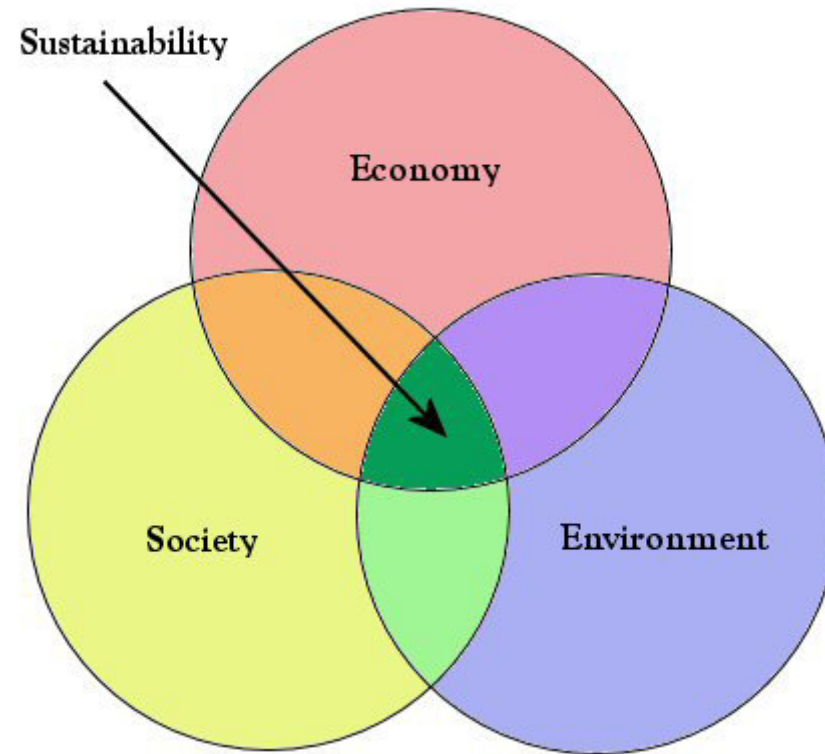
**Figure 1 | Beyond the boundary.** The inner green shading represents the proposed safe operating space for nine planetary systems. The red wedges represent an estimate of the current position for each variable. The boundaries in three systems (rate of biodiversity loss, climate change and human interference with the nitrogen cycle), have already been exceeded.



## Sustainability „Icon“

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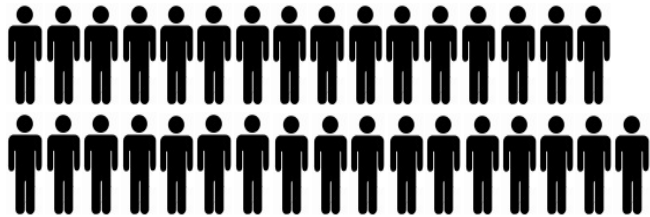


<http://bradley.chattablogs.com/Sustainability%20venn%20diagram.jpg>

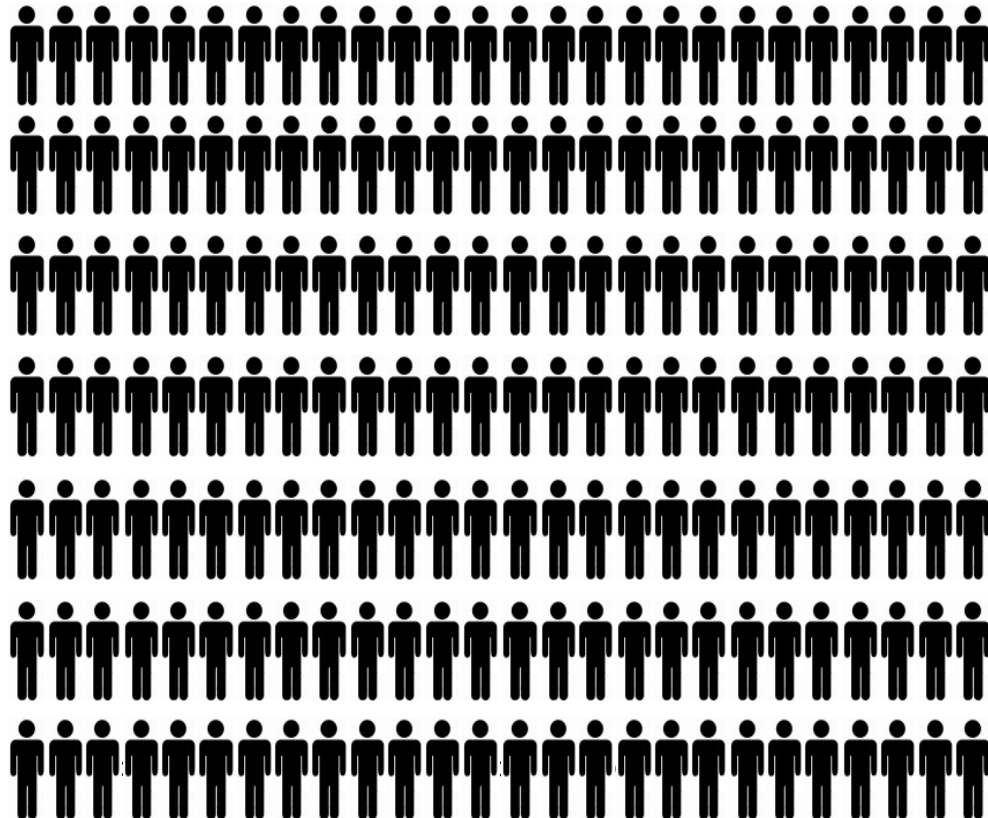


Industrialized countries consume more resources,  
than they are entitled to equitable distribution

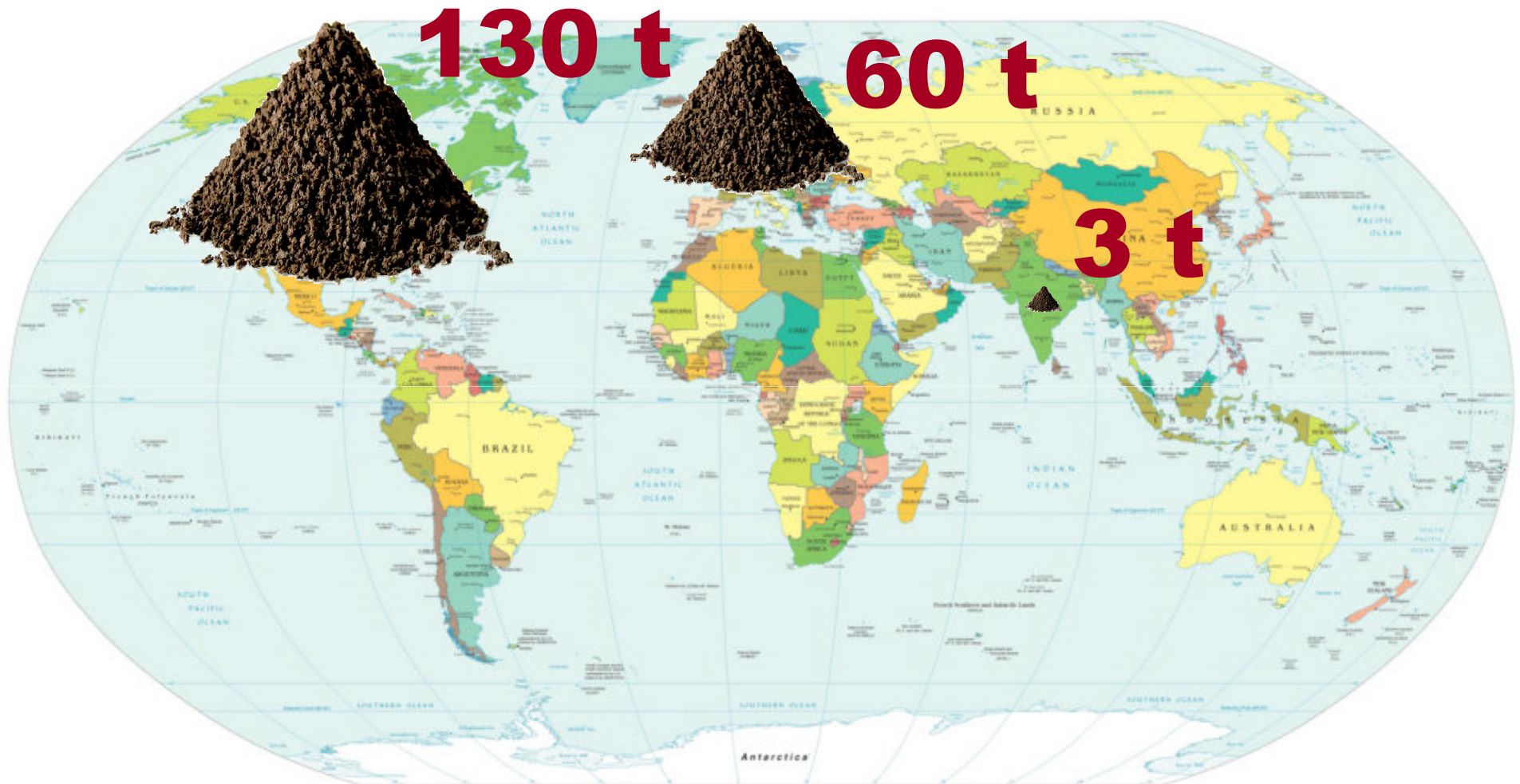
18 %



80%



## Per capita consumption of resources / year







Kurs	Kurs Vortag	Hoch	Tages-Tief	12 Mon.
17,08	16,64	17,57	16,32	46,68
302,86	300,59	308,74	298,63	1005,01
144,30	144,30	144,30	144,30	29,04
5,83	5,80	5,90		
13,00	13,00	13,00		
77,57				
2,21				
26,85	27,69	26,50	54,89	22,56
38,33	39,00	37,51	60,09	33,60
77,84	28,00	23,70	69,10	23,10
2,50	2,50	2,50	3,10	1,88

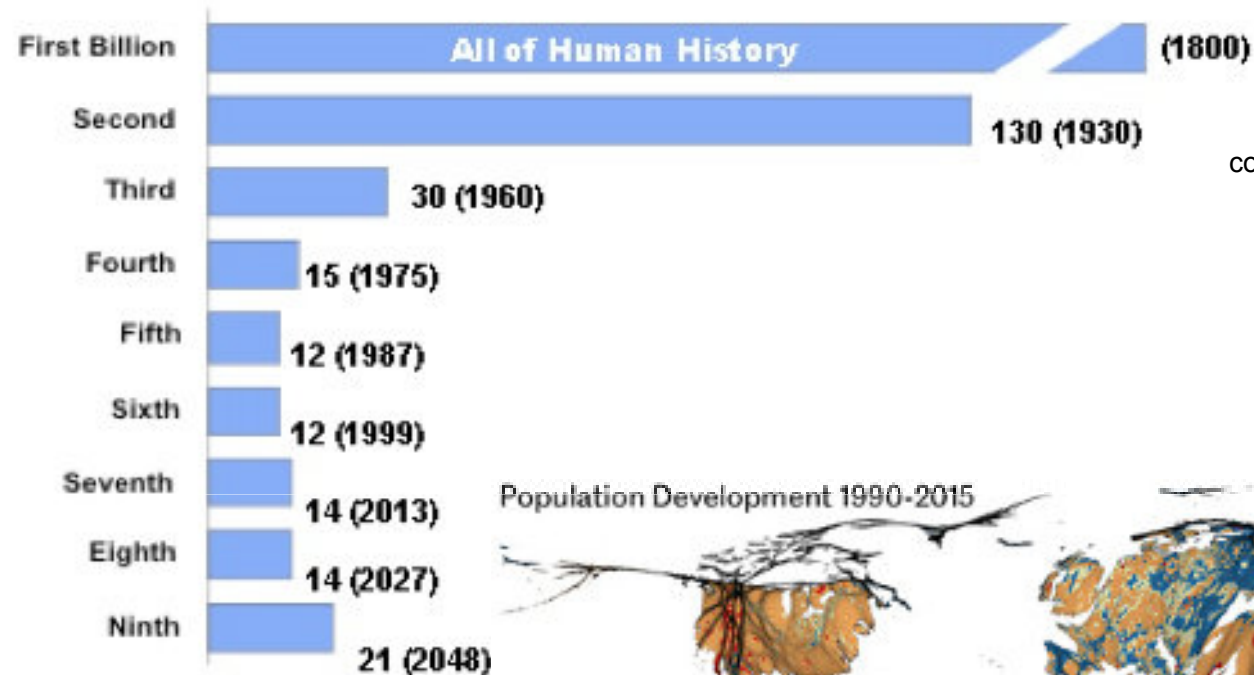
## Economical

- Globalisation of the economy
  - Financial crisis
  - Unemployment
  - Increasing costs by ecological and social core problems

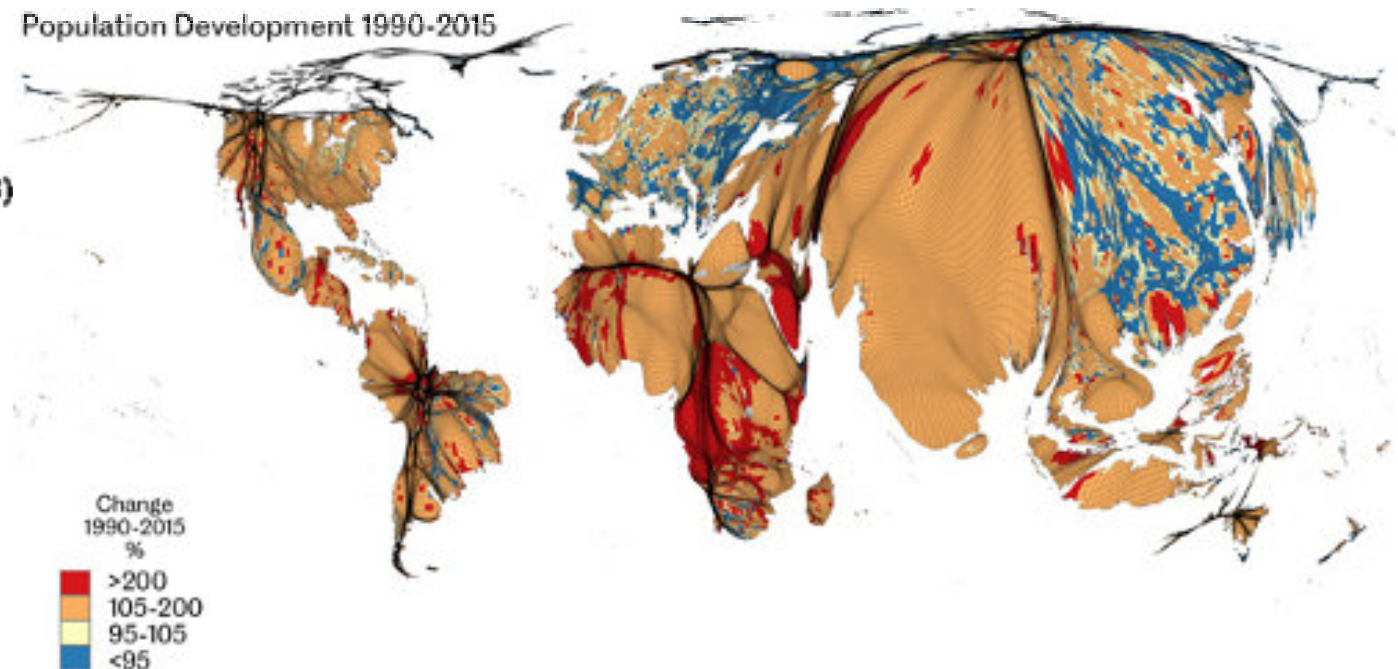
# Global Challenges

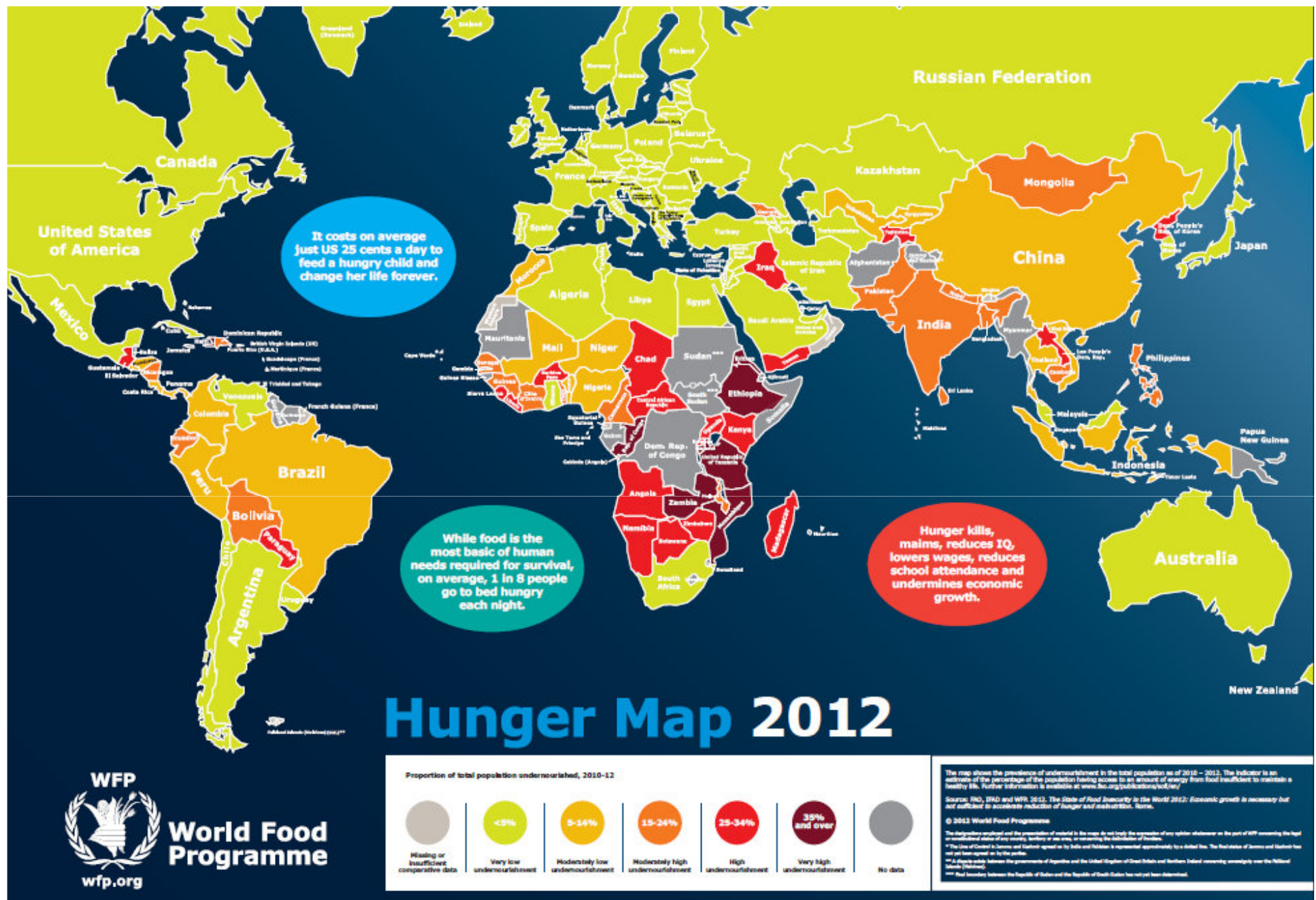
# World Population Growth, in Billions

Number of years to add each billion (year)



<http://colli239.fts.educ.msu.edu/wp-content/uploads/2009/07/worldpopprb2005cc.jpg>





<http://documents.wfp.org/stellent/groups/public/documents/communications/wfp229327.pdf>





## Ecological

- Climate change
- Loss of forests
- Soil degradation
- Extinction of animal and plant species
- Fresh water scarcity



## Economical

- Globalisation of the economy
- Financial crisis
- Unemployment
- Increasing costs by ecological and social core problems

# Global Challenges

## Cultural

- Loss of cultural diversity
- Dominance of single world views and ideas of man against others

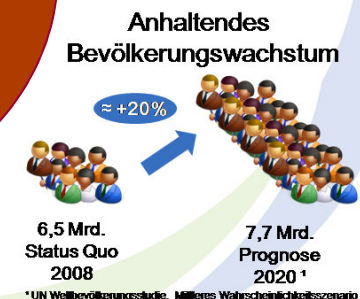
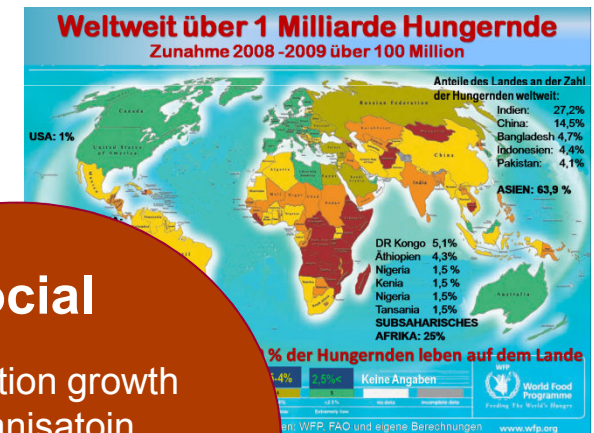


of Sustainable Development



## Social

- Population growth
- Urbanisation
- World food affairs
- World health
- Growing gap between poor and rich





## Another sustainability „Icon“

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*<http://petermcmanners.blogspot.de/2012/04/sustainable-london-olympics.html>*





<http://t3.gstatic.com/images?q=tbn:ANd9GcT5UawZWWPycGy20vLMAULNdBcBugZhqKglhbGWsU5AhIH5FJJ4Ywiy9vI>



<http://www.bluecare.org.au/Care-and-Support/Why-Blue-Care/Sustainability.aspx>



## Strategies for sustainable development

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### Efficiency strategy:

Resource productivity, that is the efficiency per unit, is to increase significantly and/or the material and energy consumption has to be reduced respectively.

### Consistency strategy:

Material and energy flows have to be qualitatively and quantitatively adjusted to the eco-systems' ability for regeneration of .

### Sufficiency strategy:

Environmental and resource-intensive practices are to be limited or replaced by less wearing practices.

### Education strategy:

Dealing with sustainability, sustainability awareness, access to information and its processing have to be promoted.



## Change in perception / Global perspective

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A communications gap has kept environmental, population, and development assistance groups apart for too long, preventing us from being aware of our common interest and realizing our combined power. Fortunately, the gap is closing. We now know that what unites us is vastly more important than what divides us.

We recognize that poverty, environmental degradation, and population growth are inextricably related and that none of these fundamental problems can be successfully addressed in isolation. We will succeed or fail together.

Arriving at a commonly accepted definition of 'sustainable development' remains a challenge for all the actors in the development process.

*'Making Common Cause'*

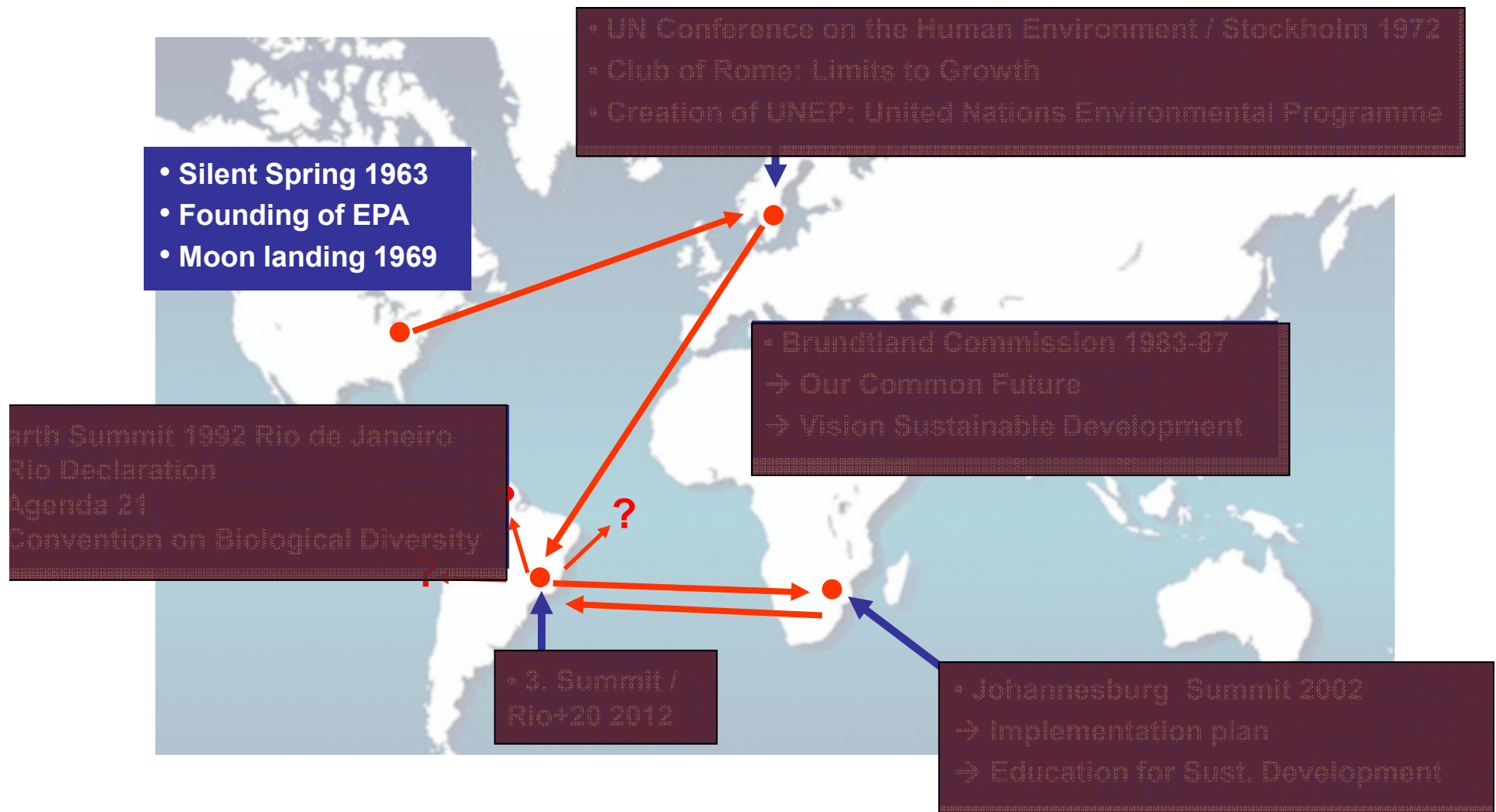
*U.S. Based Development, Environment, Population NGOs*

*WCED Public Hearing*

*Ottawa, 26-27 May 1986*

<http://worldinbalance.net/agreements/1987-brundtland.php>

## History, Emergence: Global Dimension





## Sustainable Development: »Brundtland Definition«

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### Quote from original text:

*“Sustainable Development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”*

*Source: WCED (ed.; 1987): Our Common Future. Oxford, New York*





## Sustainable Development – Problems of a term

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*”But two crucial questions remain unanswered [about Sustainable Development as defined by the Brundtland-Commission]:*

*‘What needs?’ and ‘Whose needs?’(...)*

*Are the needs in question those of the global consumer class or those of the enormous number of have-nots?”*

*cf. Sachs, Wolfgang (1997): Sustainable Development. In: Redclift, M. and Woodgate, G. (eds.): The International Handbook of Environmental Sociology. Cheltenham, Northampton: 74*



## Underlying ideals and principles of sustainable development:

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natural resource conservation

poverty alleviation



gender equity

social tolerance,  
democracy



intergenerational equity



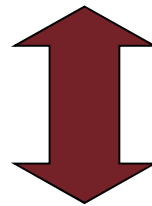
just and peaceful societies

environmental preservation and restoration

# Sustainable Development: What is it about?

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**Responsibility** for planet's livelihood  
(habitat, resource use, sustainability of the planet's  
ecosystem, biodiversity)



**Justice** (quality of life, availability of natural resources,  
democracy and human dignity, justice for our  
generation and the generations to come)





## Meanings of Sustainability

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**Sustainable development under global aspects is at the same time**

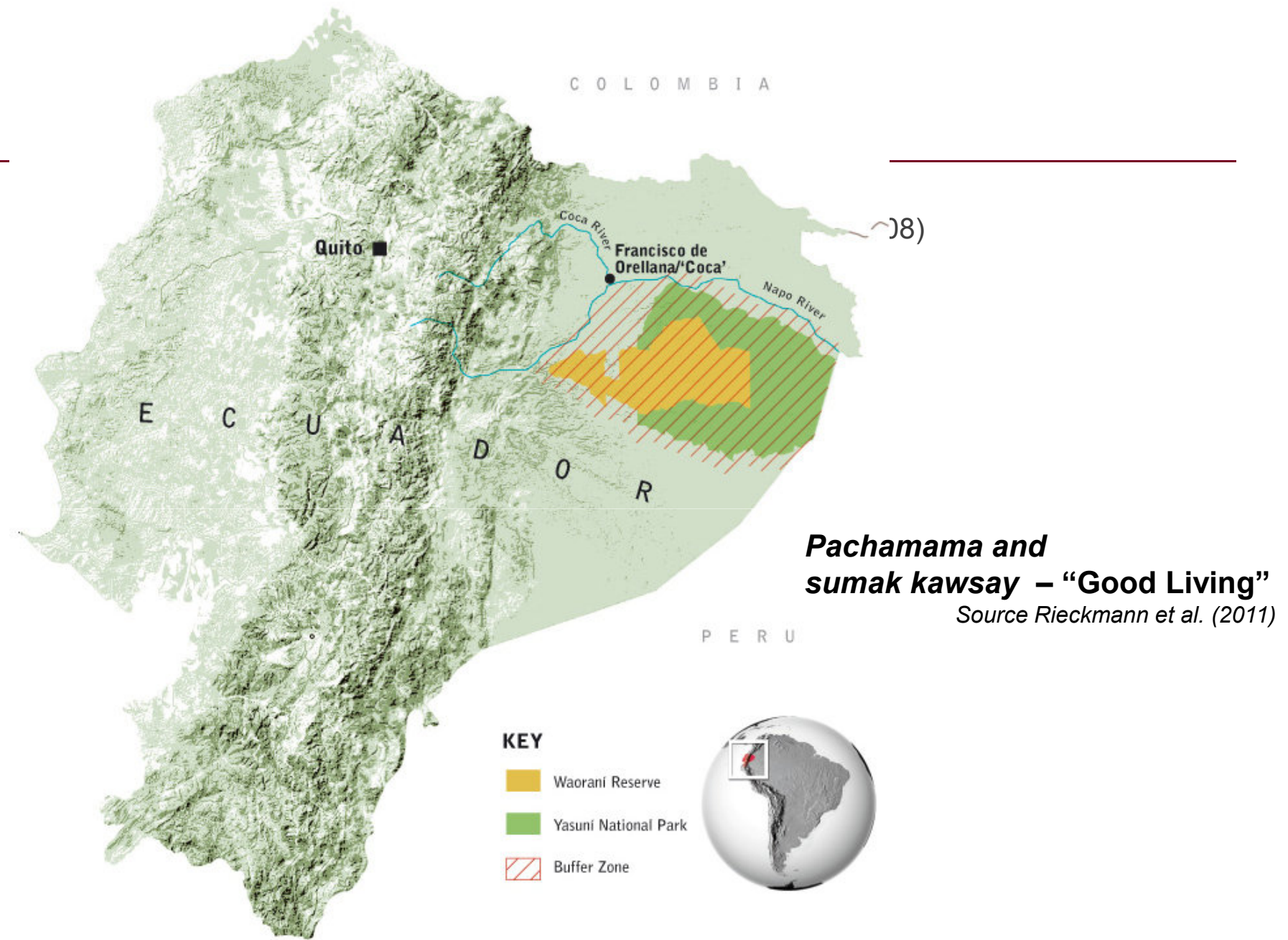
- ➔ Concept
- ➔ Goal
- ➔ Process or strategy:

“The **concept** speaks to the reconciliation of social justice, ecological integrity, and the well-being of all living systems on the planet. The **goal** is to create an ecologically and socially just world within the means of nature without compromising future generations. Sustainability also refers to the **process or strategy** of moving toward a sustainable future.”

*Moore (2005: 78)*

### **Corner stones of sustainability paradigm**

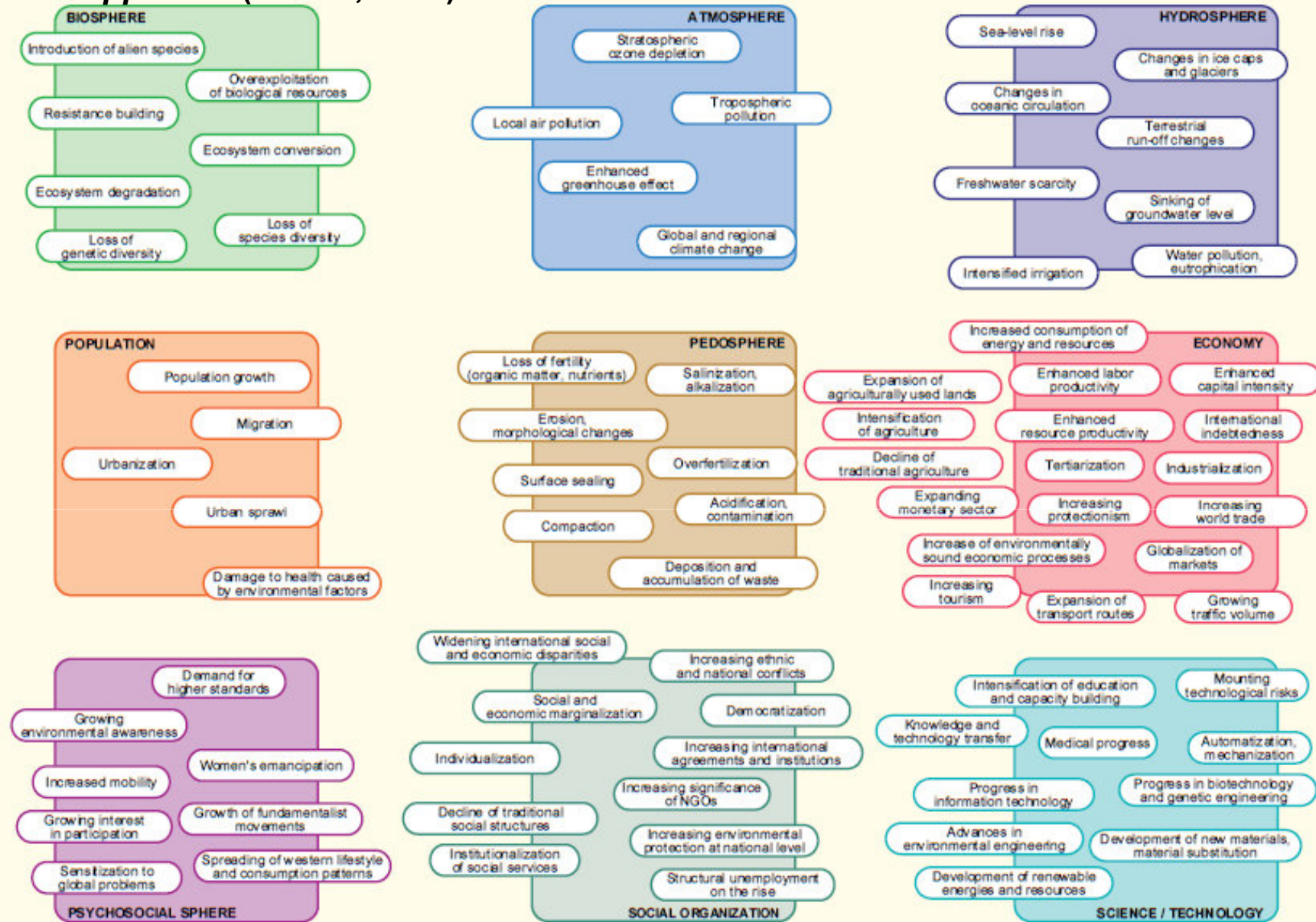
- Equity / Distributional Justice
- Integration of different dimensions
- Participation



Adomßent / Conce **Fig. 1: The Yasuní National Park in Eastern Ecuador (Burzio 2008)**



## Endrome Approach (WBGU, 1997)



*The Global Network of Interrelations (Source: WBGU 1996: 108)*

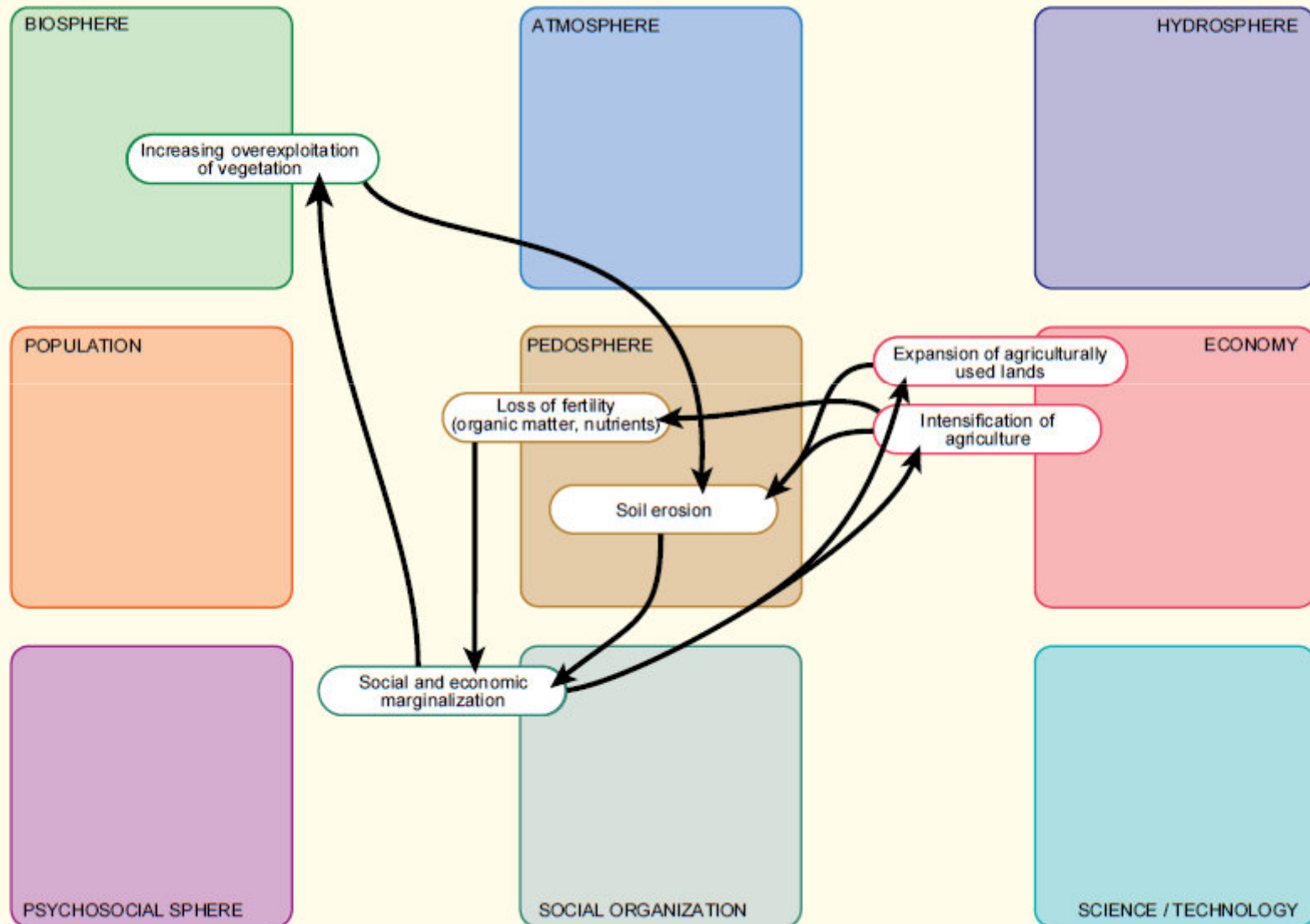


## Assignment of core problems of global changes to syndromes.

Source: WBGU (1996: 126)

Syndrome \ Core problems	Climate change	Loss of biodiversity	Soil degradation	Scarcity and pollution of freshwater	Threats to world health	Threats to food security	Population growth and distribution	Man-made disasters	Overexploitation and pollution of the world's oceans	Global disparities in development
<i>Sahel Syndrome</i>		•	•	•		•	•	•		•
<i>Overexploitation Syndrome</i>	•	•	•	•				•	•	•
<i>Rural Exodus Syndrome</i>		•	•			•	•	•		•
<i>Dust Bowl Syndrome</i>	•	•	•	•		•		•		
<i>Katanga Syndrome</i>		•	•	•						
<i>Mass Tourism Syndrome</i>		•	•	•				•		
<i>Scorched Earth Syndrome</i>		•	•		•	•	•			•
<i>Aral Sea Syndrome</i>	•	•	•	•			•	•		•
<i>Green Revolution Syndrome</i>		•	•	•	•	•	•			•
<i>Asian Tigers Syndrome</i>	•	•	•	•	•		•			•
<i>Favela Syndrome</i>	•		•	•	•		•			•
<i>Urban Sprawl Syndrome</i>	•	•	•	•						
<i>Major Accident Syndrome</i>		•	•		•					
<i>Smokestack Syndrome</i>	•	•	•		•	•		•		
<i>Waste Dumping Syndrome</i>		•	•		•					
<i>Contaminated Land Syndrome</i>		•	•		•				•	

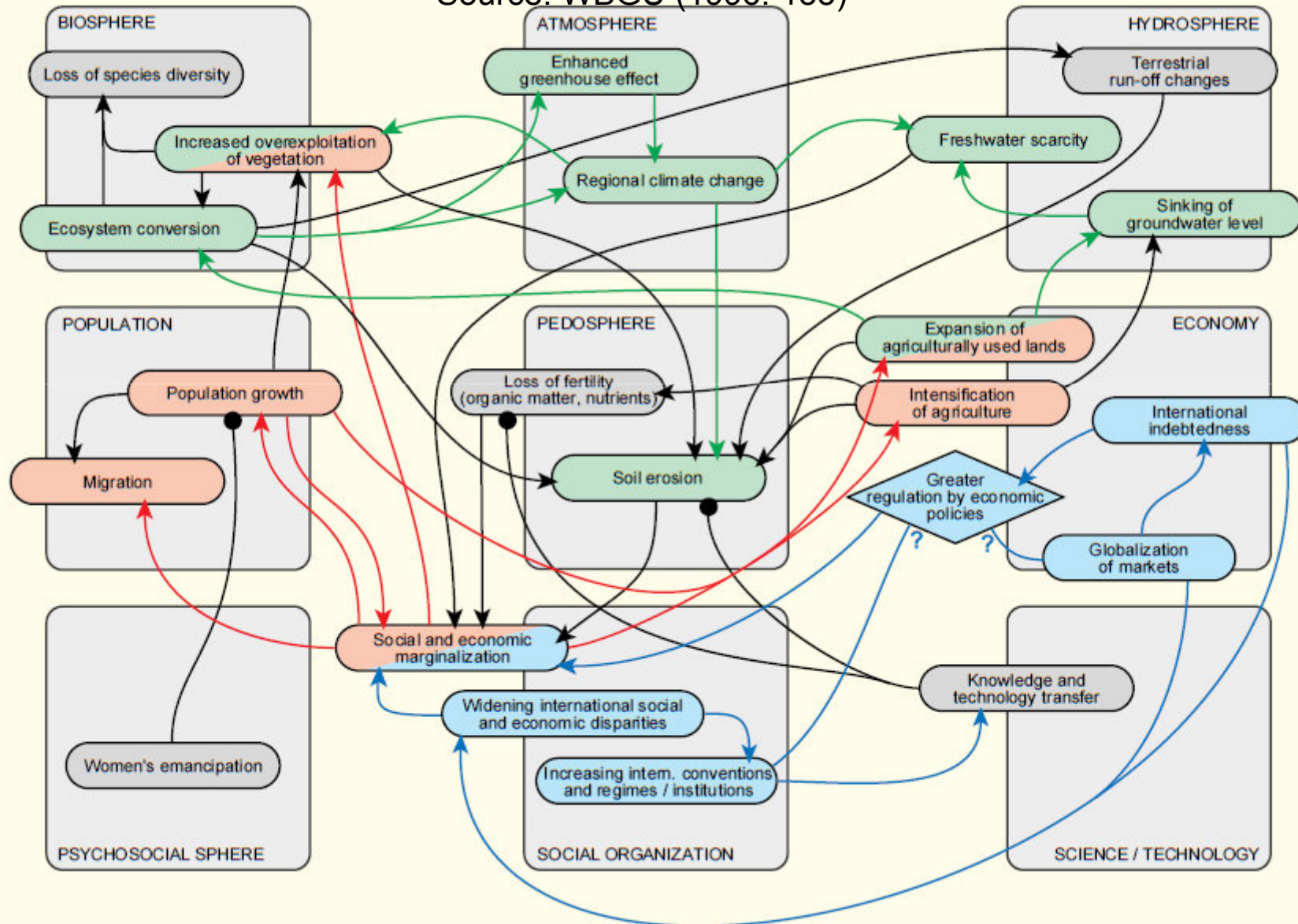
Central mechanism of the *Sahel Syndrome* (*vicious circle*).  
Source: WBGU (1996: 134)





Syndrome-specific network of interrelations of the *Sahel Syndrome*. The three sub-networks from which the complexes of issues are derived are marked red, green and blue.

Source: WBGU (1996: 135)





## Sustainable development: “ill-defined”, “diffuse”, “contested” ...

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“Sustainable Development [...] cannot be accomplished without a far-reaching modification in the human way of life, without a major shift in our dominant patterns of production and consumption, and without a new orientation in planning and decision-making processes.”

*(Kopfmüller et al., 2001)*

“The aim of education for sustainable development [...] is to put people in a position to play an active role in shaping an ecologically sustainable, economically efficient and socially just environment, while remaining mindful of the global dimension.”

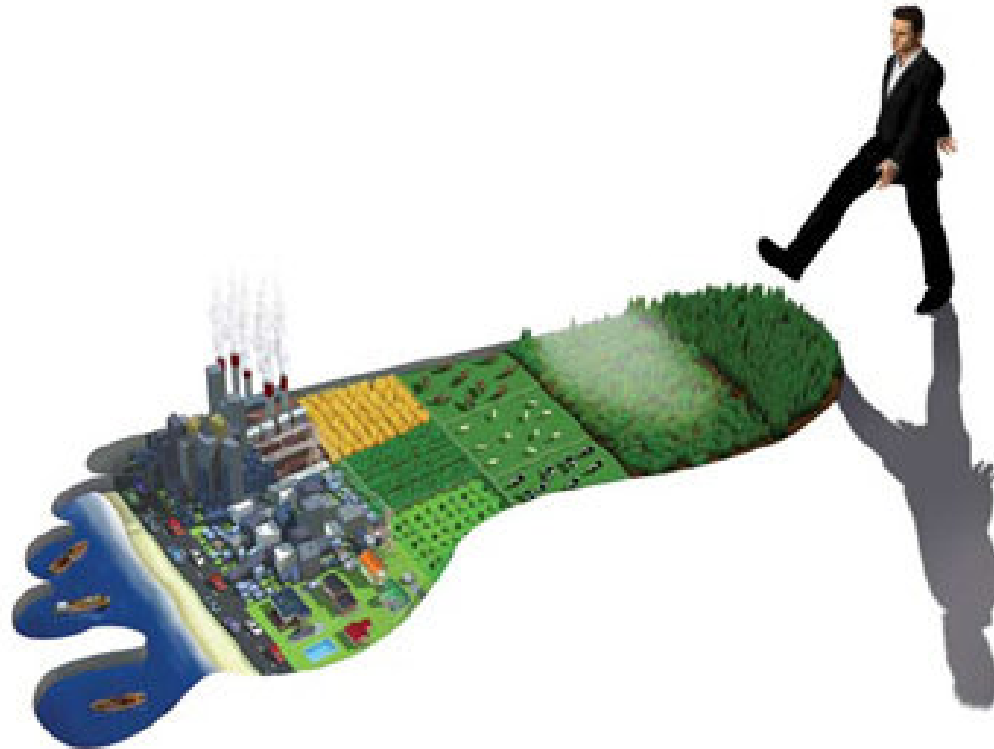
*(BMBF 2002)*





## Ecological footprint

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<http://corbettcares.com/sustainability/eco-footprint/>

Calculate your personal footprint

[http://www.footprintnetwork.org/en/index.php/GFN/page/personal\\_footprint](http://www.footprintnetwork.org/en/index.php/GFN/page/personal_footprint)



## Responsibility – not only as a scientist

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S/he who has knowledge about sustainable development,  
can no longer linger in the  
paradise of standpointlessness.

*according to*

*Hans Joachim Schellnhuber*

*Director Potsdam Institute for Climate Impact Research (PIK)*



## At first sight ...



**... things often tend to look easier than they really are.**



## Developing the learning citizen at three levels

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### 1. the individual level

a learning person who has skills and plays a role in society leading to sustainable behaviour (*new knowledge, new skills*);



### 2. institutional level

within a learning organisation which tries to improve the quality of its own structure and performances in sustainability (*new priorities, new procedures, and new practices*);

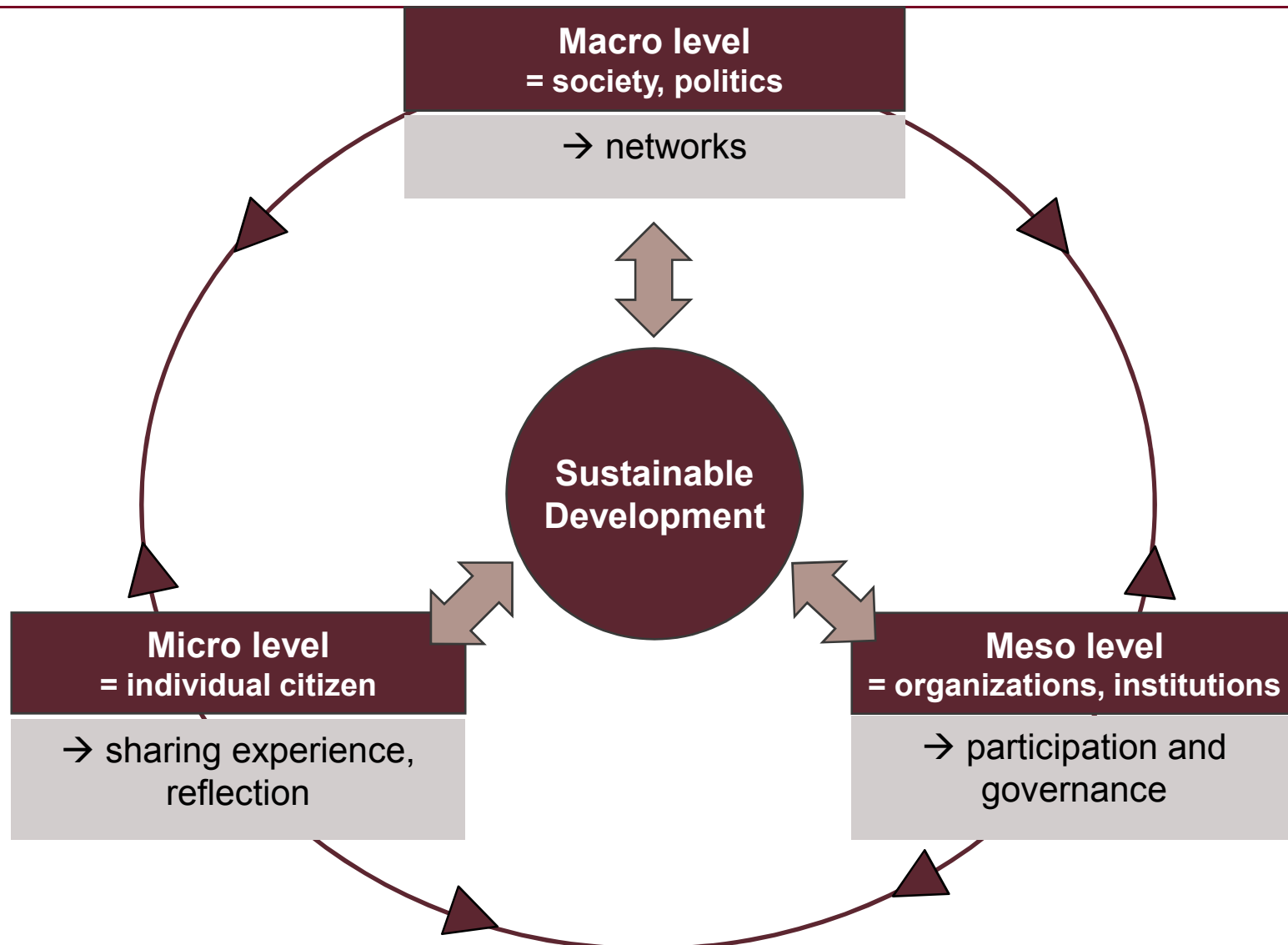


### 3. social level

within the learning society in which there is an addition of learning processes of different organisations and individuals with their own perspectives in which there is a cumulative effect (*creating new agendas, new partnerships, new ways of interaction and participation*)

Source: Goldstein (2005, p.7)







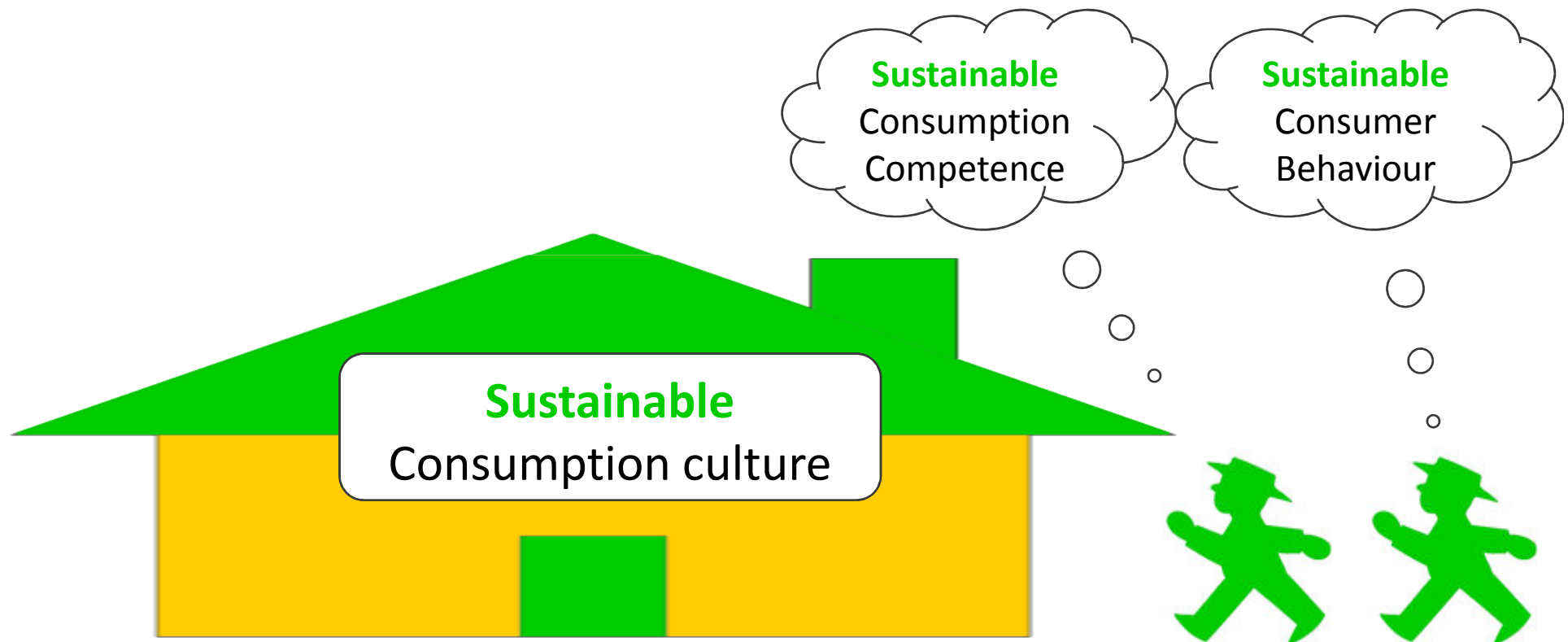


## Project BINK: The Scope

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### Organisational Changes

### Individual Changes

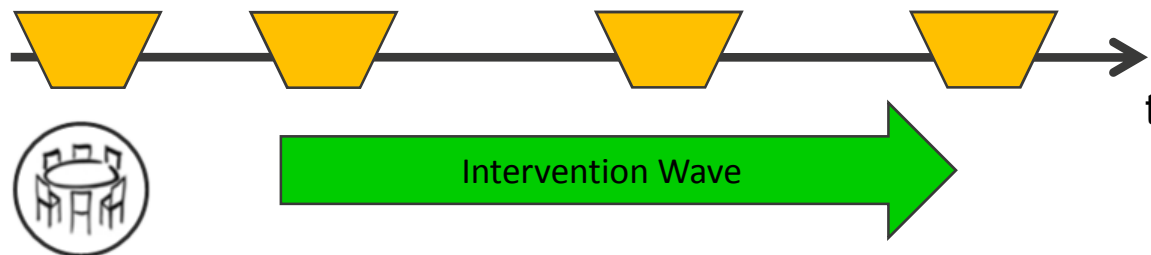




## The Process

### *The Process*

- Establishing steering groups
- Kick-Off-Workshop
- Planning: Intervention workshop
- Ongoing: working meetings & materials
- Accompanying: exchange & reflection
- Research partners as consultants



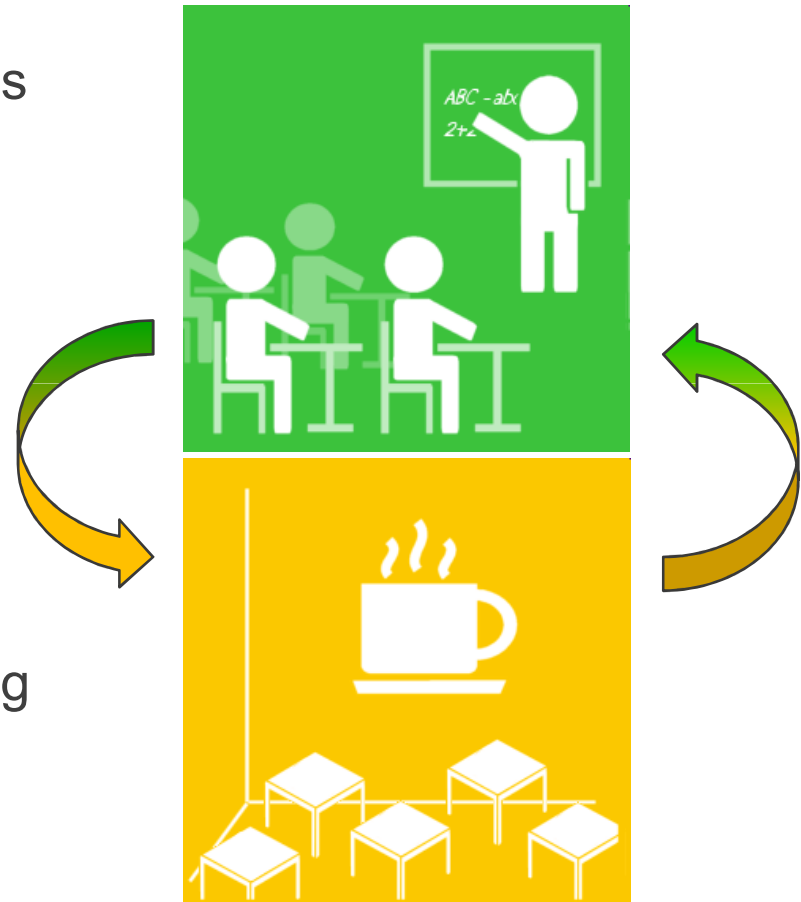


## Consequences: Starting points for educational measures: BINK Approach

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- *Formal and informal learning*
  - Combining in-class and out of class learning
- *Individual and situative aspects*
  - knowledge and attitudes
  - incentive systems
  - organisational offers
  - feedback-mechanisms,
  - options for experiencing and testing

→ Broadening the view!





## Products of the BINK Project

### ■ Manuals

A guidebook has been developed bringing together BINK experiences and research results and providing ready-to-use educational stakeholders.

- Compass sustainable consumption
- Youth and sustainable consumption
- Intervention planning
- Change Management
- Process evaluation and continuation
- Good Practice

### ■ TV-Documentation

- Motivation and inspiration for change processes

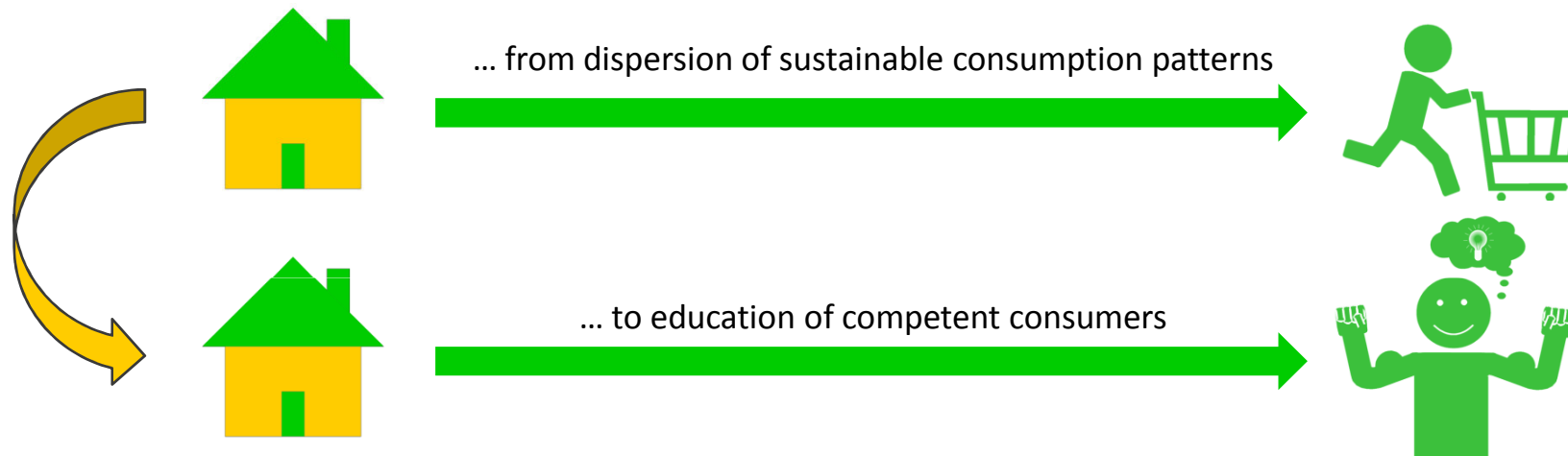
### ■ Teacher (continuing) education





## Education as *Enabling* of sustainable development

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Education finds its limits in the *Enabling* sustainable and just/fair-minded action.





## The Global Level: UNITWIN/UNESCO Chairs Program ...

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- ... advances research, training and curriculum development
- by building university networks and encouraging inter-university cooperation through the transfer of knowledge across borders.
  
- To date 763 UNESCO Chairs and 69 UNITWIN Networks in 134 countries
- among them **18 Chairs in the field of ESD** in
  - Armenia
  - Canada
  - China
  - Costa Rica
  - France
  - Germany
  - Greece (2)
  - Japan
  - Liberia
  - Mexico
  - The Netherlands (2)
  - Republic of Korea (UNITWIN Network)
  - Sweden (3)
  - United States of America
  - Uzbekistan



UNESCO CHAIR  
HIGHER EDUCATION FOR  
SUSTAINABLE DEVELOPMENT





## Continental Networks on Higher Education for Sustainability

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- **Africa**, Mainstreaming Environment and Sustainability in African (**MESA**) Universities Partnership is an initiative by UNEP to support the United Nations Decade of Education for Sustainable Development (UN-DESD) (Ogbuigwe 2007);
- **Asia and Pacific**, the network for the Promotion of Sustainability in Postgraduate Education and Research (**ProSPER.Net**) formed a set-up of several leading higher education institutions that have committed to work together to integrate Sustainable Development (SD) into postgraduate courses and curricula ([www.ias.unu.edu/efsd/prospernet](http://www.ias.unu.edu/efsd/prospernet));
- **Northern America** (predominantly United States and Canada), the Association for the Advancement of Sustainability in Higher Education (**AASHE**) provides resources, professional development, and a network of support to enable institutions of higher education to advance sustainability ([www.aashe.org](http://www.aashe.org));
- **Latin America**, the Alianza de Redes de Universidades por la Sustentabilidad y el Ambiente (**ARIUSA**) had its kick-off only recently and aims at becoming a network of HESD-oriented networks ([www.ariusa.org](http://www.ariusa.org)).
- **Europe**, the former COPERNICUS network that was founded in 1993 by the European Rectors' Conference (with 326 signatories of the COPERNICUS Charta until 2005) has also been revitalized. As yet after its foundation under German law in 2009, the **COPERNICUS Alliance** is constantly growing. ([www.copernicus-alliance.net](http://www.copernicus-alliance.net))





## Regional Centres of Expertise (RCE)

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- An RCE is a **network of existing formal, non-formal and informal education** organisations, mobilised to deliver education for sustainable development (ESD) to local and regional communities.
- A network of RCEs worldwide will constitute the **Global Learning Space** for Sustainable Development.
- RCEs aspire to achieve the goals of the UN Decade of Education for Sustainable Development (DESD, 2005-2014), by translating its global objectives into the context of the local communities in which they operate.

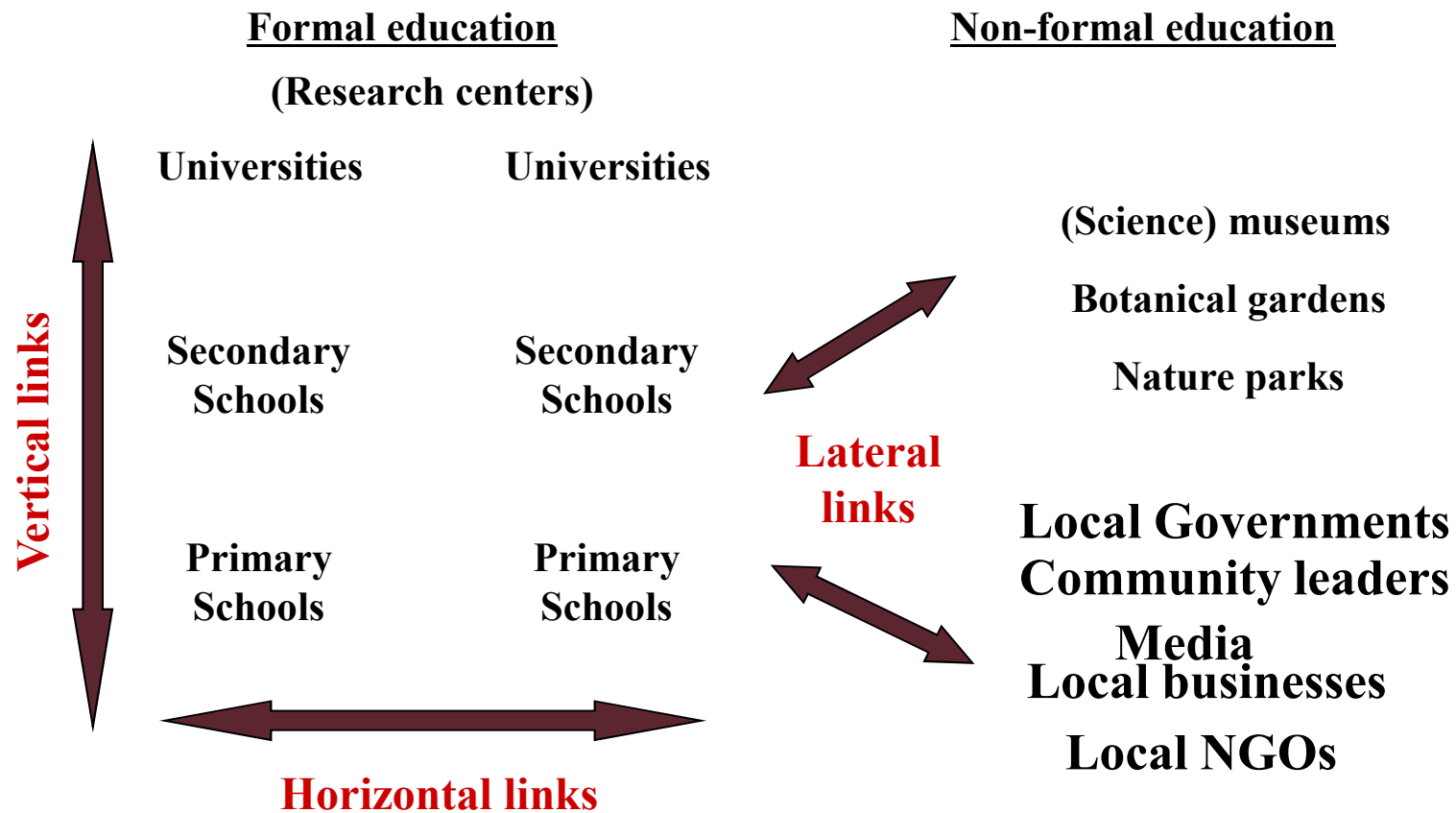
### Core elements of an RCE

1. **Governance** - addressing issues of RCE management and leadership
2. **Collaboration** - addressing the engagement of actors from all levels of formal, non-formal and informal education
3. **Research and development** - addressing the role of research and its inclusion in RCE activities, as well as contributing to the design of strategies for collaborative activities, including those with other RCEs
4. **Transformative education** - contributing to the transformation of the current education and training systems to satisfy ambitions of the region regarding sustainable living and livelihood.



## RCE stakeholders

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## Regional Centres of Expertise on Education for Sustainable Development







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„Education is called upon to make our common world  
a place of lived diversity.“

*Dörpinghaus (2009: 5)*



## Relativity of Perspective





PD Dr. phil. Maik Adomßent  
email: [adomssent@uni.leuphana.de](mailto:adomssent@uni.leuphana.de)  
phone: +49.4131.677 2924

Leuphana University of Lüneburg  
Institute for Environmental and Sustainability Communication  
Scharnhorststrasse 1  
D - 21335 Lüneburg  
Germany



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