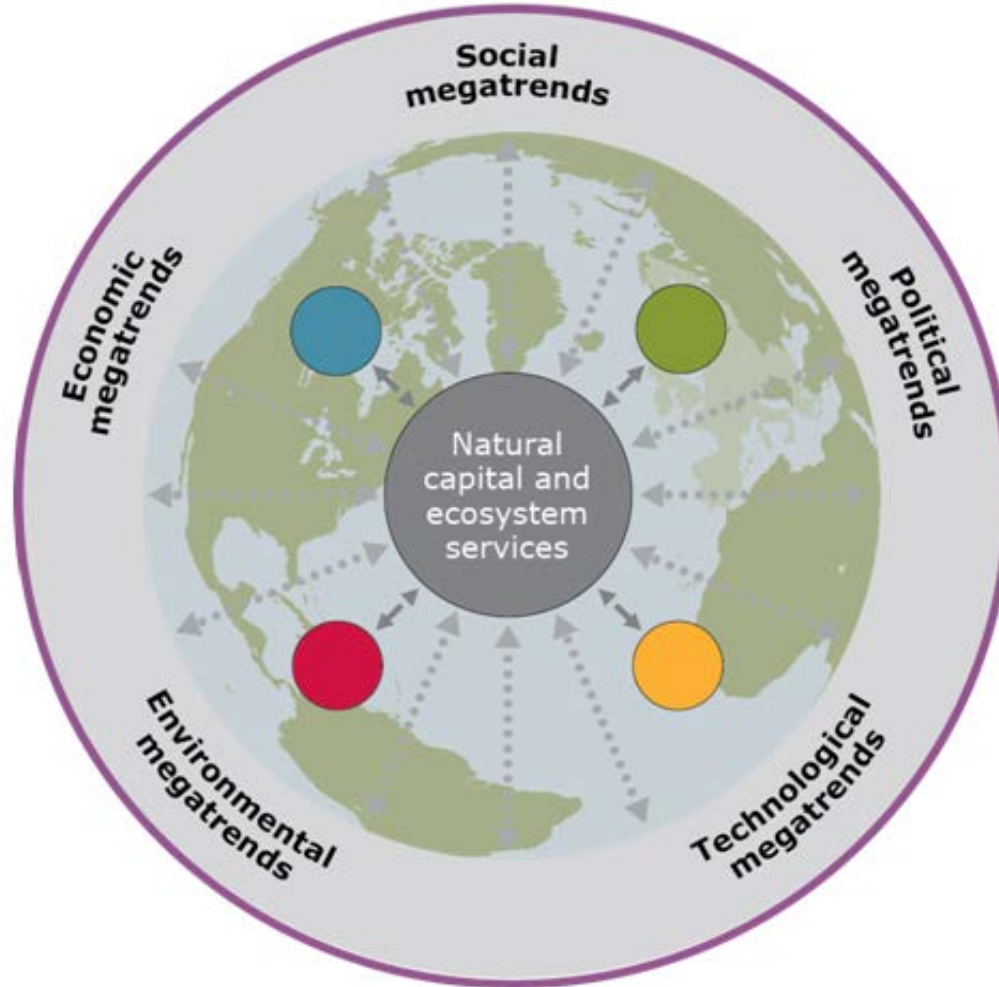


# **THE MEGATRENDS AND THE FOREST SECTOR**

**Sten Nilsson**

**June 2011**

# Megatrends



# DRIVERS

# IMPACTS

Economy

Energies

Geopolitics

Minerals

Demographics

Forests

Technologies

Agriculture

Infrastructure

Fisheries

Oceans

Sweet Water

Globalization

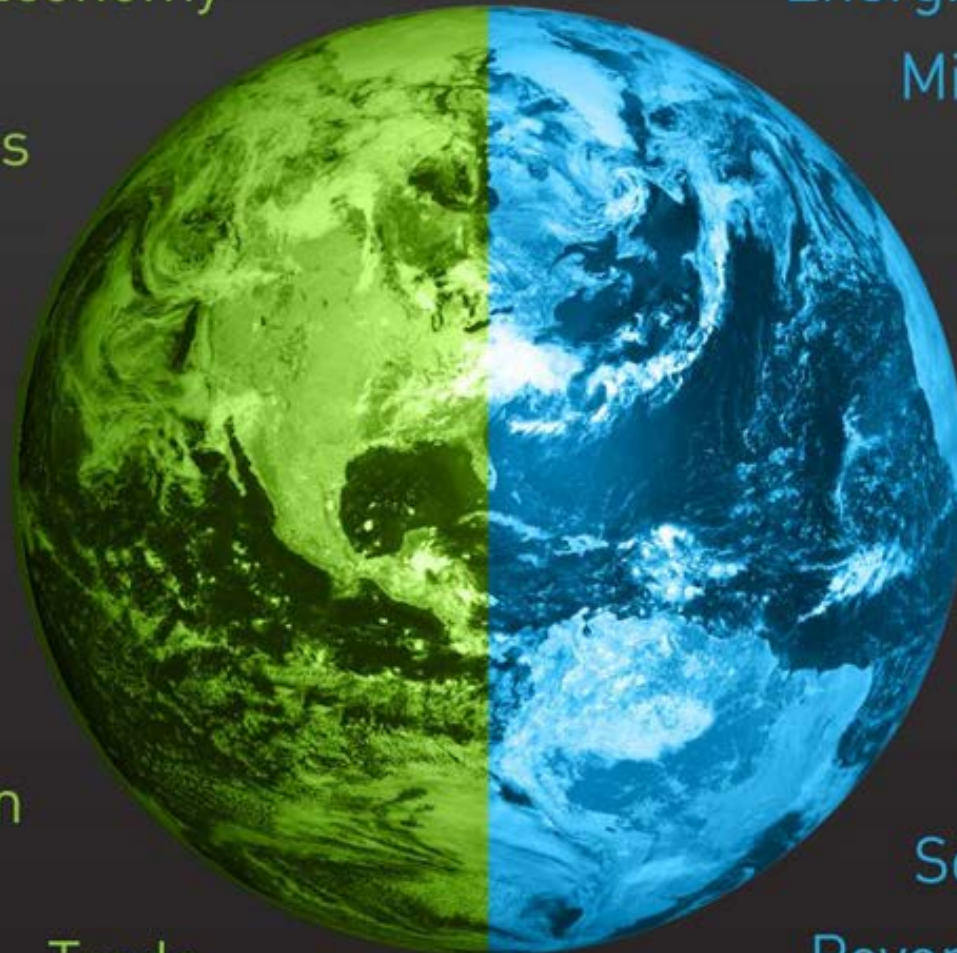
Biodiversity

Climate

Trade

Society

Poverty



# GOVERNANCE

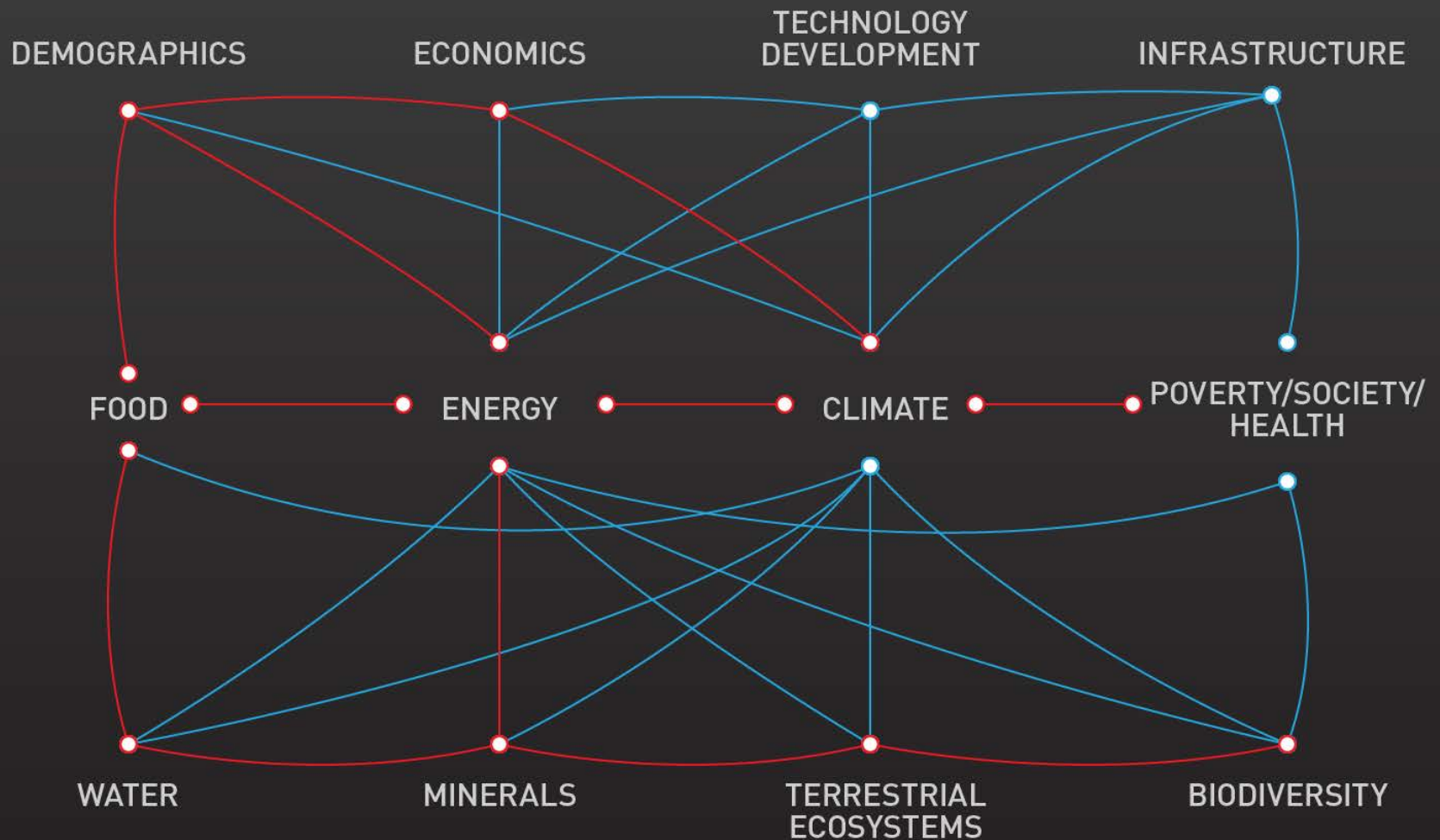
# SPEED AND EXTENT OF TRANSFORMATIONS

- Never in history have there been so many human-induced transformations taking place simultaneously
- The speed of these transformations is unprecedented

# TRENDS DO MATTER

The megatrends are shaping the contours of the environment for life, societies and corporations

# SYSTEMS MATTER EVEN MORE:



# SYSTEMS ISSUE – NOT SINGLE ISSUE PROBLEMS

- We do not speak about the single issues of energy, climate, food, water, poverty, etc.
- These are the components (although important ones) of a larger system
- We need to work with this larger systems view (expand the boundaries beyond the single issue concept)
- The interconnections are most important – the unpleasant surprises are going to happen here

# TRANSFORMATIONS

- The world is entering a period of major transformations of natural resources and socio-economic conditions
- Daily life in 2030 seems to become radically different for large parts of the world's population compared to 2000
- There will be a system of drivers, flow, impacts, and feedbacks acting upon each other



# MEASURES

- Strive for qualitative growth instead of quantitative growth
- More of less
- To bring the transformations needed into line with people's ideas of what is desirable, will require a wide range of distinct interdependent changes
- The uttermost challenge will be to create a synergy across a vast range of changes to make transformations likely
- The transformations will require new forms of governance both in public and private sectors – less hierarchical and less fixed methods
- Strong policy leadership by governments and private sector needed – including natural resource strategies

# UNDERSTANDING THE DEVELOPMENT OF EMERGING ECONOMIES IS CRITICAL

- Rapid demographic changes – increasing population and urbanization
- Rapid economic growth and rapidly increasing middle class
- Strong climate change impacts
- Increasing over-use of natural resources
- Increasing inequalities – imbalanced economic distribution

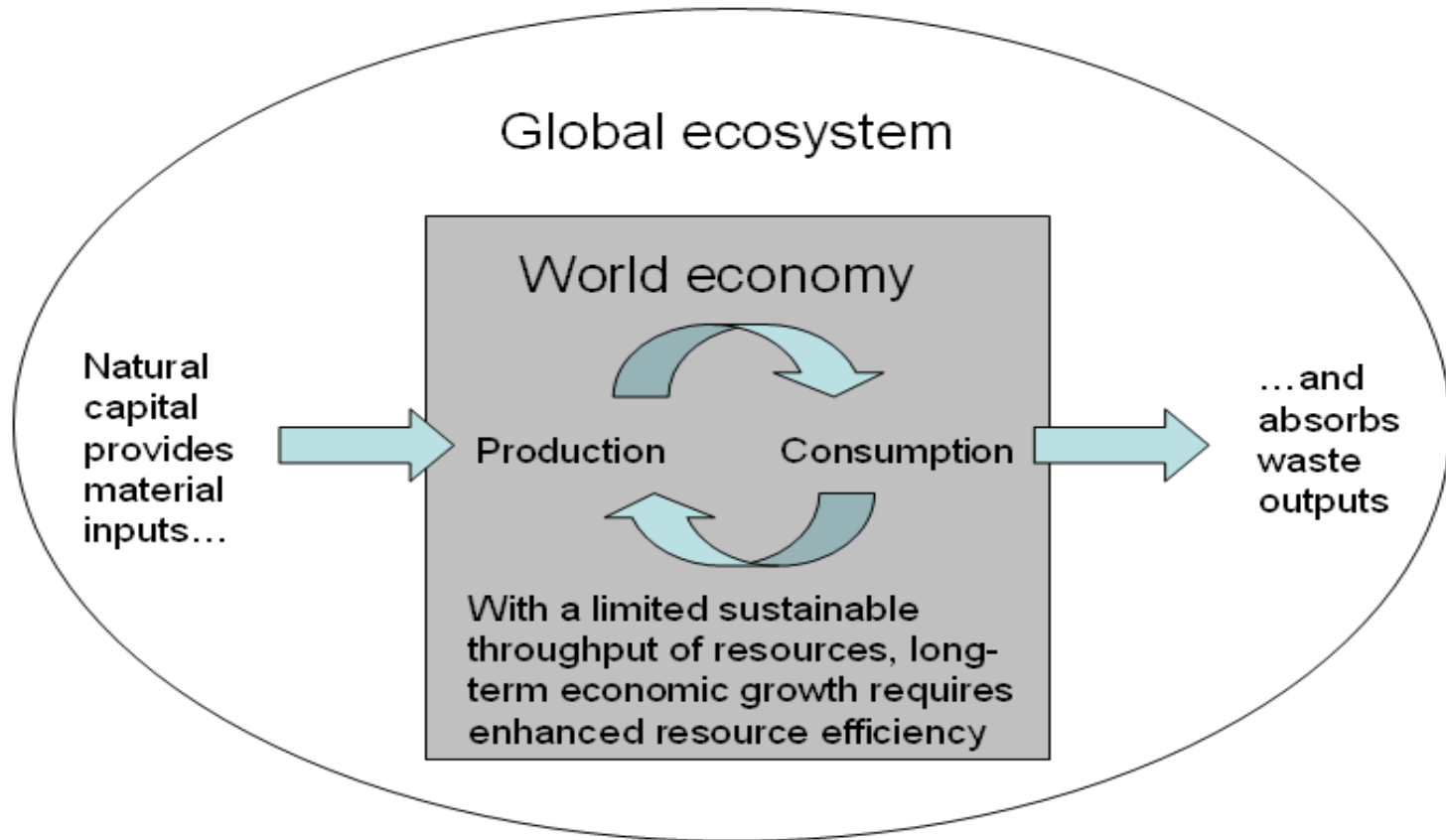
# SHIFT IN GEOPOLITICAL POWER - 1

- The economic crisis accelerated the shift in geopolitical power
- During the past 5 years, GDP in US, EU and Japan grew about 2-5% while in Brazil, India and China the growth was 25-69%
- The sovereign debt in G-7 will accelerate from 52% in 2007 to 90% in 2015. There is no acceleration in emerging economies
- The advanced countries had 63% of the global GDP in 2000 but will have 49% in 2013

# SHIFT IN GEOPOLITICAL POWER - 2

The emerging economies will set the global agenda in the future – it will not be set by the advanced economies

# Natural capital and world economy



Global resource extraction increase by 50% between 1980-2005; the increase is predicted to be 75% between 2005-2030.

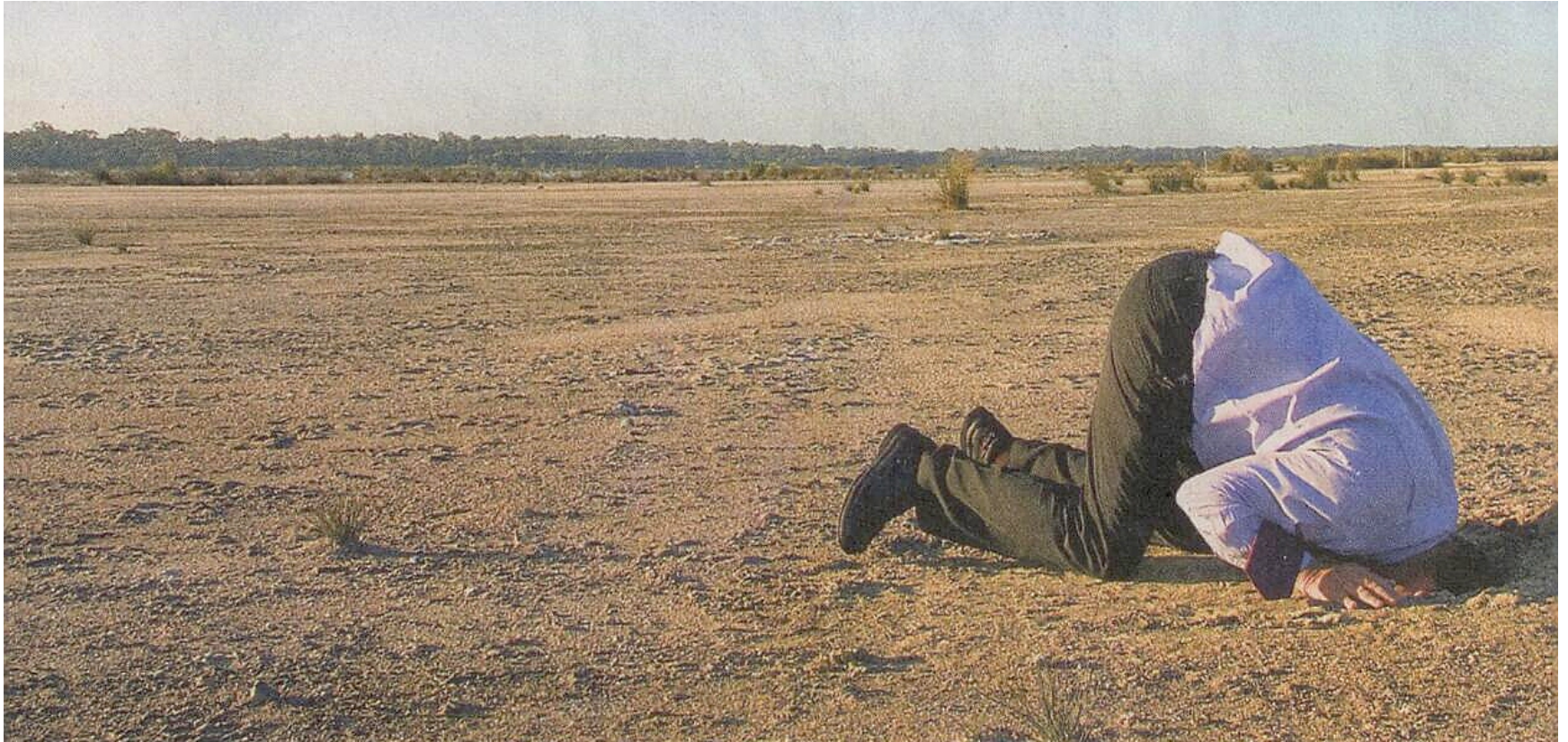
# THE BIG QUESTION

- The biggest question of the 21<sup>st</sup> century will probably be whether resources will be binding constraints for development again (like prior to 1800)
- If YES, we will probably have climate change, famine, state failure, large scale migration, disease, etc
- Or will the technology and societal developments be fast enough to handle the foreseen transitions?

# THE TRAGEDY-TRANSFORMATIONS

- Policy makers and the scientific community under-estimate the impacts of the transformational changes occurring
- They under-estimated how the South radically transforms the global society and the globe
- They do not have a plan that aspires to action

**DON'T PUT THE HEAD IN THE SAND!**

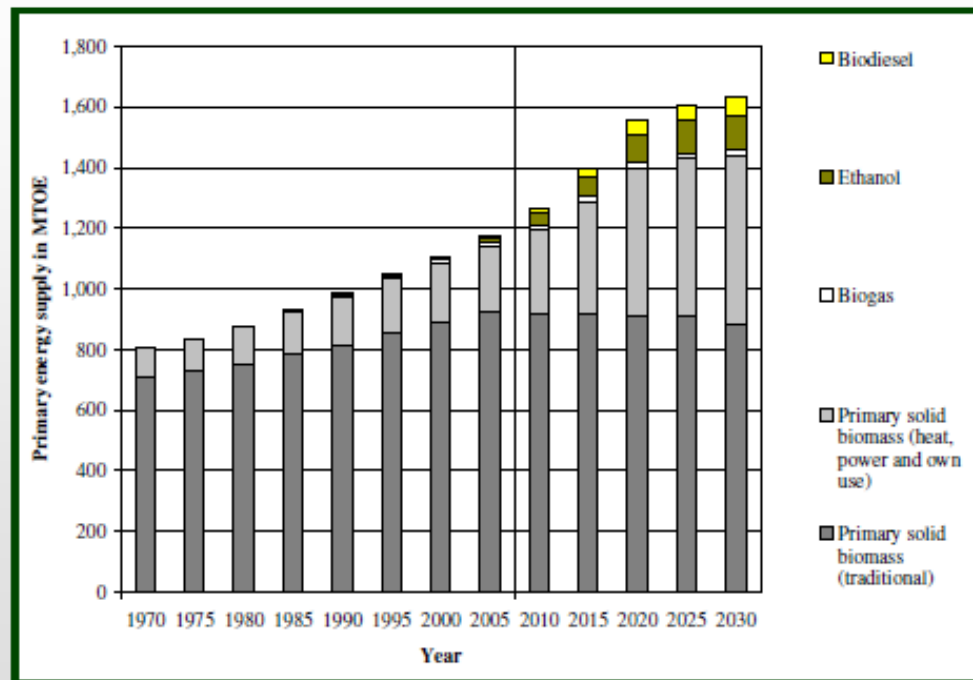




# **SOME IMPLICATIONS FOR THE FOREST SECTOR**

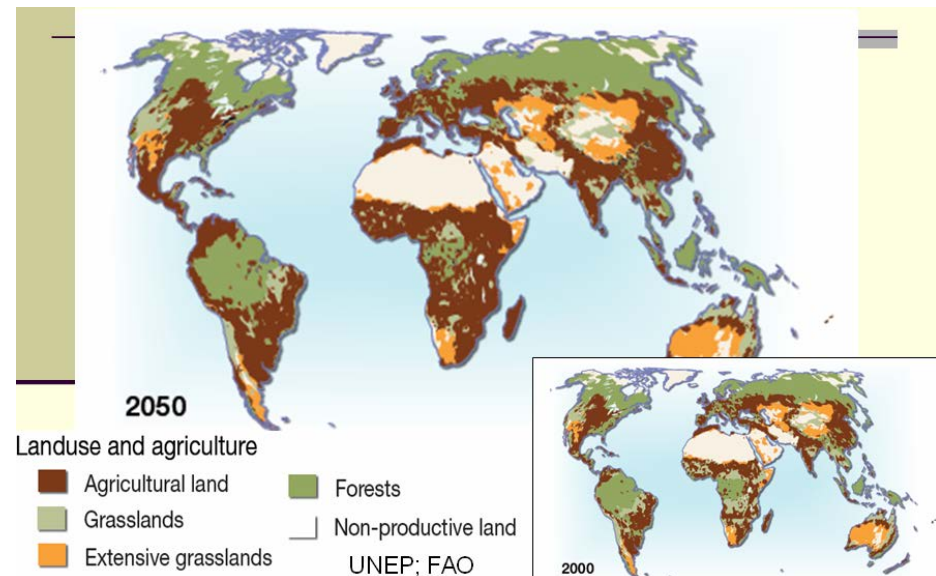
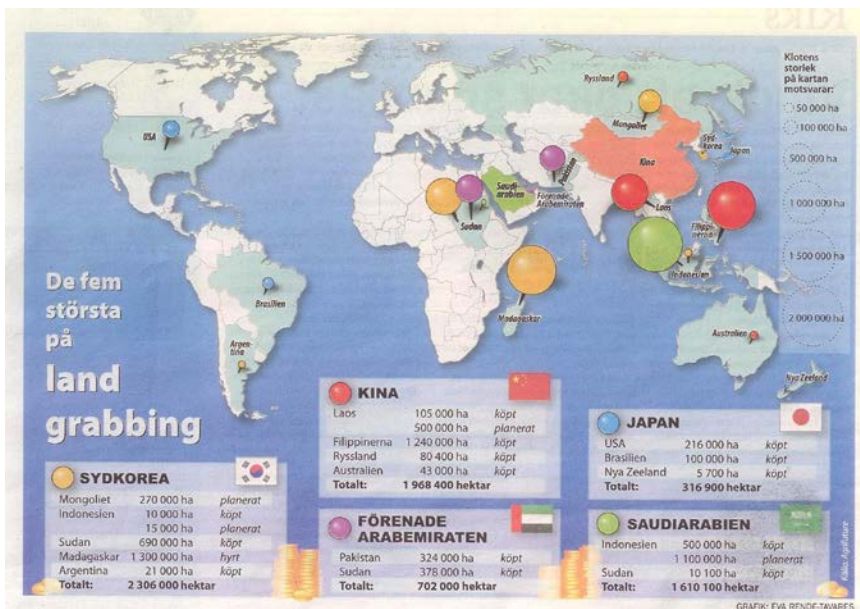
# ENERGY SCARCITY

- Strongly increasing use of biomass for energy production
- Increasing competition on land
- Increasing subsidies for alternatives to fossil fuels
- Changed industry structure



# FOOD SUPPLY / LANDUSE

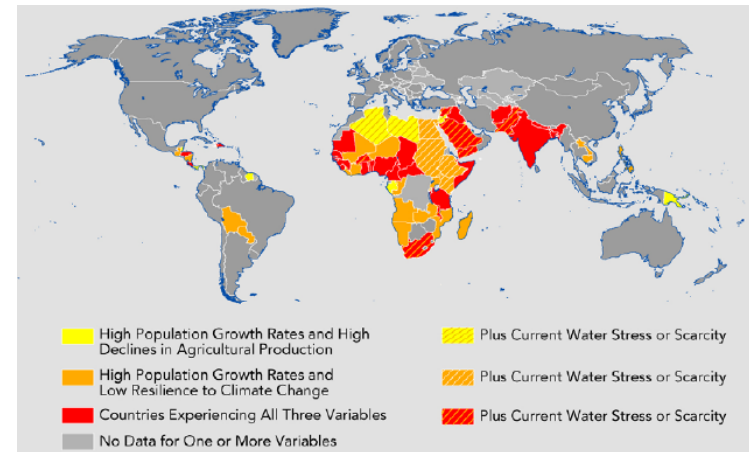
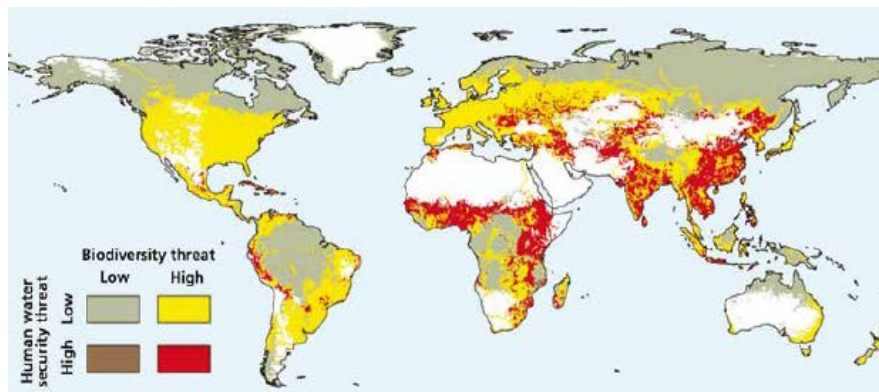
- Feed, food, fuel and fiber competition
- Bioproducts
- Increasing land conflicts



Source: Steven Northway, 2011.

# CLIMATE CHANGE / WATER SUPPLY

- The CO<sub>2</sub> emissions in 2010 (30.6 Gigatons) were the highest in history (IEA, 2011); most of the emissions in the energy sector are locked in until 2020
- Climate changes already occurring; agriculture production decreased by 3.8% (corn) and 5.5% (wheat) due to climate between 1980-2008
- Changed structure of the forest industry due to climate change



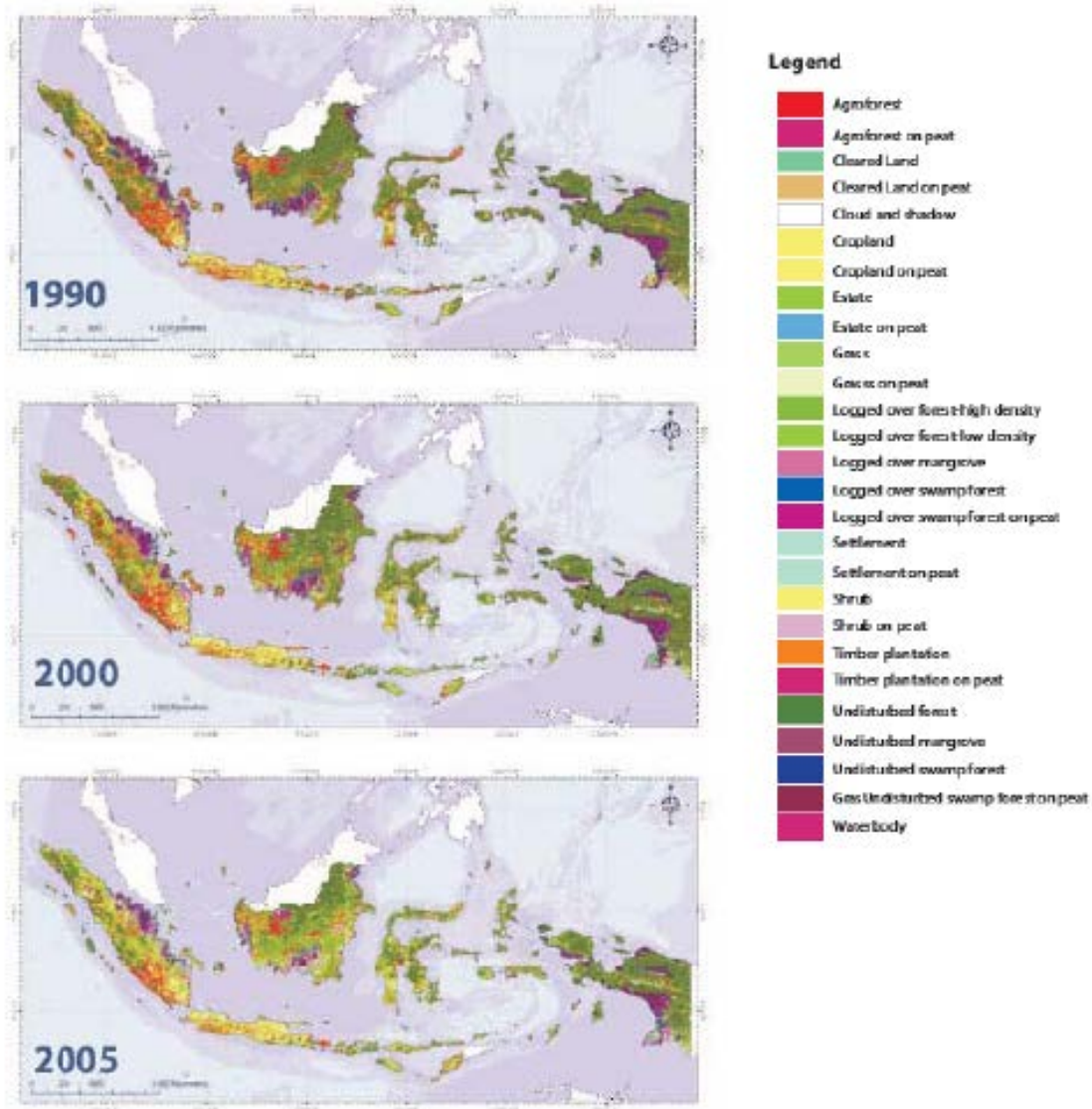
Source: Global Change, Issue 76, IGBP, January 2011.

Source: Population Action International, 2010

([http://www.populationaction.org/Publications/Fact\\_Sheets/Climate\\_Mapping\\_Guide\\_Update/climate-mapping-guide-update2010.pdf](http://www.populationaction.org/Publications/Fact_Sheets/Climate_Mapping_Guide_Update/climate-mapping-guide-update2010.pdf))

# INCREASING DEFORESTATION

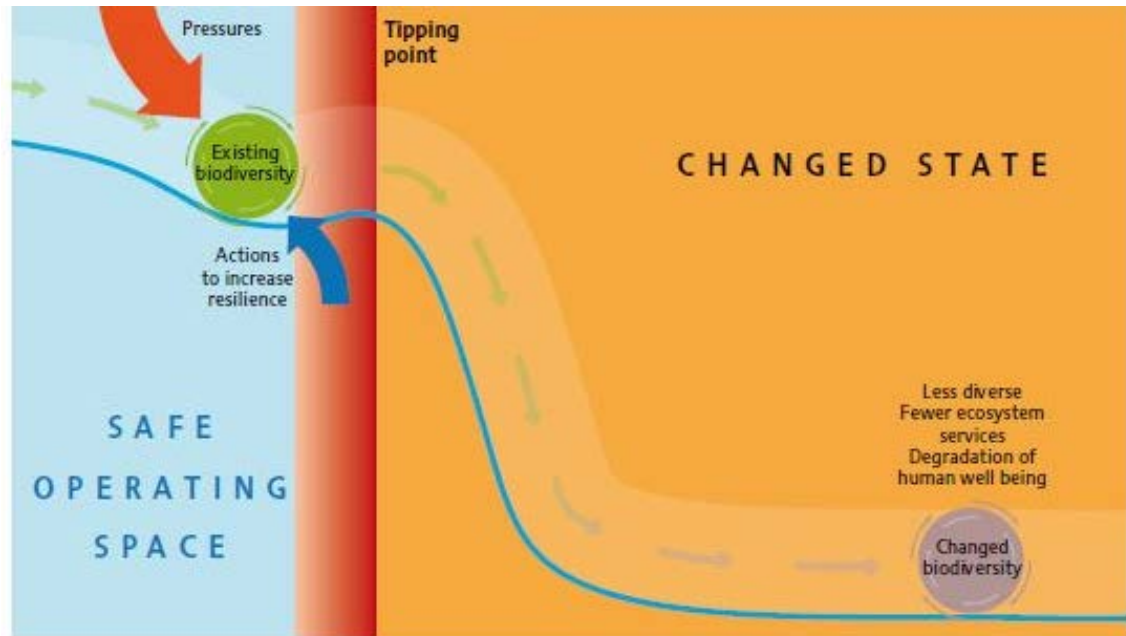
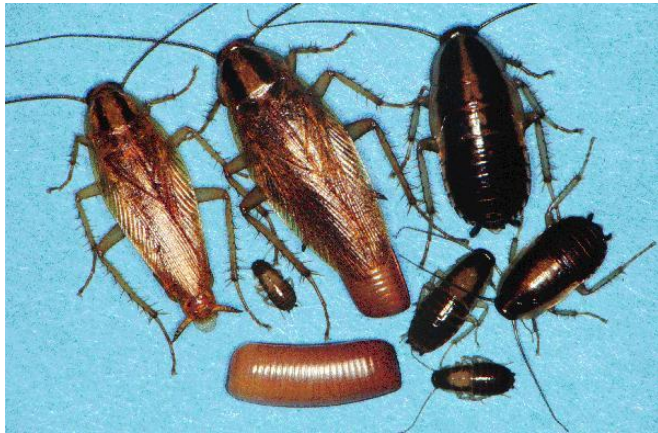
- Increasing population pressure
- Increasing wood utilization
- Tropical forests protected on paper but not in fact (UNEP, 2011)



Source: Finlayson, 2011.

# BIODIVERSITY

- More and more ecosystems will be influenced by humans
- Sustainable biodiversity is required for successful transformations
- More areas will be set aside for biodiversity



# WOOD SUPPLY – 2020

- Increasing demand for wood through population and economic growth
- Where should the wood come from?
- Backward integration by industry – India and China

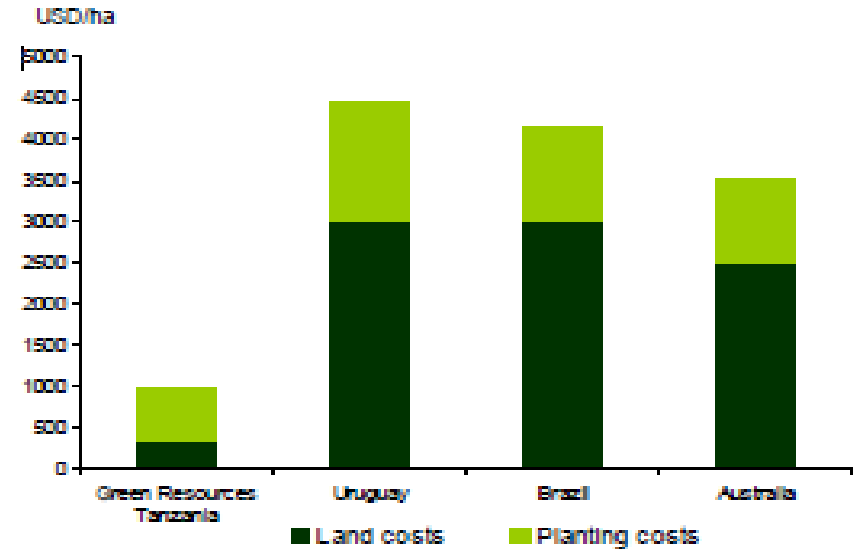
Western EU	Deficit
Eastern EU	Deficit
Rest of Eastern Europe	Balanced
Russia	Is probably at production ceiling under current conditions
Japan	Deficit
China	Huge deficit

New Zealand & Australia	+ 40 million m <sup>3</sup>
South East Asia	Beginning deficit
India	Deficit
Africa	Beginning deficit
Latin America	Expansion potential
USA	Deficit
Canada	Deficit

# AFRICA

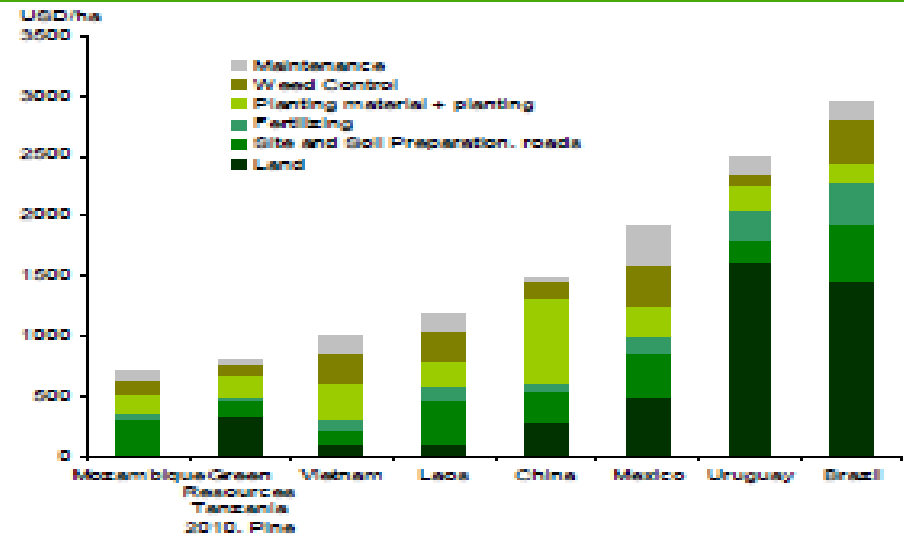
- Will Africa become the next wood basket?

## Cost of eucalyptus plantation establishment



Source: Green Resources review

## Cost of pine plantation establishment

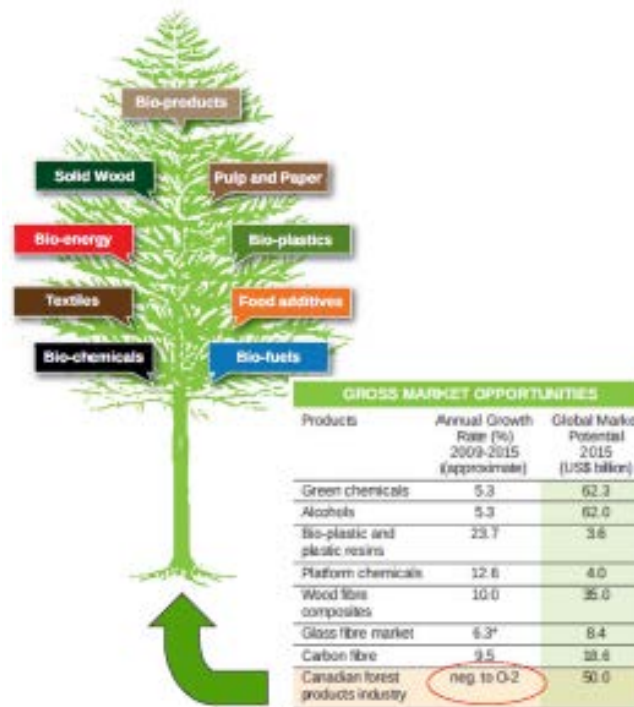


Source: Don Roberts 2011



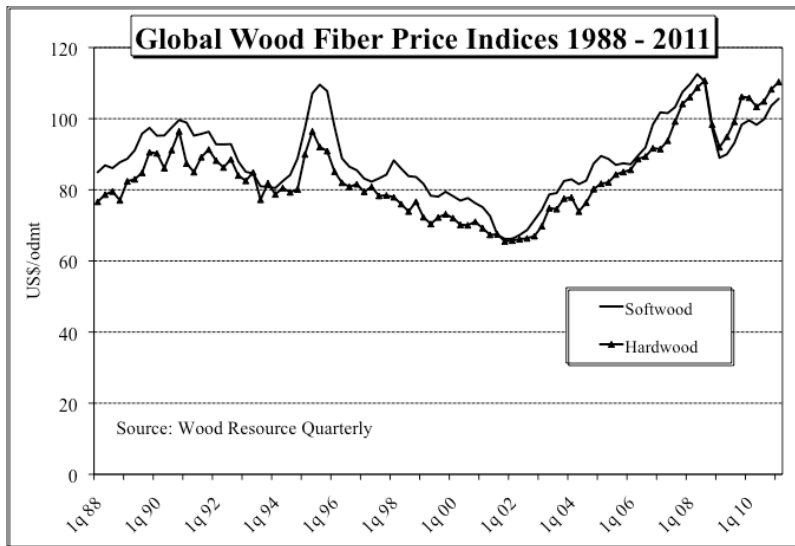
# BIO-PRODUCTION

- Society prepares for consumption and production of bio-products – to a large extent driven outside the forest sector



# COMMODITY PRICE DEVELOPMENT

- Will we see a continued increase in commodity prices?



Source: Wood Resource Quarterly, 1st Q, 2011

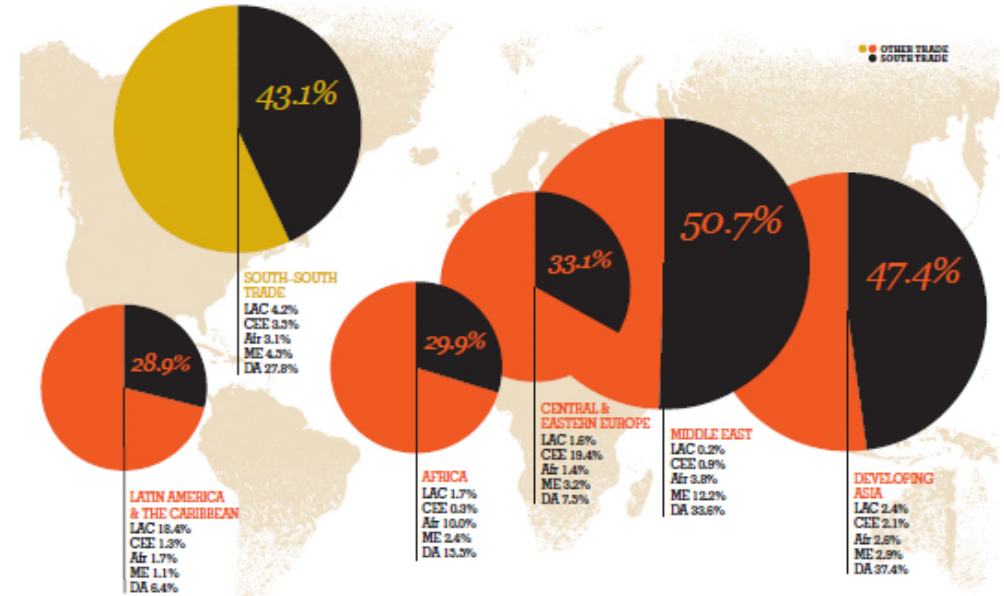


Note: The GMO commodity index is an index comprised of the following 33 commodities, equally weighted at initiation: aluminum, coal, coconut oil, coffee, copper, corn, cotton, diammonium phosphate, flaxseed, gold, iron ore, jute, lard, lead, natural gas, nickel, oil, palladium, palm oil, pepper, platinum, plywood, rubber, silver, sorghum, soybeans, sugar, tin, tobacco, uranium, wheat, wool, zinc.

Source: GMO, Jeremy Grantham, 2011

# TRADE

- Changing trade patterns
- The South-South trade is driving the next globalization wave



## SOUTH-SOUTH TRADE (SST)

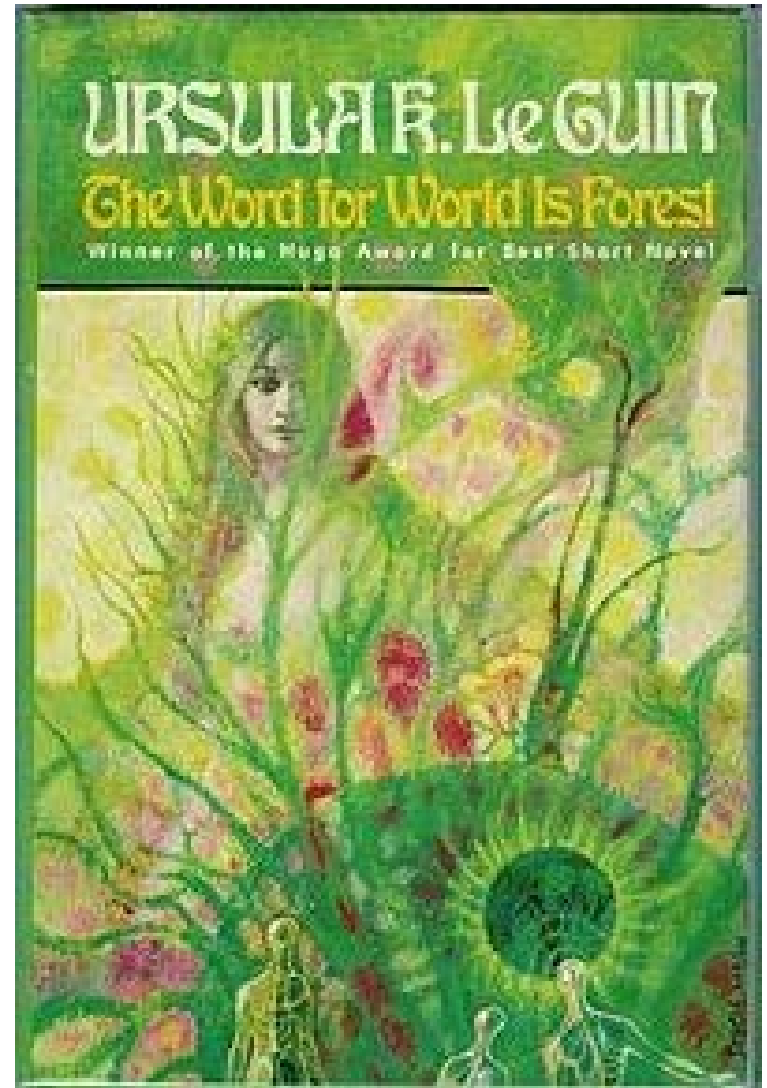
Average percentage shares of SST in regions of the South (1995–2008)

	LAC	CEE	AFR	ME	DA	SST
Latin America & Caribbean (LAC)	18.4	1.3	1.7	1.1	6.4	28.9
Central & Eastern Europe (CEE)	1.6	19.4	1.4	3.2	7.5	33.1
Africa (AFR)	1.7	0.3	10.0	2.4	15.5	29.9
Middle East (ME)	0.2	0.9	3.8	12.2	33.6	50.7
Developing Asia (DA)	2.4	2.1	2.6	2.9	37.4	47.4
<b>All South regions (SST)</b>	<b>4.2</b>	<b>3.5</b>	<b>3.1</b>	<b>4.5</b>	<b>27.8</b>	<b>43.1</b>

Source: ECLAC, International Trade and Integration Division, based on WTO data and United Nations COMTRADE database

# SOCIETAL CHANGES

- The societal changes will demand brand-new products from the forest industry and new services from the forest eco-systems
- Among other things, there will be more eco-tourism and recreation



# THE CHALLENGE

- The forest sector will have a great future if it takes the lead in demonstrating the positive contributions that the sector can make for successful transformations of important societal issues stemming from changes of global megatrends

# Thank you for your attention!



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