

ADAPTATION OF FORESTS AND PEOPLE TO CLIMATE CHANGE

A global assessment by an Expert Panel

UNFF-8, Working Group 1, New York, 21 April, 2009

Risto Seppälä
Chair, Expert Panel on Adaptation of Forests to Climate Change

BACKGROUND OF GLOBAL FOREST EXPERT PANELS (GFEP)

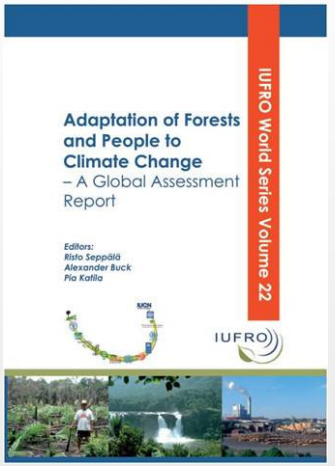
- CPF (Collaborative Partnership on Forests) launched in 2007 an initiative on Global Forest Expert Panels (GFEP)
- Task: provide forest-related intergovernmental processes (UNFF, UNFCCC, CBD) with up-to-date science-based information
- Expert Panel on Adaptation of Forests to Climate Change established as first thematic panel
- Other thematic Panels to follow in the future

EXPERT PANEL ON ADAPTATION OF FORESTS TO CLIMATE CHANGE

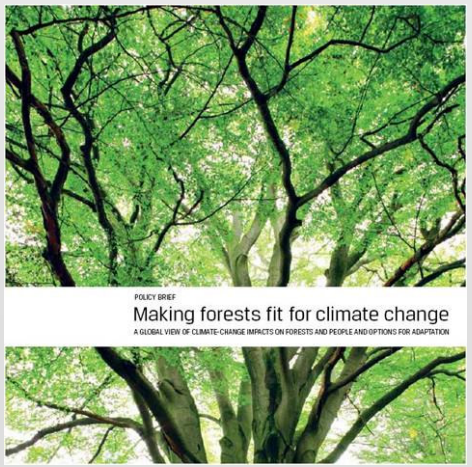
- Task: assessment of climate change impacts on forests, implications for human wellbeing, and options for adaptation; no new research
- Almost 100 experts with broad range of scientific backgrounds; several IPCC scientists

PRODUCTS

- Peer reviewed scientific report "Adaptation of Forests and People to Climate Change – A Global Assessment"



- Policy brief "Making Forests Fit for Climate Change" (available in all official UN languages)




MAIN FINDINGS

OBSERVED ENVIRONMENTAL IMPACTS

- Climate change has already affected forest ecosystems and will have increasing effects on them in the future.

FOUR SCENARIO CLUSTERS FOR FUTURE PROJECTIONS

- **Unavoidable**: freeze of CO2 concentrations at 2000 levels
- **Stable**: at the end of century approaching stabilization (new equilibrium) of CO2 concentrations
- **Growth**: towards the end of century emissions grow 1 %/y (growth rate in the 1990s)
- **Fast Growth**: CO2 emissions grow 3 %/year (current situation)

FUTURE ENVIRONMENTAL IMPACTS (1)

- At the global scale, forests can adapt to impacts of scenario "stable", but there will be altered species compositions and changes in productivity
- Forest will have major difficulties to adapt to impacts of scenarios "growth" or "fast growth", in particular in semi-arid and arid climate

FUTURE ENVIRONMENTAL IMPACTS (2)

- Beyond global warming of 2.5°C relative to pre-industrial levels, the carbon-regulating services of forests are at risk of being lost entirely as land ecosystems turn into a net source of carbon

- This loss of carbon-regulating services of forests would seriously exacerbate climate change and cause a dangerous vicious cycle (feedback loop)

REGIONAL IMPACTS (1)

- Tropical forests: increased productivity where water is available, but decline in dry areas; severely affected by "growth" and "fast growth" scenarios
- Subtropical forests: decreased productivity in most parts; short-rotation plantations provide opportunities; risk of severe biodiversity losses

REGIONAL IMPACTS (2)

- Temperate forests: less affected than other forest types; both increased and decreased tree growth; negative effects under “growth” and “fast growth” scenarios
- Boreal forests: particularly affected (more warming); increased tree growth in most areas; more fires, pests and storms

ALSO POSITIVE IMPACTS EXPECTED

- Climate change can also have positive effects on forest ecosystem services
- Climate change can increase the supply of timber in some regions and even globally due to increased tree growth; temporal variations

SOCIO-ECONOMIC CONSIDERATIONS

Projected increases in frequency and severity of extreme weather events and forest disturbances will have far-reaching social and economic consequences particularly for forest-dependent poor

MANAGEMENT OPTIONS FOR ADAPTATION

- Practices associated with **Sustainable forest management** (SFM) work well in reducing the vulnerability of forests to climate change.

- The current failure to implement SFM limits the capacity to adapt to climate change

POLICY OPTIONS FOR ADAPTATION

- Commitment to achieving the goals of SFM must be strengthened at both the international and national levels
- New modes of governance are required to enable stakeholder participation, and provide secure land tenure and user rights and sufficient financial incentives

KNOWLEDGE GAPS

- More information and knowledge is needed on
  - regional and local impacts on climate change
  - socio-economic impacts
  - the effectiveness of management and policy measures for adaptation


KEY CONCLUSION

KEY CONCLUSION: ADAPTATION AND MITGATION ARE COMPLEMENTARY

- Successful mitigation requires that forests retain their capacity to adapt to climate change
- Unmitigated climate change is likely to exceed the adaptive capacity of many forests in the course of the current century
- **Large reductions in emissions from fossil fuels and deforestation are needed to preserve the adaptive and mitigative capacity of forests**

Thank you for your attention !



MAKING FORESTS FIT FOR CLIMATE CHANGE

Key messages of the

Global Forest Expert Panel on Adaptation of Forests to Climate Change

UNFF-8 Plenary Session, New York, April 21, 2009

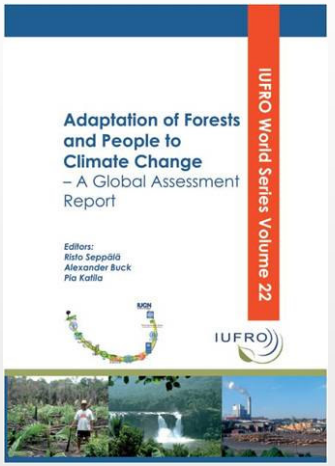
Risto Seppälä, Panel Chair

BACKGROUND

- First thematic assessment carried out in the frame of CPF Global Forest Expert Panels (GFEP) initiative, led by IUFRO
- Most comprehensive assessment to date of climate change impacts on forests, implications for human wellbeing, and options for adaptation; no new research
- Almost 100 experts; several IPCC scientists

PRODUCTS

- Peer reviewed scientific report "Adaptation of Forests and People to Climate Change – A Global Assessment"



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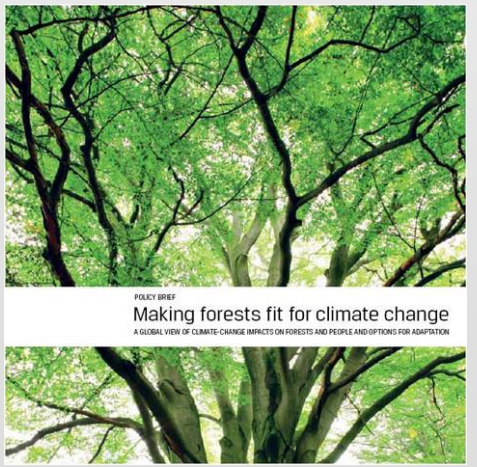


EIGHT KEY MESSAGES

KEY MESSAGE 1

- Climate change has already affected forest ecosystems and will have increasing effects on them in the future
- The carbon-regulating services of forests are at risk of being lost entirely
- The loss of carbon-regulating services of forests would accelerate climate change

KEY MESSAGE 2

- Climate change can also have positive effects on forest ecosystem services
- Climate change will increase the supply of timber in some regions and even globally due to increased tree growth

KEY MESSAGE 3

- The impacts of climate change will have far-reaching social and economic consequences for forest-dependent people, particularly the forest-dependent poor

- Adaptation measures must go beyond single technical measures and address also the human-institutional dimension of the problem

KEY MESSAGE 4

- Sustainable forest management (SFM) is an efficient tool for reducing the vulnerability of forests to climate change
- The current failure to implement SFM limits the capacity of forests and people to adapt to climate change
- Commitment to achieving the goals of SFM must be strengthened at both the international and national levels

KEY MESSAGE 5

- Given the diversity of forests and the uncertainty about how climate change will affect different forests, no single management approach will suit all situations
- Forest managers should have sufficient flexibility to deploy the adaptation measures most appropriate for their local situations

KEY MESSAGE 6

- New modes of governance are required to enable stakeholder participation, and provide secure land tenure and user rights and sufficient financial incentives

KEY MESSAGE 7

- More research is required to reduce uncertainties about climate change impacts and to improve knowledge about measures for adaptation

- Despite the limitations of current knowledge, **climate change is progressing too quickly to postpone adaptation action pending the outcomes of future studies**

KEY MESSAGE 8

- Even if adaptation measures are fully implemented, **unmitigated climate change would exceed the adaptive capacity of many forests**

- Therefore, large emissions reductions are needed to ensure that forests retain their mitigative and adaptive capacities

ITEMS FOR POSSIBLE CONSIDERATION BY THE FORUM

- Implications of the adaptation report for decisions by UNFF
- Implications for the message of the UNFF to UNFCCC
- How to make use of GFEP (Global Forest Expert Panels) as scientific advisory mechanism for the Forum

Thank you for your attention !

Policy Options for the Adaptation of Forests to Impacts of Climate Change

Jeremy Rayner and Peter Glueck

Expert Panel on Adaptation of Forests to Climate Change

UNFF8, 22 April 2009, New York

Key messages

- Forest conditions will change in response to the *direct* and *indirect* effects of climate change
- The policy challenge is to ensure the continued provision of forest goods and services, including carbon sinks
- **Sustainable forest management is integral to reducing the vulnerability of forests to climate change. The current failure to implement it limits the adaptive capacity of forests.**

Policy design challenges

- Uncertainties about the magnitude, rate and even direction of climate change impacts on the ground
- Conflicts over the goals of adaptation
  - Balance of social, economic and ecological goals
- Conflicts about means, even if we could agree on goals

Causes of policy failure

- Traditional modes of governance are top down and rely too heavily on regulatory instruments
- Traditional modes of forest governance are not well adapted to take account of drivers of change originating in other sectors
  - Improving *intersectoral coordination* will become a much more urgent priority

National forest policies

- Take a precautionary approach but encourage flexibility
  - "locking in" to bad policies is as dangerous as doing nothing at all
- Disappointing for those who want more regulation
  - Efficient use of regulatory instruments – narrowly defined – requires a degree of precision that we still don't have
  - Make better use of well designed policy mixes
- Recognize that forest policies must engage with new stakeholders

International Processes

- Consensus Building: International Dialogue on Sustainable Forest Management
  - Already a consensus formed around this idea
  - Time spent forging a new consensus can never be recovered
- New Policy Instruments
  - Certification and “regional standards”
  - Combating the causes of deforestation

Regime Interaction

- Adaptation to climate change an issue that exists at the intersection of a number of global governance regimes
- Reflected in the multiplicity of programs and the variety of goals
  - World Bank's warning about goals
    - Can we reduce deforestation AND poverty?
- Urgent need for priority setting and coordination

Key challenges

- The optimal mix of precaution and flexibility
- How to achieve better inter-sectoral coordination
- Funding
  - Portfolio (and “nested”) approaches
  - Also needs better coordination
- Research
  - Central to progress on choosing the right policy instruments
- Managing the issue attention cycle