Building Resilience to Climate Change through Sustainable Forest Management

FAO – OECD Workshop on Building Resilience for Adaptation to Climate Change in the Agricultural Sector

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FAO Forestry

www.fao.org/forestry

Building resilence: what does it look like?

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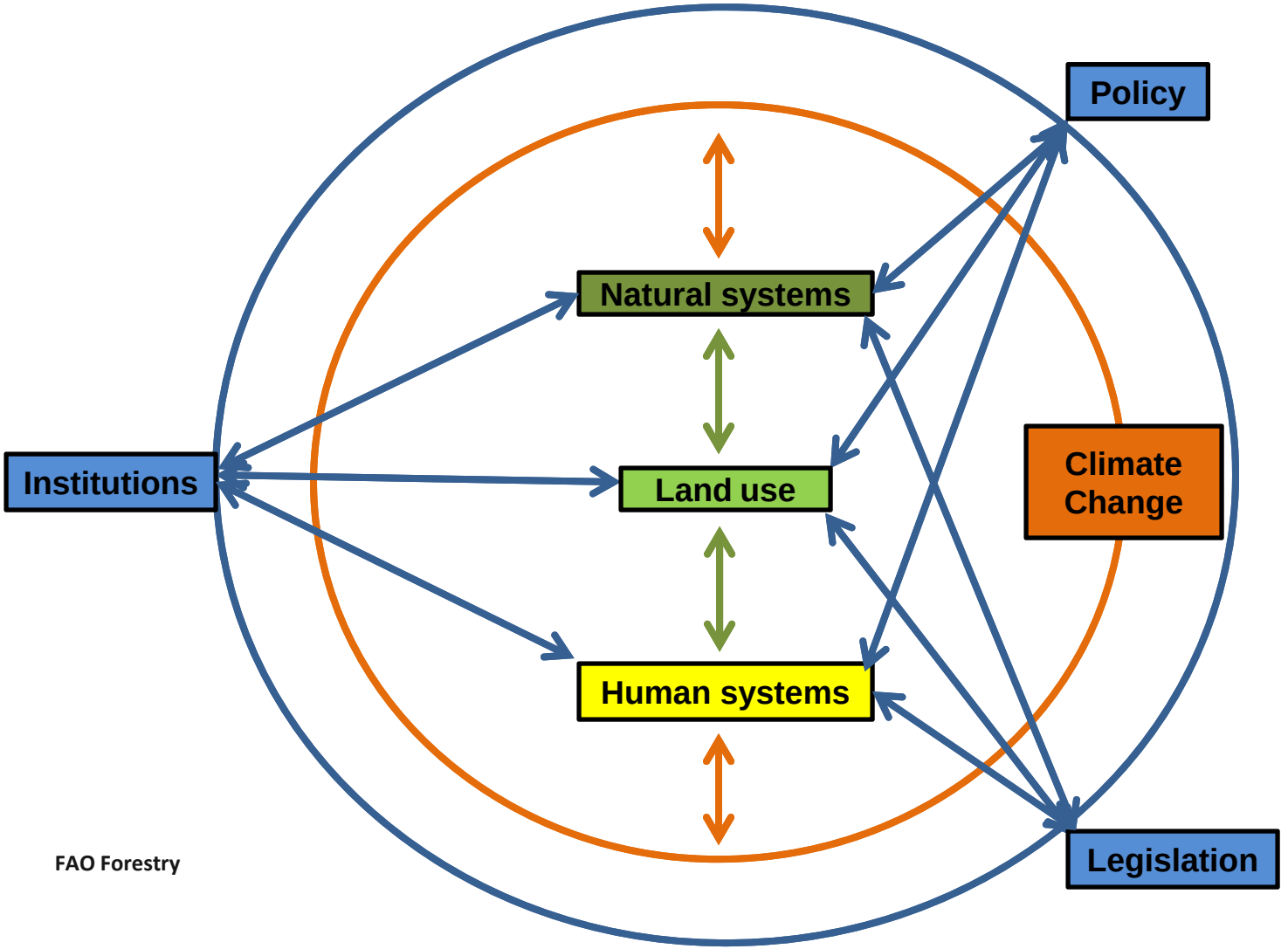
Forests and climate change framework



Building resilience in forestry

- Maximize resilience of forest ecosystems
- Use forests and trees to increase human resilience
- Build resilient landscapes
- Adopt forest policies and build institutions conducive to resilience

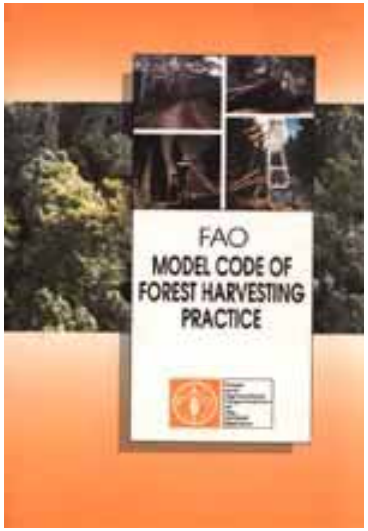
Risk reduction & resilience in natural systems

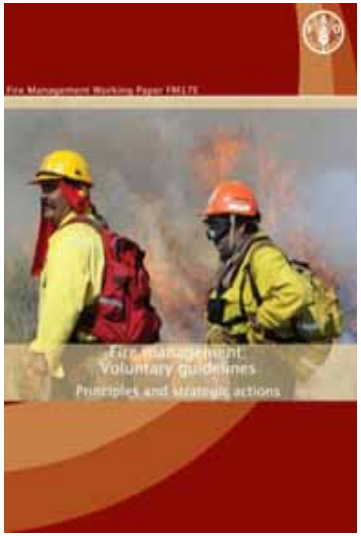
Risks/impacts	Implications (social, economic, environmental)	Response measures for risk reduction & increased resilience
Decreased forest vitality and productivity	Reduced revenue from wood and non-wood forest products; reduced forest ecosystem services	Silvicultural measures; change of species composition; increase forest biodiversity; forest restoration
Increased forest pests and diseases	Reduced forest revenue; reduced forest ecosystem services	Pest and disease control; silvicultural measures
Increased wildfires	Loss of life; damage to infrastructure; reduced forest revenue and ecosystem services; wildlife losses	Wildfire management; silvicultural measures
Increased water erosion and landslides	Damage to forest and to infrastructure (towns, roads, dams); reduced water quality	Watershed management (incl increase vegetation cover; reduced harvesting intensities)
Drought-induced forest/tree dieback and land degradation	Reduced availability of forest products; increased wind damage; reduced grazing values	Plant windbreaks, maintain tree cover; change species composition
Increased storm damage	Reduced forest revenue and ecosystem services; increased risk of pests and disease	Change species and tree spacing to reduce risk; salvage harvesting; pests/disease control
Reduced extent and vitality of mangroves and coastal forests	Increased exposure of land to storm damage; reduced productivity of coastal fisheries	Increased protection, restoration and enhancement of mangroves and other coastal forests
Changes in species ranges and species extinctions	Reduced forest ecosystem functions; loss of forest biodiversity	Forest connectivity and wildlife corridors; assisted migration; ex-situ conservation

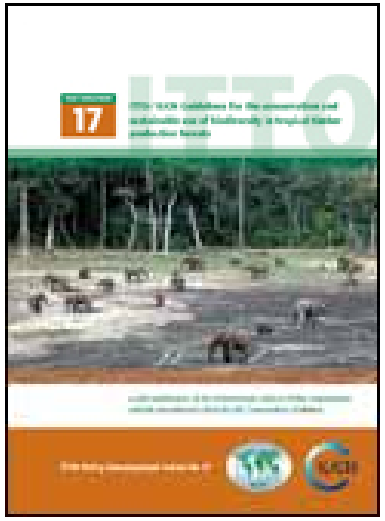
Building resilience of forest ecosystems

- Maintain healthy forest ecosystems for resilience
- Restore degraded forests
- Conserve, enhance and use biodiversity
- Enable autonomous adaptation
- Facilitate planned adaptation

Sound management: less risk, more resilient forests







Forests/trees to increase human resilience

- Diversify production to reduce economic risk , e.g. agroforestry

- Offer alternative or additional employment , e.g. small forest enterprises

- Use of forests as safety-nets

- Adapt and adopt traditional coping mechanisms

Building resilient landscapes

- Increase connectivity in the landscape

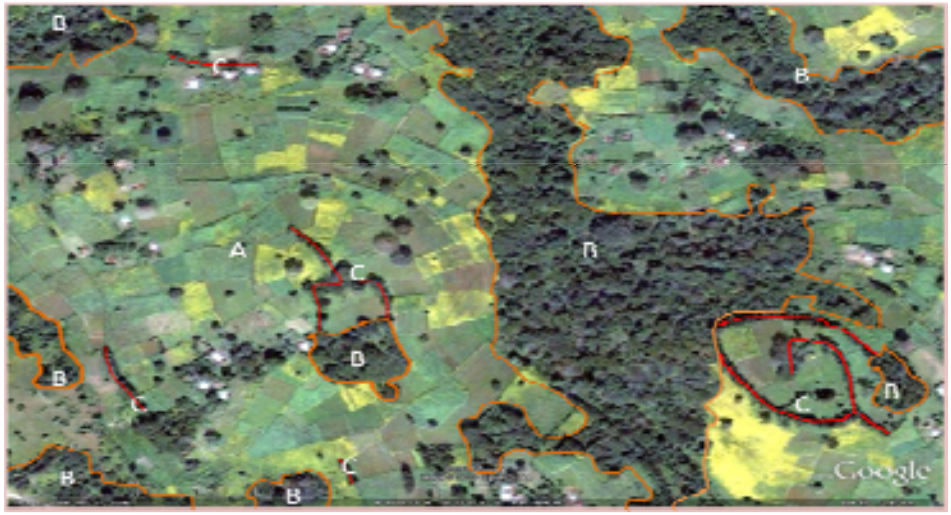
- Adopt a landscape approach to planning and management

  (e.g. integrated mountain development, watershed management, drylands management and coastal zone management)

Landscape approaches

“Seventy per cent of Africans are small-scale farmers”, said Ethiopian Prime Minister Meles Zenawi. “Agriculture is the key to our future. There is no better way to way to fight poverty and ensure food security”. He advocated the approach which his country had adopted: massive reforestation, widespread irrigation, and soil and water conservation.

` **Climate Smart Agriculture – Africa: A Call to Action**’, UNFCCC COP17 in Durban



Integrated watershed management

Jhikhu Khola, Nepal
Forests integrated in farming systems and in the landscape

Bodomo watershed, Faizabad District, Tajikistan.
Land use plan developed through a participatory process

Dryland agroforestry systems

Guinea. Mosaic of crop fields, pastures and houses with boundary trees and wind breaks

Mali. Parkland agroforestry systems. Acacia in sorghum fields, livestock in fields after harvest

Policies & institutions supporting resilience

- Coordinated action and policies at national level
- Strong local institutions
- Capabilities for monitoring
- Support adaptive research

Sustainable Forest Management

Sustainable Forest Management (UN General Assembly):

" a dynamic and evolving concept intended to maintain and enhance the economic, social and environmental value of all types of forests for the benefit of present and future generations"

Seven thematic elements of SFM:

- Extent of forest resources
- Forest biodiversity
- Forest health and vitality
- Productive functions of forest resources
- Protective functions of forest resources
- Socio-economic functions of forests
- Legal, policy and institutional framework

9 global/regional C&I processes that define the elements of SFM and provide a framework for planning and monitoring progress

Policy Framework for SFM

National forest programmes (nfps):

- a generic term for a range of approaches for forest policy formulation, planning and implementation at national and subnational levels.
- the first commonly agreed framework for SFM which is applicable to all countries and to all types of forests.

Nfps aim to promote **participatory** development and implementation of agreed objectives, policies and strategies on SFM.

NFP principles:

- national sovereignty and country leadership
- consistency within and beyond the forest sector
- partnership and participation

Key messages

- **SFM provides a solid foundation for reducing risk, enhancing resilience and implementing adaptation measures**

- **Many tools and successful approaches to support SFM exist**

- **More needs to be known about climate change impacts and resilience of both natural and human systems**

- **Resilient ecosystems must be supported by effective policies, laws and institutions**

- **Building local capacities and institutions to provide for adaptive decision making is crucial**