Environmental sustainability in Colombia's coffee region
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INTERNATIONAL COFFEE ORGANIZATION

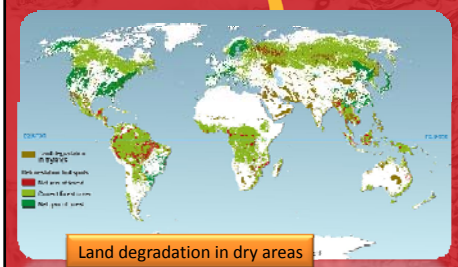
Report on Millennium Ecosystem Assessment
Ecosystems and human well-being
Biodiversity synthesis 2005

Millennium Ecosystem Assessment

- Established to assess the consequences of ecosystem change for human well-being
- To establish a scientific basis for action to improve, conserve and sustain ecosystems and the services they provide, as well as their contribution to human well-being
- Sponsored by the United Nations and coordinated by the United Nations Environment Programme
- Contributions by more than 1,360 experts from 95 countries

* Source: Final Report 2005 (4 Technical volumes, 6 Synthesis reports) available at Maweb.org

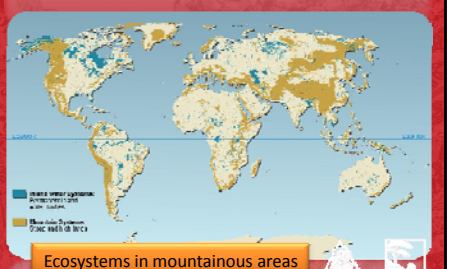
Millennium Ecosystem Assessment



Land degradation in dry areas

Cultivation systems

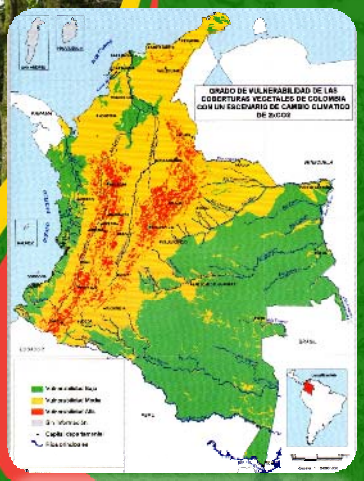
Forestry systems

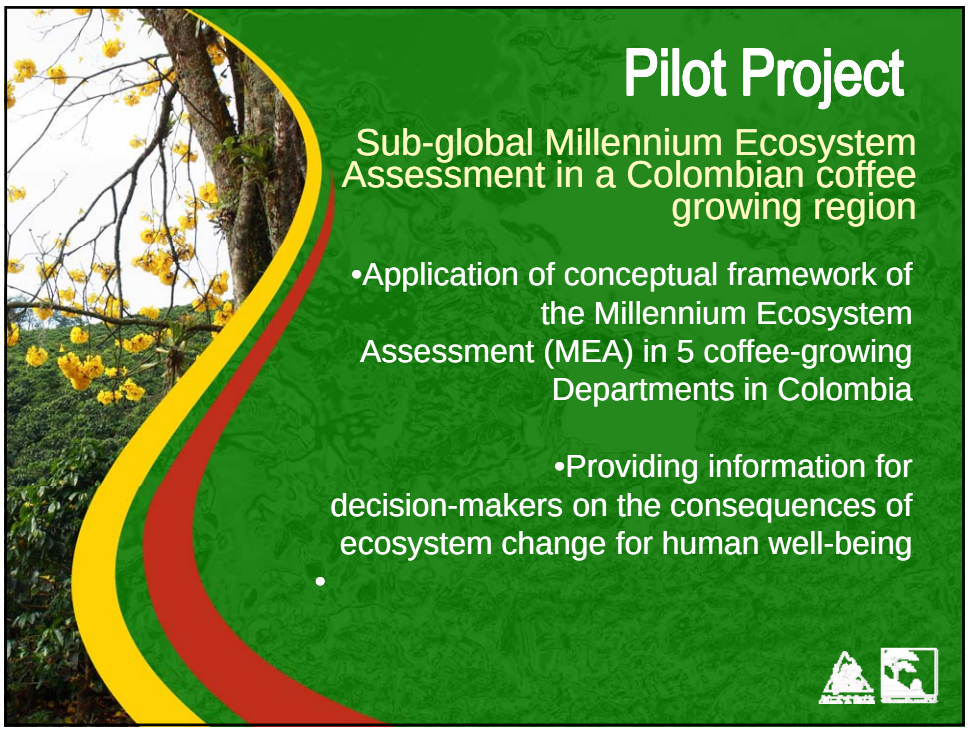


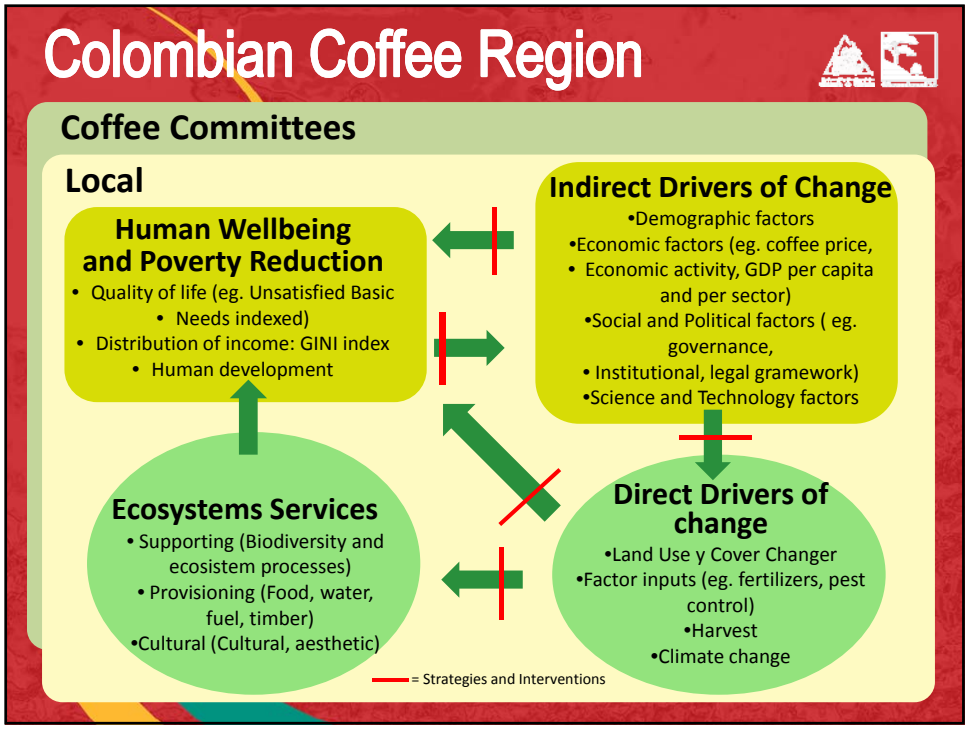
Ecosystems in mountainous areas

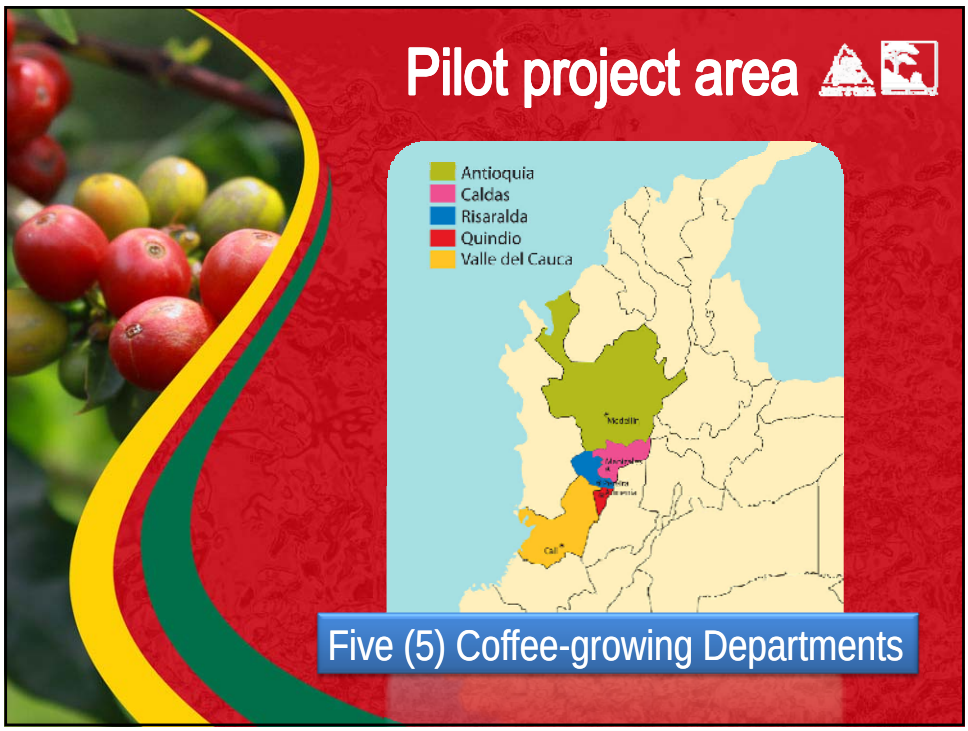
Sub-global assessment

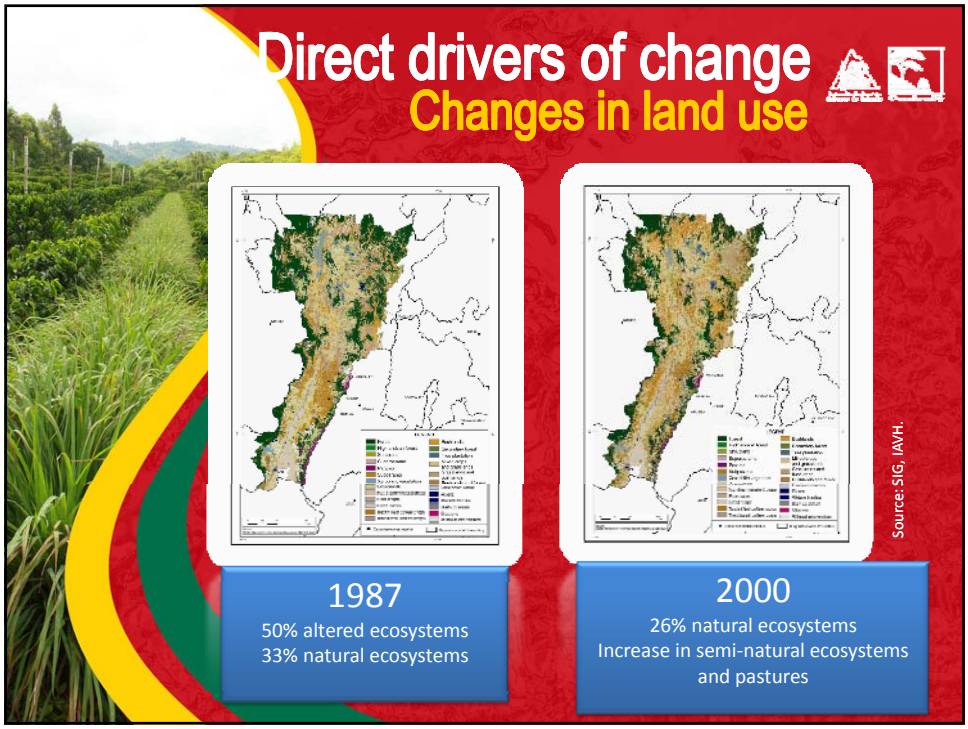
Degree of vulnerability of land cover in Colombia



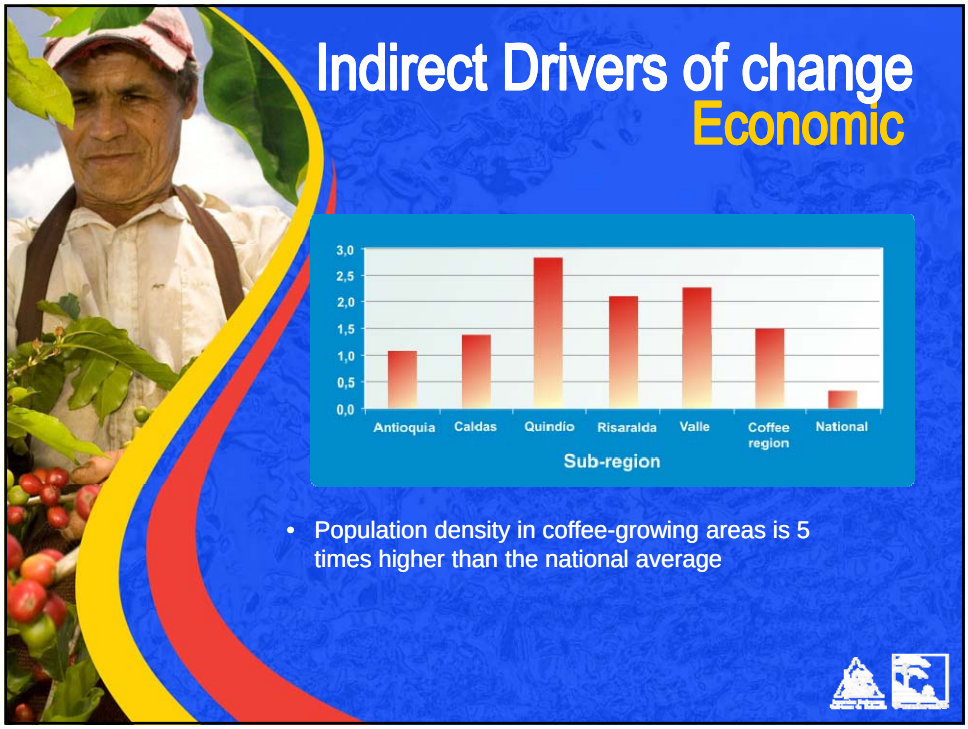

Pilot Project
Sub-global Millennium Ecosystem Assessment in a Colombian coffee growing region
•Application of conceptual framework of the Millennium Ecosystem Assessment (MEA) in 5 coffee-growing Departments in Colombia
•Providing information for decision-makers on the consequences of ecosystem change for human well-being
•


Colombian Coffee Region
Coffee Committees
Local
Human Wellbeing and Poverty Reduction
• Quality of life (eg. Unsatisfied Basic
• Needs indexed)
• Distribution of income: GINI index
• Human development
Indirect Drivers of Change
•Demographic factors
•Economic factors (eg. coffee price,
• Economic activity, GDP per capita and per sector)
•Social and Political factors (eg. governance,
• Institutional, legal gramework)
•Science and Technology factors
Ecosystems Services
• Supporting (Biodiversity and ecosistem processes)
• Provisioning (Food, water, fuel, timber)
•Cultural (Cultural, aesthetic)
Direct Drivers of change
•Land Use y Cover Changer
•Factor inputs (eg. fertilizers, pest control)
•Harvest
•Climate change
= Strategies and Interventions


Pilot project area
Antioquia
Caldas
Risaralda
Quindio
Valle del Cauca
Five (5) Coffee-growing Departments

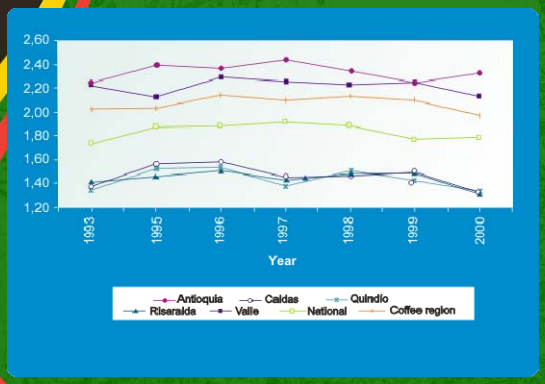

Direct drivers of change
Changes in land use
1987
50% altered ecosystems
33% natural ecosystems
2000
26% natural ecosystems
Increase in semi-natural ecosystems and pastures
Source: SIG, JAVH.

Loss of natural ecosystems
*SIG, IAVH.


Indirect Drivers of change
Economic
3,0
2,5
2,0
1,5
1,0
0,5
0,0
Antioquia
Caldas
Quindío
Risaralda
Valle
Coffee region
National
Sub-region
• Population density in coffee-growing areas is 5 times higher than the national average

Indirect Drivers of change
Economic

Per capita GDP

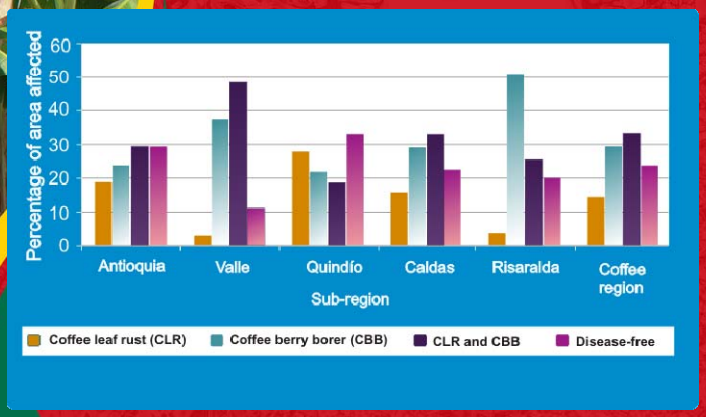


Two clearly differentiated groups:

Antioquia and Valle

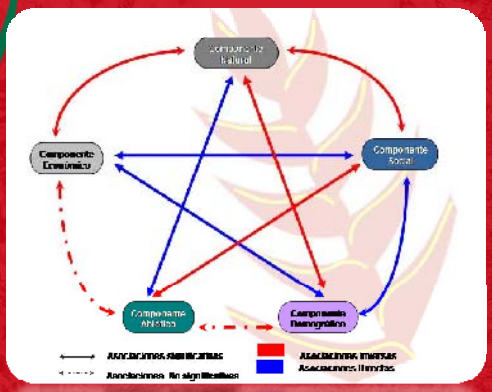
compared to Caldas, Risaralda and Quindío

Direct Drivers of Change
Phytosanitary factors



Source: SIG, IAVH.

Association between State of Ecosystems, Drivers of Change and Human well-being



Taken in Rincón *et al* 2004. http://www.humboldt.org.co/humboldt/mostrarpagina.php?codpage=5000312

http://www.millenniumassessment.org/en/Multiscale.aspx

Application of innovative experiences based on

Strategic Plan 2008 – 2012

Proposed value to coffee growers

1. Sustainable marketing with added value
2. Competitiveness and Innovation
3. Coffee growing in the world of technology, information and communication
4. Development of the coffee community and its surroundings
5. Positioning of Colombian Coffee and its trademark portfolio
6. Coffee Agenda for Colombia and the world
7. Effectiveness, legitimized and democracy
8. Financial sustainability

Achieve young productive and profitable coffee growing

Increase work productivity in coffee growing

Ensure our institutional presence through innovative and effective rural extension

2 Competitiveness and Innovation

Promote timely and relevant scientific and technological developments

Improve coffee quality from farm level

Promote initiatives that generate a positive impact on the environment

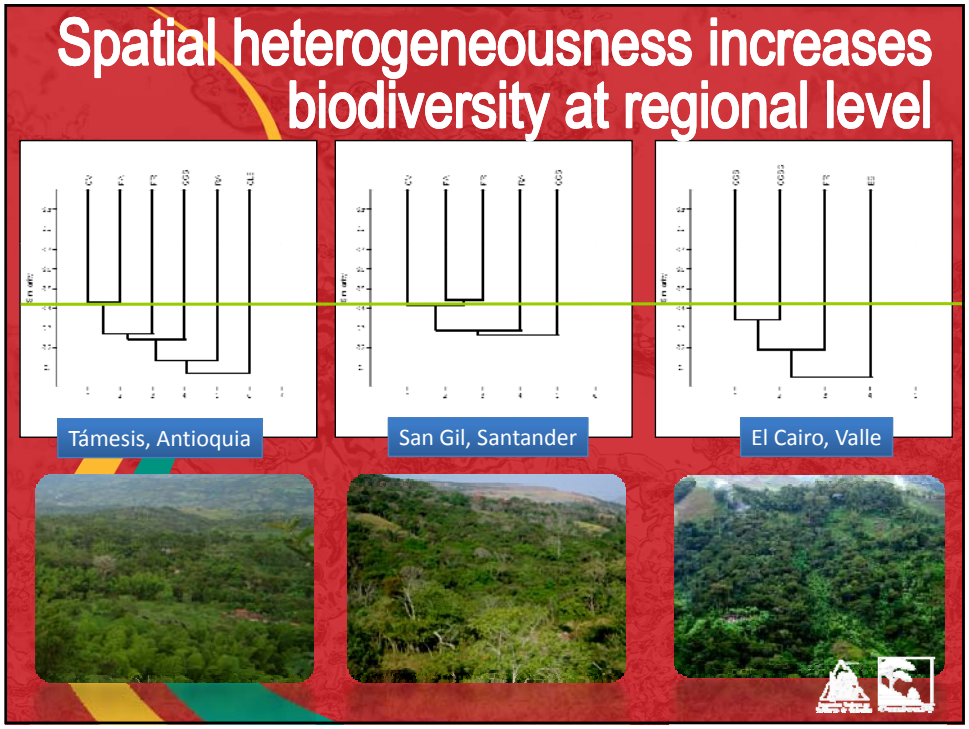
6. Promote initiatives that generate a positive impact on the environment

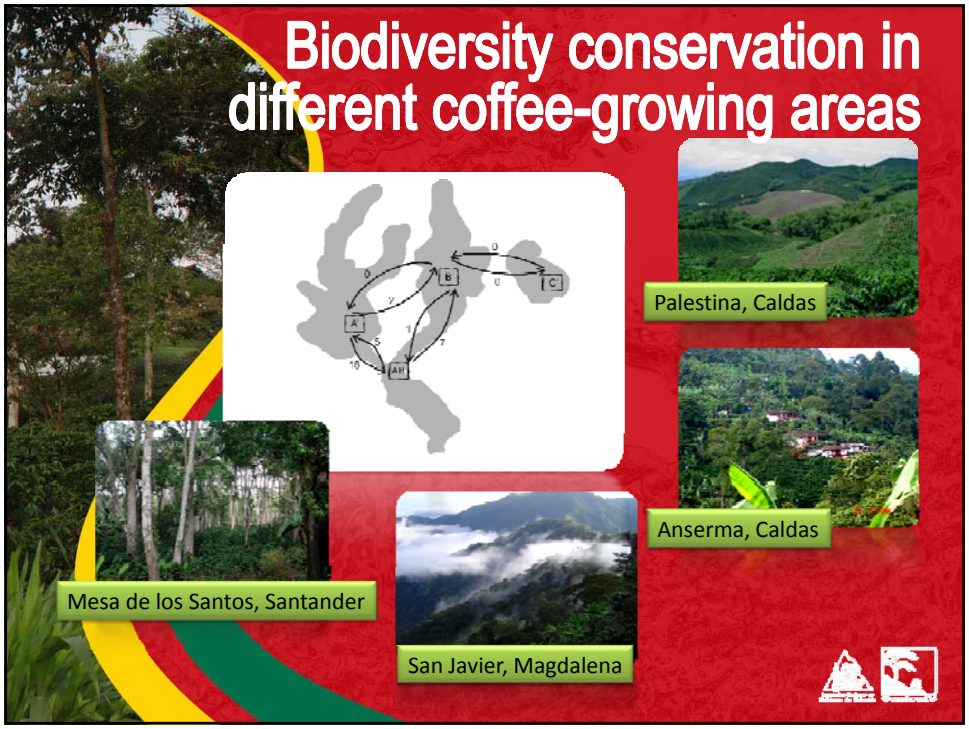
Strategies

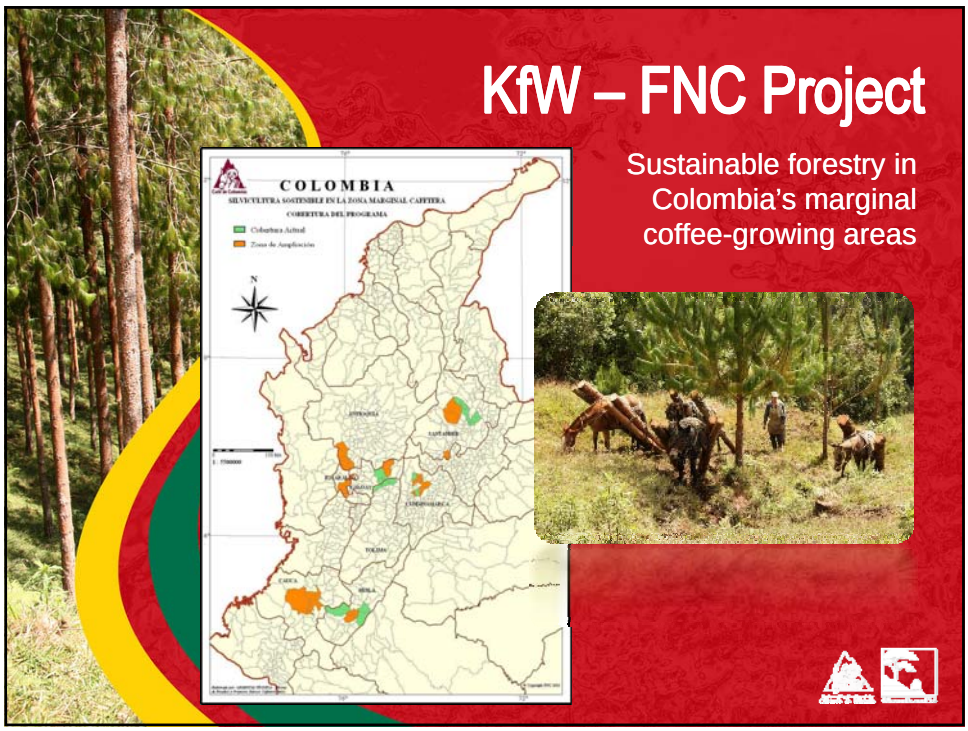
a. Protect and promote the productive value of biodiversity in coffee areas
b. Encourage protection and sustainability of water and forestry resources
c. Develop and implement a coffee strategy to mitigate the effects of climate change
d. Participate actively in the carbon markets and environmental services
e. Establish Alliances with public and private bodies to develop environmental protection activities

What makes the National Federation of Coffee Growers of Colombia competitive?
DEMOCRACY
Participatory nature of the FNC
Producer-led coffee projects
Transparency and effectiveness
Credibility
PREVIOUS EXPERIENCE
KFW Project
International cooperation projects
Speciality coffee
Traceabililty
Knowledge
INSTITUTIONAL CAPACITY
Organizational capacity, leadership, convocation capacity
National coverage
Access to 3.6 million hectares
Capacity to implement a high-profile portfolio
TOOLS AVAILABLE
CREFT Model Cenicafé
SICA
Aerial photography
Satellite images
Geographical information systems

Environmental Sustainability
What does our work involve?
• We study various taxonomic groups as environmental indicators (flora, fauna)
• In various types of countryside (woodland, coffee plantation)
• On various spatial scales (coffee plantation, farm, region)
• Asking various scientific questions
• Working with the community: coffee farmers and their families, extension workers

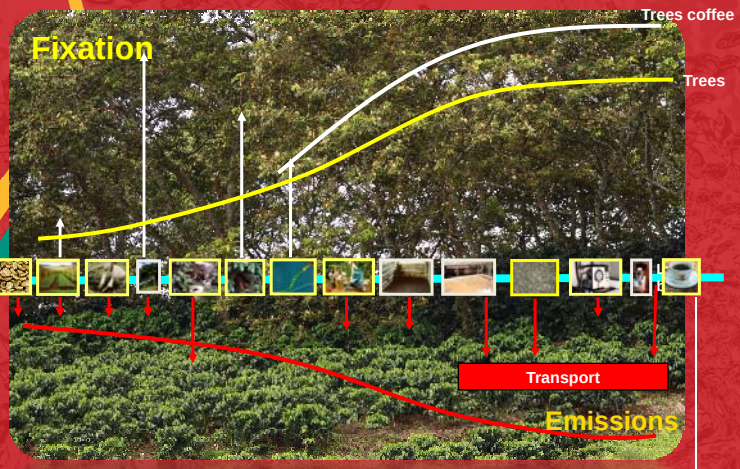

Spatial heterogeneousness increases biodiversity at regional level
Támesis, Antioquia
San Gil, Santander
El Cairo, Valle


Biodiversity conservation in different coffee-growing areas
Palestina, Caldas
Anserma, Caldas
Mesa de los Santos, Santander
San Javier, Magdalena


KfW – FNC Project
Sustainable forestry in Colombia's marginal coffee-growing areas
COLOMBIA

Global Environment Facility (GEF) Project
Incorporation of biodiversity in Colombia's coffee-growing areas
Nariño
Valle
Quindío
Conservation and sustainable use of biodiversity in coffee growing areas
Connexion corridors
Land cover

Carbon Neutral Project



Carbon neutral = zero (0) emissions
Fixation = emissions

Environmental Sustainability

- Experience and institutional capacity of the National Federation of Coffee Growers of Colombia, factor for the successful outcome of environmental sustainability incentives in Colombia.
- Adoption of conceptual and methodological framework of the Millenium Ecosystem Assessment Programme. The only sub-global assessment for coffee.
- Development of innovative coffee-related projects in Colombia: climate change, carbon neutral, sustainable forestry, biodiversity conservation.

Cenicafé
National Coffee Research Centre
Working for colombian coffee growers since 1938
Useful links:
http://www.millenniumassessment.org/en/Multiscale.aspx
http://www.cenicafe.org
http://www.humboldt.org.co/humboldt/mostrarpagina.php?codpage=5000312
http://www.cafedecolombia.com
http://www.maweb.org/en/GraphicResources.aspx
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