

Group 1

Environmental Monitoring

Concept

Understand land surface processes
and

Human interactions

- Functionality
- Monitoring
- Technology development

Prepare

- Scenarios
- Management tools
- Mitigation action
- Socioeconomic aspects

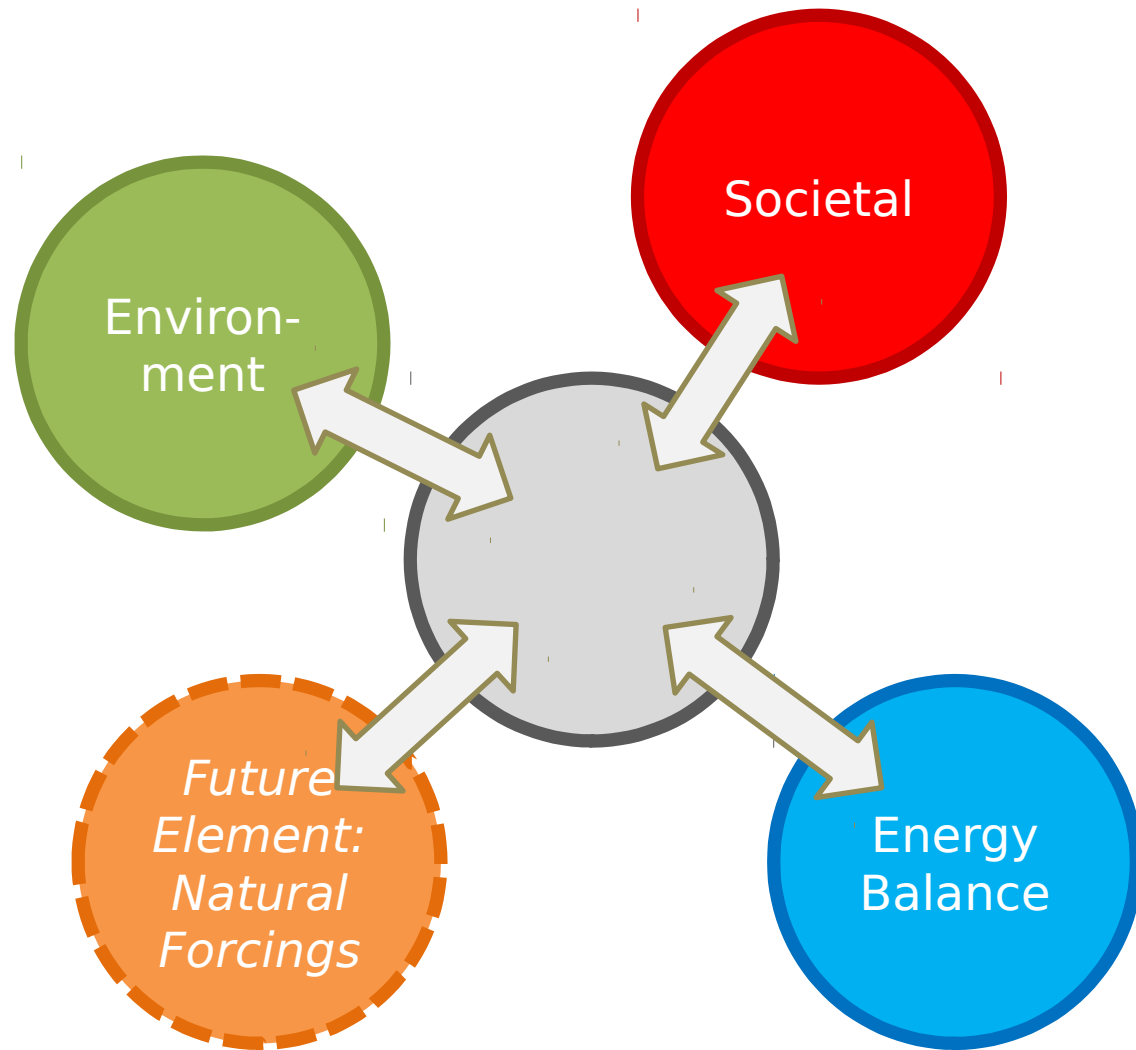
Inform

- Education
- Feedback

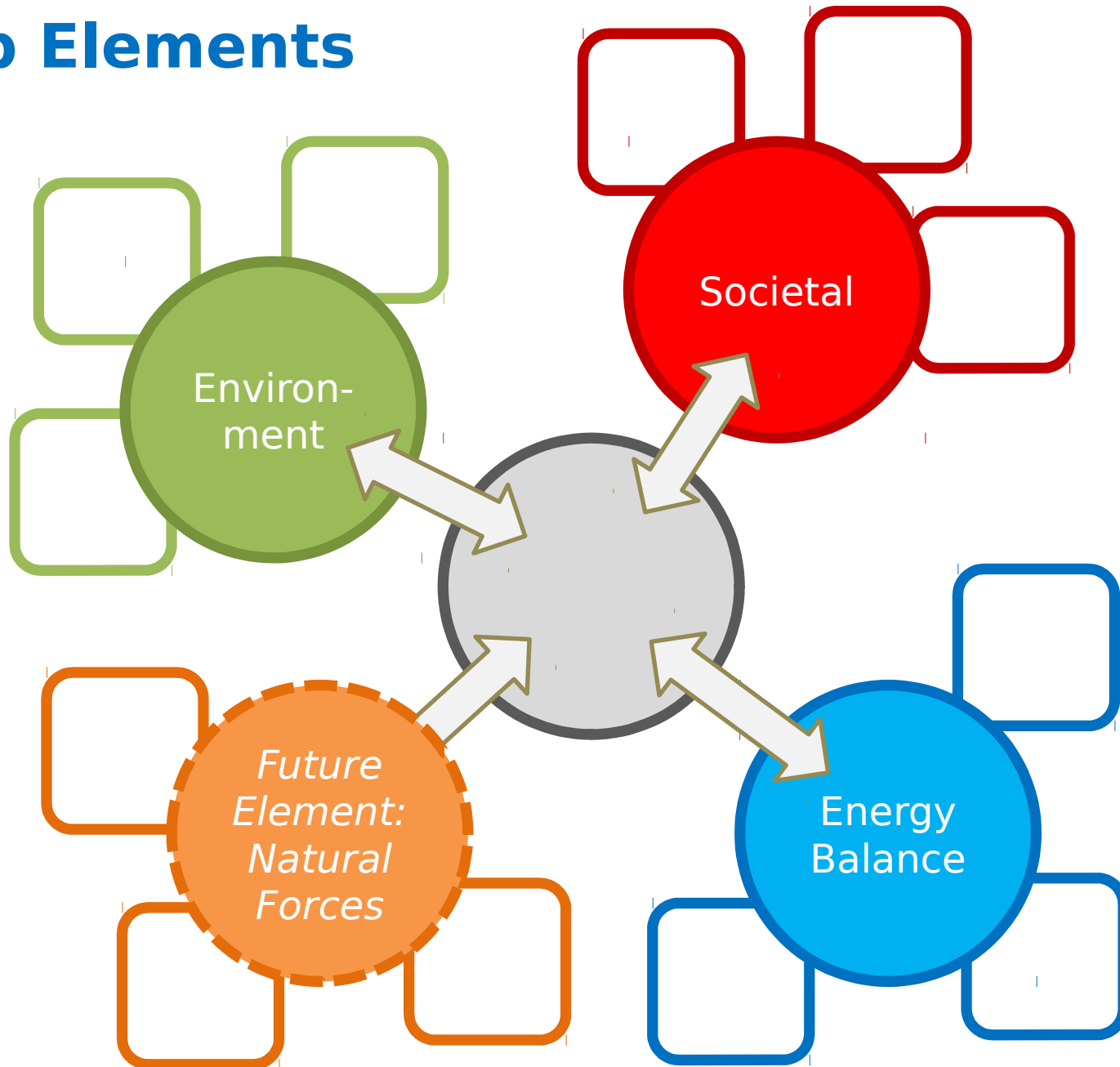


Working Title:
**Towards
Sustainable
Land Use**

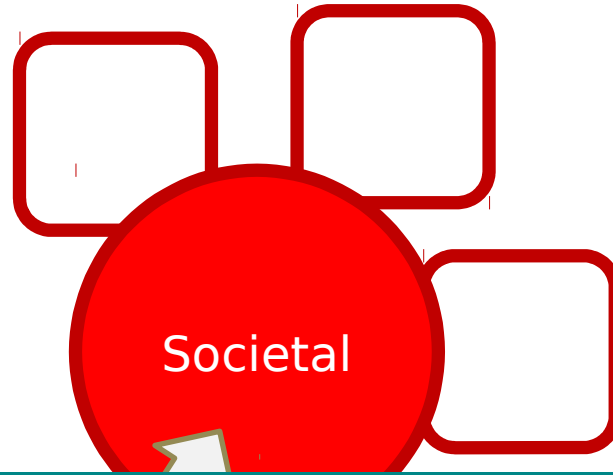
Core Elements



Sub Elements



Sub Elements



MONEO

The logo graphic for MONEO features a circular inset showing a landscape with a blue sky, green hills, and brown ground. A satellite icon is positioned to the right of the circle.



Concept and Elements

- Energy -

Optimization of bioenergy production towards carbon and nutrient neutrality (example agriculture)

Develop a system for an improved and sustainable energy balance management

- Monitoring + analyses (MONEO + models)
- Technology towards optimization of energy generation
- Scenario modelling

Impact to

- Agriculture: erosion, carbon emission, soil degradation, waste, loss of nutrients, ...
- human income, economic aspect
- negative reputation of CRs organic agro products
- High energy demand

To improve the agricultural productions system through a better energy balance management

Concept and Elements

- Energy -

Harnessing the innovative potential of land managers to facilitate sustainable adaptation of and use systems to global change

- Conventional innovation ignores the innovation potential of land managers
- Academic solutions sometimes not adapted to reality of land managers

- Identify and evaluate „grassroot“ innovations by land managers
- Identify factors that foster innovative behavior
- Set up innovation platform and

Extended innovation system providing innovative solutions, adapted to the physical and economic environment in which land

Objectives

Concept and Elements

- Societal -

- Attitudes, perceptions and behaviors (general and personal)
- personal perceived risk
- Readiness of change
- Building program

Human Impact /Influence on the Eco System

Further our understanding of the social ecological awareness of the Costa Rican population (how do people understand the relationship between human and the eco-system, their risk perception and their readiness to change)

Target group determination:

- MONEO (Environment)
- Socioeconomic (age, income ...)

Survey studies
Linkage back to env.

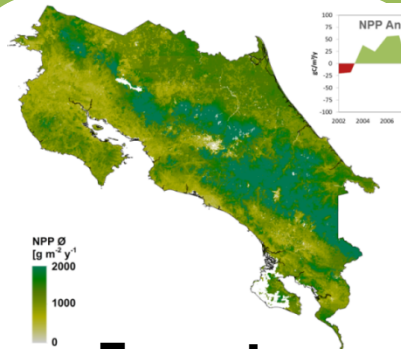
Methods

- Academic Institutions
- Governmental Institutions

Partners

Concept and Elements

- Envi



Forests

=

C sinks?

- Improve predictions of forest C sequestration and storage
- Effects of degradation / role of secondary forests /

Towards a better understanding of forest functionality (health) monitoring
(includes biodiversity, productivity, ecosystem services)

properties on ground
- MONEO - proxies for forest properties
- Relate biodiversity information (species richness)

Concept and Elements

- Envi

- Analysis of the agricultural system (crops, soils, etc.)
- Crop types: e.g. pineapple, sugarcane, oil palm, ...

- Environmental impact (effects on soil properties, erosion, pollution, pesticide and antibiotics detection in soil, water and fertilizers)



Dynamics of crop plantations

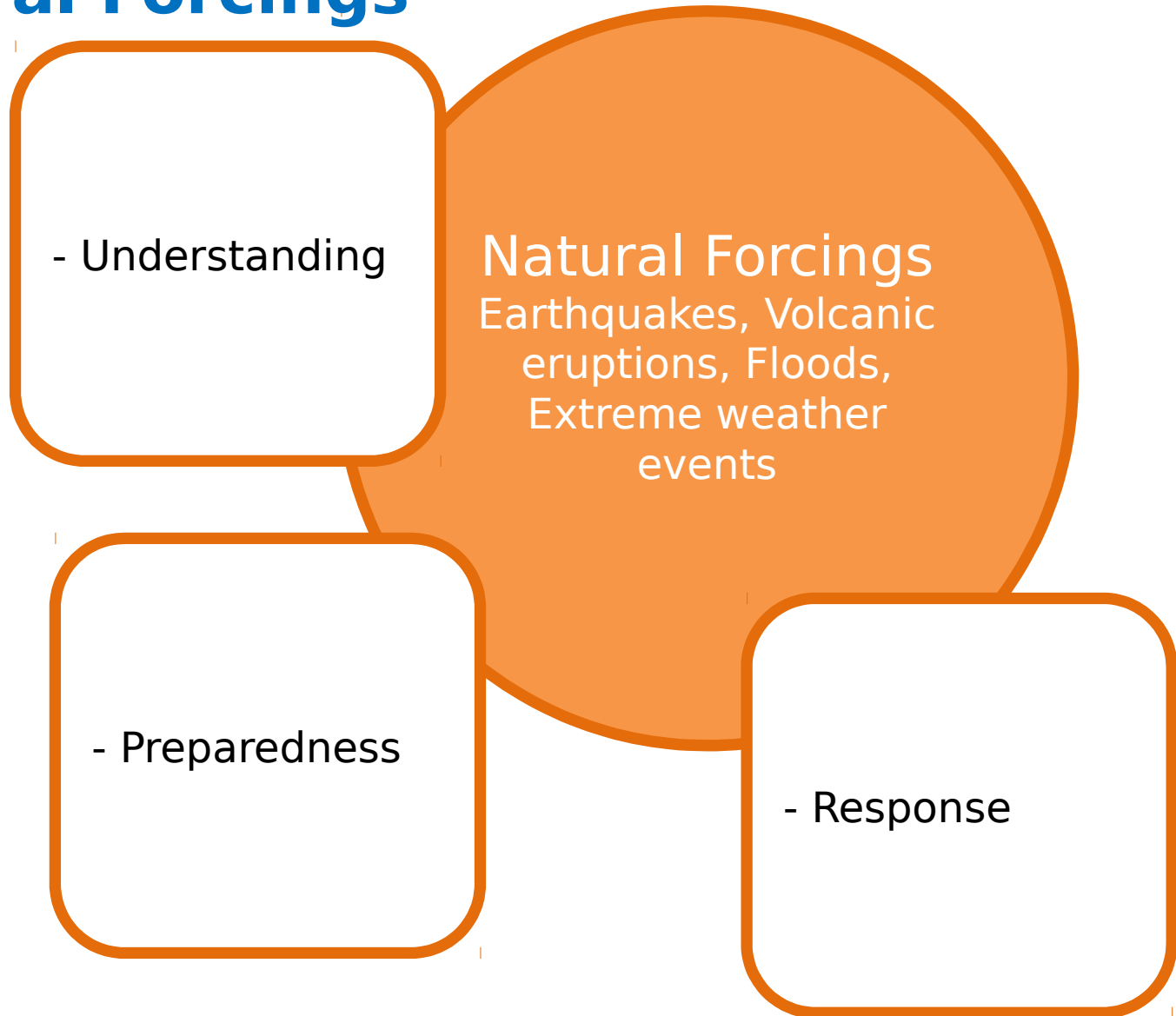
Effects of degradation /
role of plantations /
REDD+

- MONEO -

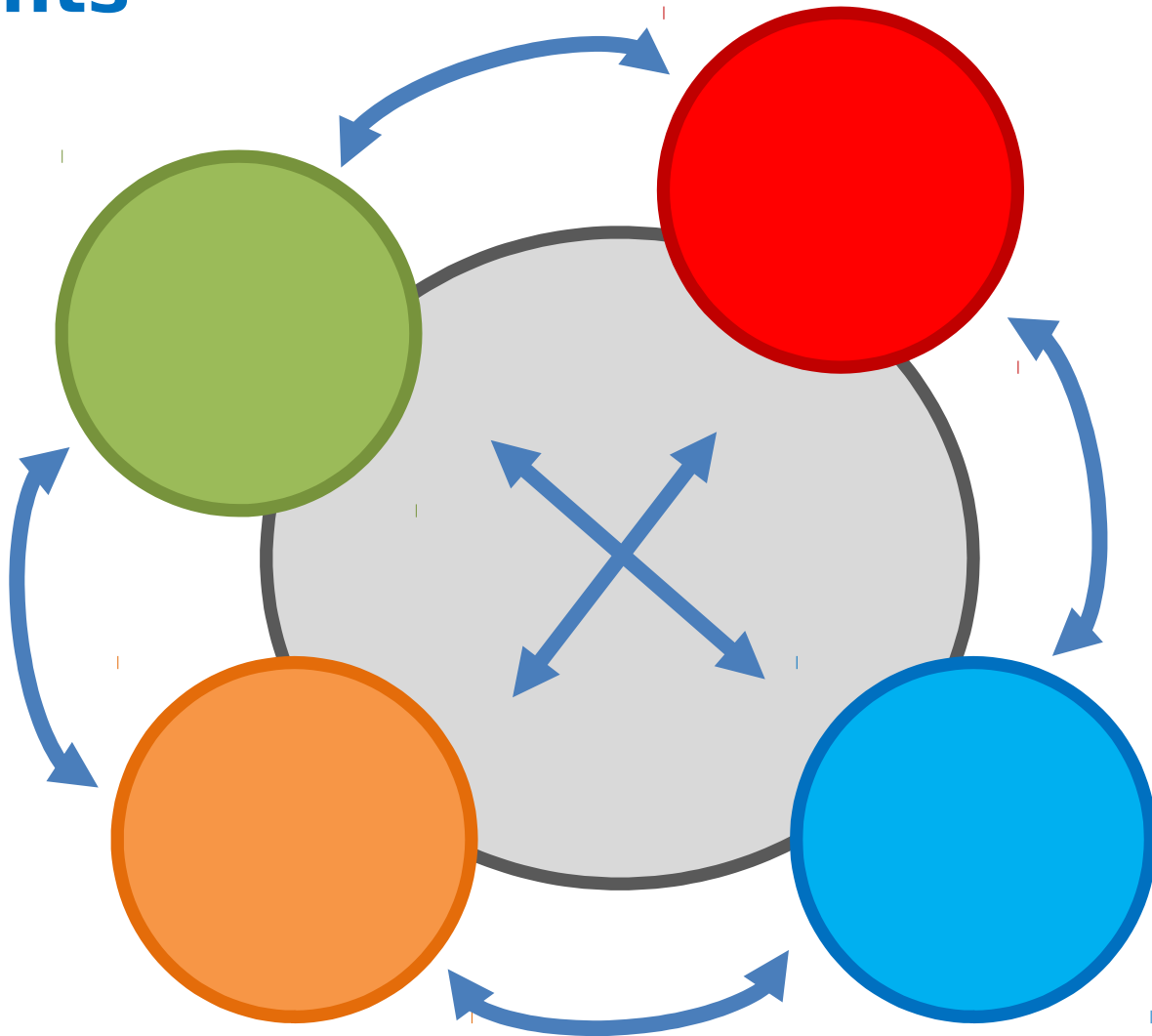
- Spatial distribution of crop plantations (e.g. pineapple, sugarcane, oil palm)
- Temporal dynamics of crop coverage

Future Element

- Natural Forcings -



Linkages between Elements



Linkages between Elements and Sub Elements

