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Steps: Global Peatlands Initiative

1. Partnership meeting:
    1. Roles and focus
    2. Modality for new partners
    3. Working groups, e.g. assessment, advocacy
    4. Future: multistakeholder exchanges?
2. UNFCCC Marrakech COP22: First events
3. Assessment contributes to Global Emission Gap report 2017
4. Each partner raises funds and contributes to knowledge-sharing and products, as feasible.

Discussion

1. Questions
2. Comments
3. Something to add?

Global Peatlands Initiative

Main focus and Next steps after Initiative's first Partnership meeting, September 2016

Maria Nuutinen (FAO), Jaime Webbe& Tim Christophersen (UNEP)

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Who & what?

1. 11 organizations
2. UNEP (coordination), Ramsar, UNCCD, CBD, FAO, Wetlands International, Greifswald Mire Centre, Wold Resource Institute…
3. Concrete start in 2016
4. Current status: Collaboration for focus, resource mobilization (September 2016)

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Objectives in 3 levels

Objectives of phase 1: 2017-2019

At the global level:

- **assessment** of the status of peatlands and their importance
- policy, legislative and governance guidance & linking with other processes (UNFCCC; CBD, UNCCD)

At the national level:

- Identify and begin to respond to the **needs of pilot countries**
- building the knowledge base
- developing options to **reduce degradation**
- improve the sustainability of peatland management
  - through **restoration and the development and adoption of sustainable peat strategies and action plans**.

+ Triangular exchange and cooperation (prev. South-South)

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Steps

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FAO's work related to peatlands

Maria Nuutinen, Armine Avagyan, Anne Branthomme, Liesl Wiese, Julian Fox, Adam Gerrand, Jiwon Rhee, Fracesco Tubiello, Javier Monte Serrano, Giulia Conchedda, Serena Fortuna and Héctor Cisneros Velarde, Martial Bernoux, Louis Bockel, Uwe Grewer & Laure-Sophie Schiettecatte, FAO

Ramsar Peatlands and climate workshop, September 2016

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Context

- FAO's mandate: End hunger & support coutnries in achieving food security
- Objective: Make agriculture sectors (crop, livestock, forestry, fisheries and aquaculture more productive and **sustainable**
- Guidance for emission reductions & securing other ecosystem services
  - Development context
  - Peat: water, food products
  - Livelihood aspects
    - Also: alternative livelihoods

Boy running from peat fire, Central Kalimantan, Indonesia
Photo: Alue Dohong

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FAO's peat-related work

1. Knowledge, policy & capacity development
   - support to countries (UNFCCC)
   - publications and case studies
   - data: greenhouse gas emission database; process guidance → reporting
   - REDD+: reduced emissions from deforestation and forest degradation
2. Technical guidance & support
   - Landscape restoration
   - National processes e.g. NAMAs, NAPs → NDCs (land use & tenure; climate)

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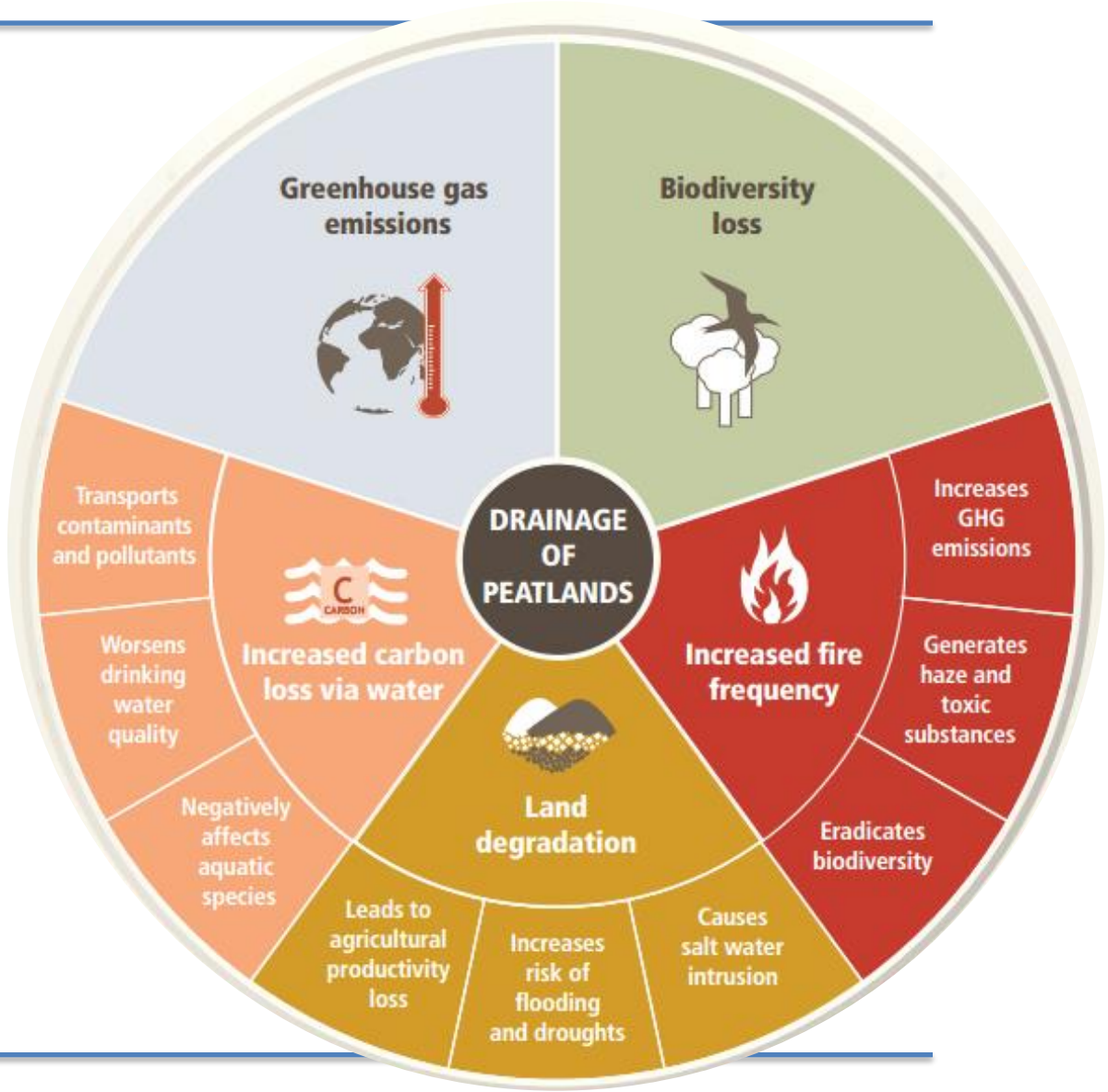
Data & communicating it

Drained peatlands cover cause aprox. 10 % GHG emissions of the Agriculture, Forestru and other Land Use (AFOLU) sector.



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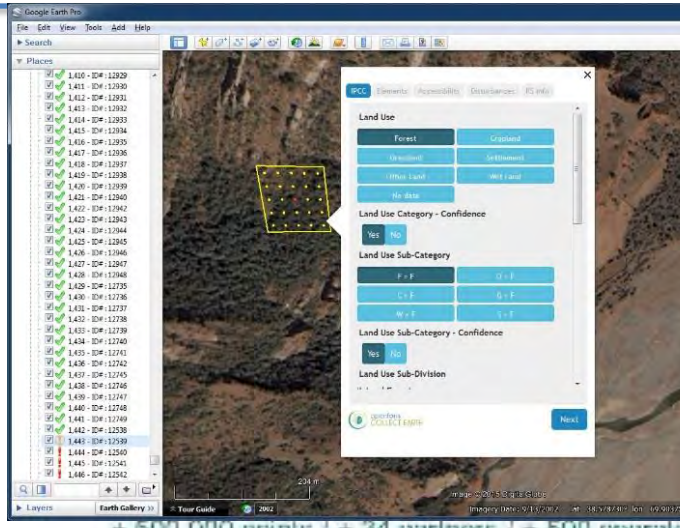
Peatland mapping



1. Google–FAO collaboration to support mapping & monitoring
   - Sample-based approach
   - Uses high-resolution data + local knowledge

   → Combined with ancillary data (e.g. soil maps) could provide a solution for peatland mapping

2. Pilot Global Assessment of tree cover under way

3. Radar processing

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SEPAL

SYSTEM FOR EARTH OBSERVATION DATA ACCESS, PROCESSING & ANALYSIS FOR LAND MONITORING

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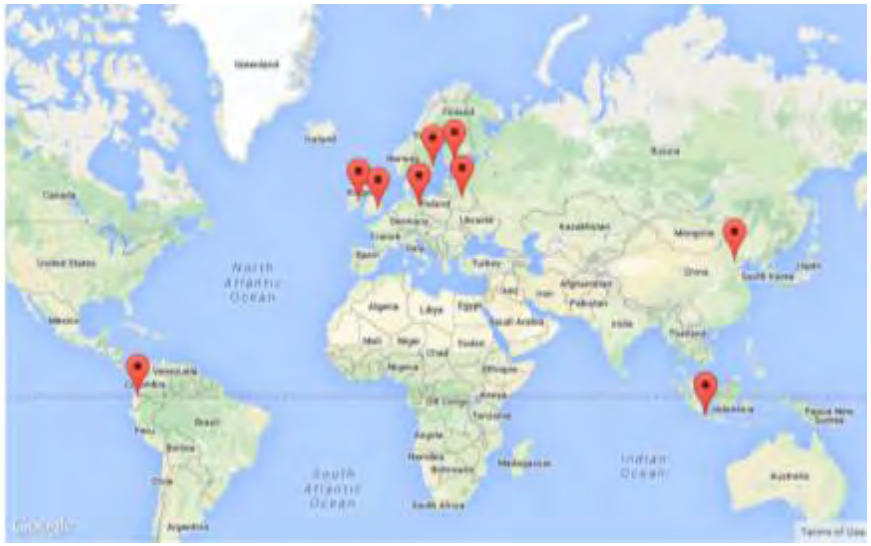
Case studies on peatlands management practices

Objective: Share information about existing peatland management practices and assess their impacts on:

- livelihoods,
- land subsidence,
- greenhouse gas emissions,
- water quality,
- biodiversity and other ecosystem services.



- Launched in June 2015
- 18 case studies from 9 countries

Available through www.fao.org/in-action/micca/

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EX-Ante Carbon balance Tool

Estimating carbon sequestration and emissions from peatlands management activities

DRAINAGE OF ORGANIC SOILS – ON SITE AND OFF SITE EMISSIONS

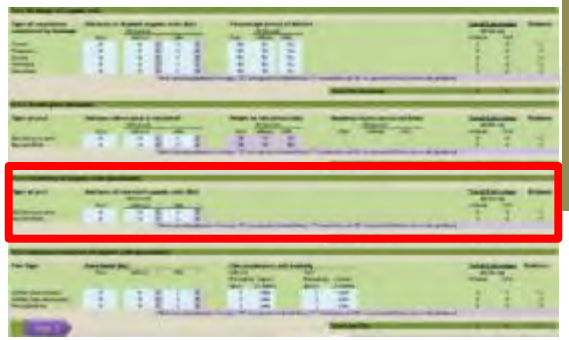
Type of vegetation concerned by drainage	Surfaces of drained organic soils (ha)					Percentage (area) of ditches			
		At the end					At the end		
	Start	Without		With		Start	Without	With	
Forest	0	0	D	0	D	5%	5%	5%	
Plantation	0	0	D	0	D	5%	5%	5%	
Annual	0	0	D	0	D	5%	5%	5%	
Perennial	0	0	D	0	D	5%	5%	5%	
Grassland	0	0	D	0	D	5%	5%	5%	

TIER 2

Please indicate the dominant quality of peat, this can influence the emissions factors below: Nutrient-poor

Type of vegetation concerned by drainage	Emissions from loss of C associated with drainage – Emission factor (t C/ha/yr)		CH4 emissions associated with drainage – From drained soils – Emission factor (kg CH4/ha/yr)		From ditches		N2O emissions associated with drainage – N2O Emission factor (kg N2O-N/ha/yr)		Off-site emissions via waterborn carbon losses – CO2 Emission factor (t C/ha/yr)	
	Default	Tier 2	Default	Tier 2	Default	Tier 2	Default	Tier 2	Default	Tier 2
Forest	5.30		4.9		2259		2.40		0.82	
Plantation	15.33		2.7		2259		2.25		0.82	
Annual	14.00		7.0		2259		5.00		0.82	
Perennial	14.00		7.0		2259		5.00		0.82	
Grassland	9.60		7.0		2259		5.00		0.82	

EX-ACT Module: REWETTING OF ORGANIC SOILS – ON SITE AND OFF SITE EMISSIONS



Organic soils module – explanation step by step

2 kinds of soil

Area on which rewetting will be carried, to be filled by the user, and dynamic of the rewetting

Type of peat	Surfaces of rewetted organic soils (ha)				
		At the end			
	Start	Without	*	With	*
Nutrient-poor peat	0	0	D	0	D
Nutrient Rich	0	0	D	0	D

Proposed IPCC default factors depending on climate zone and nutrients status

Possibility for the user to affect its own ad-hoc factor

TIER 2

Emissions factors for the rewetting of organic soils							Off-site emissions via waterborn carbon lossses	
Type of peat	CO2 Emission factor (t C/ha/yr)		CH4 Emission factor (kg CH4/ha/yr)		N2O Emission factor (kg N2O-N/ha/yr)		CO2 Emission factor (t C/ha/yr)	
	Default	Tier 2	Default	Tier 2	Default	Default	Default	Tier 2
Nutrient-poor peat	0.00		41		0		0.51	
Nutrient Rich	0.00		41		0		0.51	

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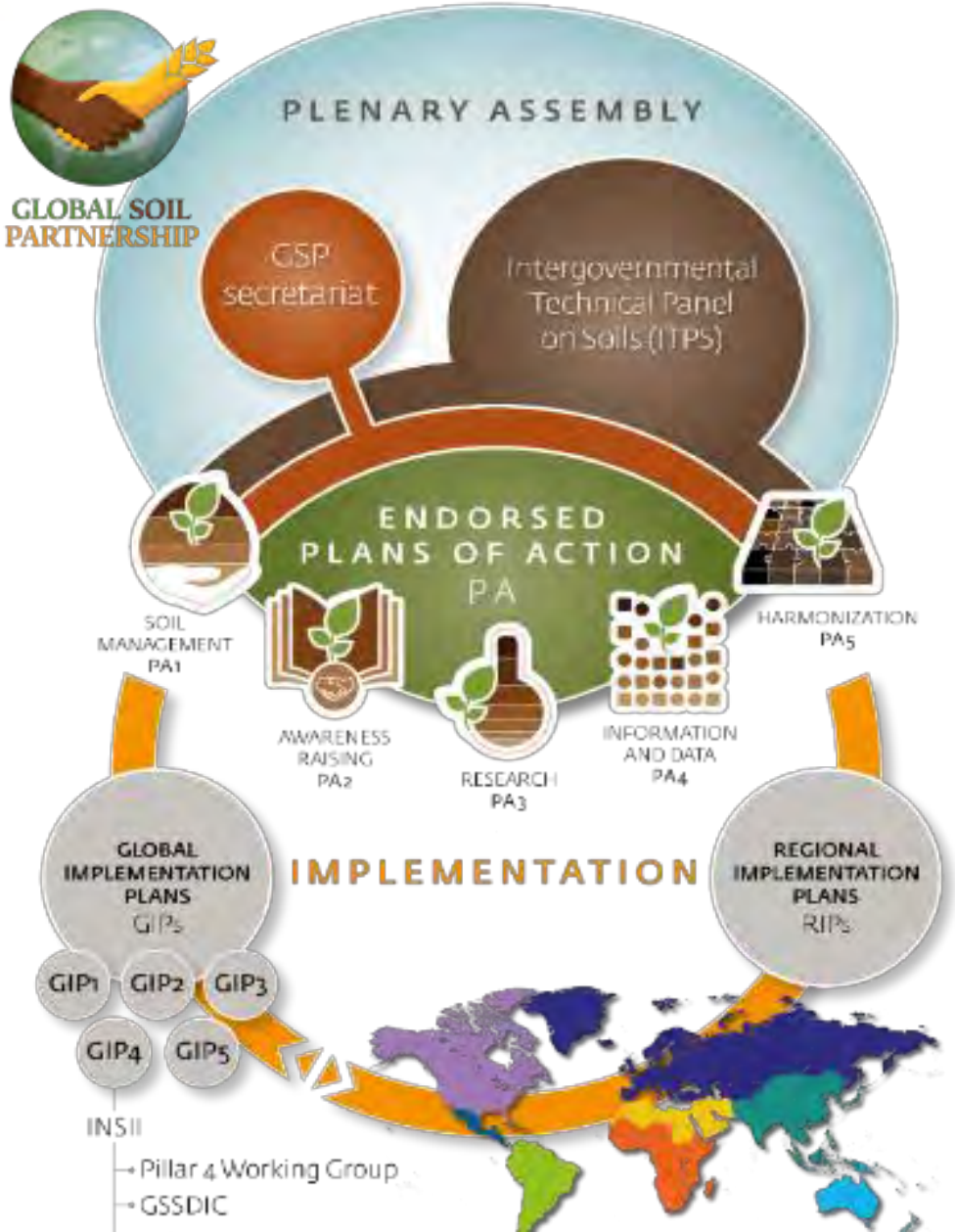
Global Soil Partnership



Developing a **global Soil Organic Carbon map** by 2017 as baseline

In support of SDG Indicator 15.3.1:
Proportion of land that is degraded over total land area

Through support and involvement of FAO member countries

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Conclusions

1. Key objectives: Connect to larger processes for bigger impact
   - climate-related planning & implementation processes
   - international goals and standards
   - natural resource and landscape management
   - development aspects for sustainability

2. Support to countries:
   1. Addressing countries' needs
   2. Improving coordination
   3. Building national capacity

Thank you

Contact:
maria.nuutinen@fao.org

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Thank you!

www.fao.org/in-action/micca/

www.fao.org/in-action/forest-landscape-restoration-mechanism/

www.fao.org/global-soil-partnership

www.fao.org/forestry/fma/

www.fao.org/forestry/fma/88744

Maria.Nuutinen@fao.org

COUNTRY CASES: INDONESIA AND PERU

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FAO in Indonesia

1. Focus: sustainable peatland restoration and management, wildfire and smoke prevention and reduction through high-level collaboration
2. Activities:
    1. Developing alternative livelihoods
    2. Support to national entities
    3. Contribute to One Map programme
    4. REDD+ and Forest Reference Emission Level support

3. Results up to date

1) Raised awareness and interest in sustainable management options
2) Support to the new peatland restoration agency

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Paludiculture is an integral part of the roadmap of the Peatland Restoration Agency

Strategy 3 : Implementing sustainable peatland management at landscape level (peatland hydrological unit/KHG)

1. Phasing-out drainage-based agriculture/silviculture on peatland
2. Restoration of degraded peatland on concession as part of phasing out drainage-based usage

3. Hydrological restoration
4. Vegetation restoration through natural and assisted revegetation

5. **Identifying and piloting sustainable paludiculture** options
6. **Developing market for commodities suitable for wet peatland production/cultivation**

7. **Implementation of sustainable management practices**

Source: Presentaion of Budi Wardhana, Deputy of Planning and Cooperation, Peatland Restoration Agency (BRG)

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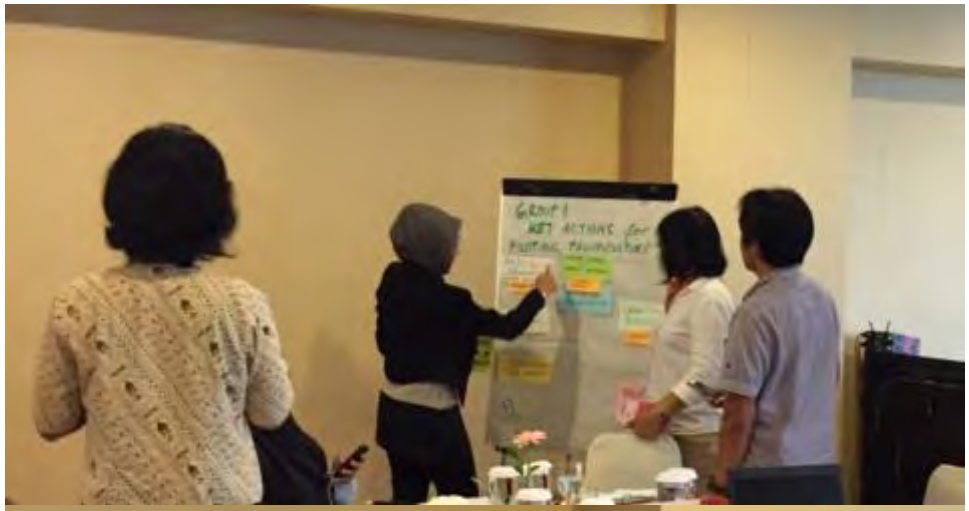
Workshop outcomes: Peatland paludiculture in Indonesia



- Paludiculture practice was identified as a practice with a high potential and paludiculture varieties for testing were proposed.
- Potential partnerships to achieve responsible peatland management together with Peatland Restoration Agency and key partners is developed.
- An initial roadmap for piloting paludicultures and building monitoring system was produced.

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Conclusions of the workshop

Halt peatlands drainage, address drivers, rewet already drained areas, and monitor the progress and emissions.

Piloting, testing and promotion and developing market for paludiculture commodities is required.

Paludiculture cultivation is line with the strategic plans of the Peatlands Restoration Agency and MOEF.

FAO proceeds to pilot paludiculture-aquaculture integrated practice for providing clear and quantifiable evidences for future.

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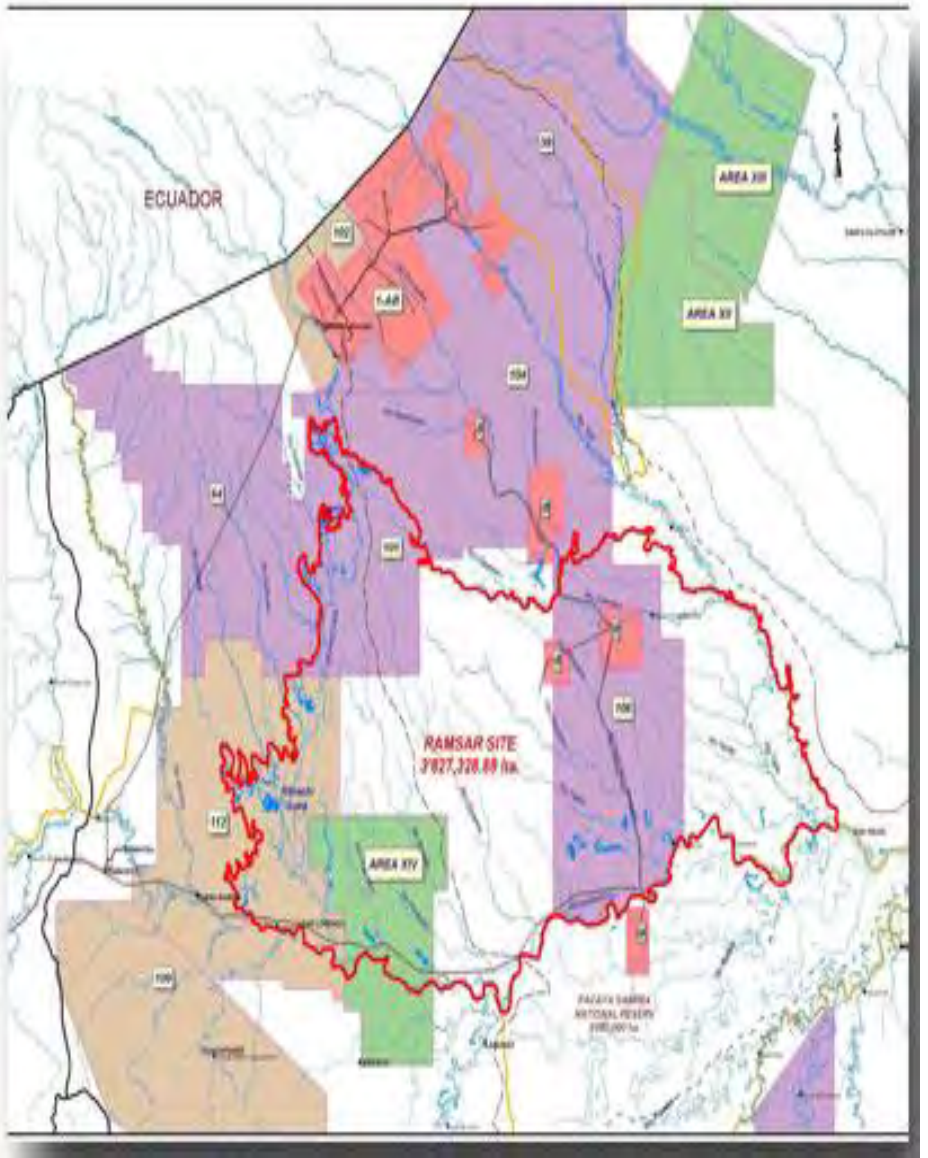
PERUVIAN WETLANDS



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Peru's AGUAJALES: example of a product development

Mauritia flexuosa

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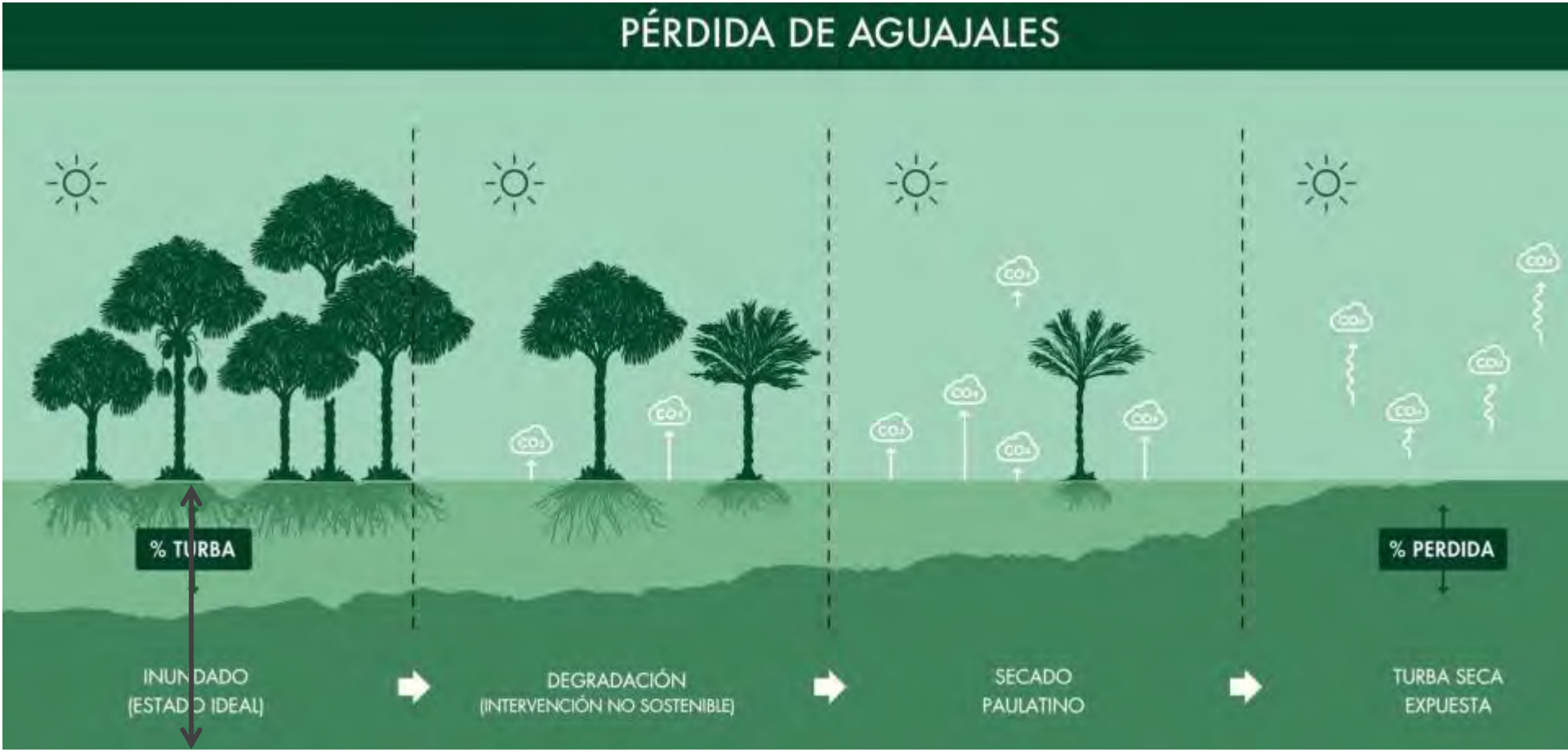

Local development

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Suri

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BIONEGOCIOS – AGUAJE

Harina de aguaje

Aceite de aguaje

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BIONEGOCIOS - AGUAJE

Pulpa de aguaje

Chupetines de aguaje

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FAO in Peru

1. Focus: Sustainable use of Amazonian peatlands
2. Activities:
    1. Policy analysis;
    2. tenure regimes;
    3. conflicts and unsustainable use;
    4. valuation of peatlands in Peru;
    5. detailed mapping
3. Expected results: Policies proposals and peatland conservation national plan; including monitoring

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FAO in Congo

1. **Focus by 2016**: MRV, National Forest Monitoring System development for REDD+ and sustainable forest management; & Landscape restoration
2. **Activities**:
   - National forest inventory → REDD+ & land use planning
   - Forest change mapping, Satellite land monitoring
3. **Results**
   - Peatlands partially covered because: hard to access
     - field work starting
   - Methodology for field inventory in peatlands
     - including soil measurements

To note: Unknown location of swamp forests.

Relevant policy processes on land use starting with FAO's involvement.

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Further materials

- www.fao.org/in-action/micca/knowledge/peatlands-and-organic-soils
- www.fao.org/climate-change/resources/submissions/
- FAOSTAT estimates of greenhouse gas emissions from biomass and peat fires http://link.springer.com/article/10.1007/s10584-015-1584-y
- A Worldwide Assessment of Greenhouse Gas Emissions from Drained Organic Soils http://www.mdpi.com/2071-1050/8/4/371
- www.fao.org/in-action/forest-landscape-restoration-mechanism/
- www.fao.org/global-soil-partnership
- www.fao.org/forestry/fma/ and www.fao.org/forestry/fma/88744/
- www.fao.org/investment/othercollaboration/global-environment-facility/

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EX-ACT IS

"A **simple** tool to provide **rapid** *ex-ante* estimations of the impact of **agriculture & forestry development projects** on GHG emissions and carbon sequestration, but using data already available (**cost-effective**) within classical formulation or evaluation of existing project."

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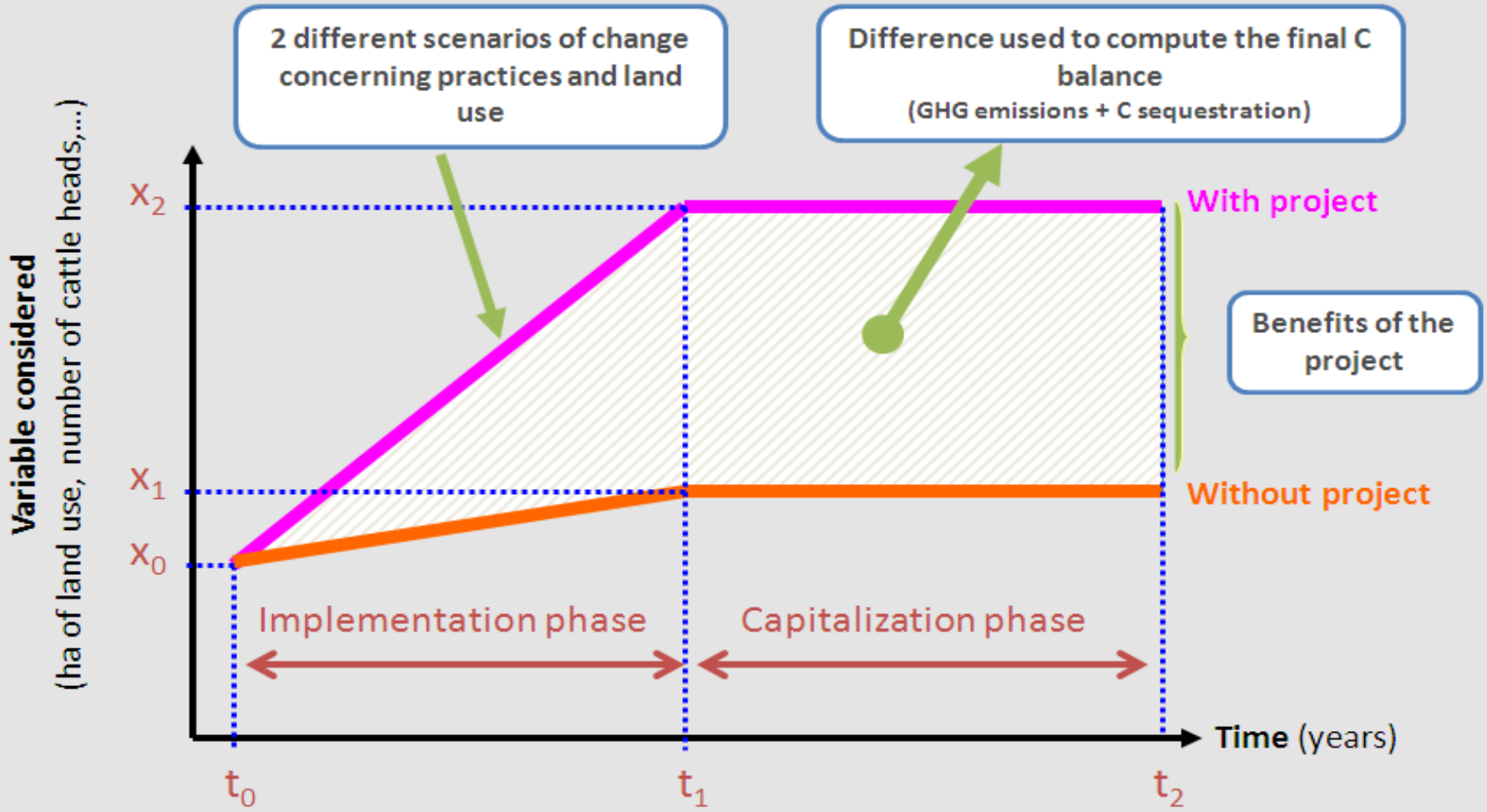
Ex-Ante Carbon balance Tool



Features of EX-ACT

- A set of linked Microsoft Excel sheets
- Structured in 8 logical topic modules*
- Based on land use and management practices
- Equipped with a set of resources (tables, maps FAO statistical data) that help to populate the tool
- Using **NGGI-IPCC default values** (Tier 1) and/or **region specific coefficients** (Tier 2)

- Numerous languages (**Bahasa Indonesia included**)

*

Description | Land Use Change | Crop production | Grassland Livestock | Management Degradation | Coastal Wetlands | Inputs Investment | Fisheries Aquacultur

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2 guidelines: NGGI-IPCC 2006 & 2013

NGGI-IPCC 2006

Provided **methodologies** for estimating GHGs anthropogenic emissions (sources) and removals (sinks).

Restricted to:

- Peatlands drained and managed for **peat extraction**
- Some guidance for **drained organic soils**

NGGI-IPCC 2013

Provides updated **emission factors**, guidance and covers

- Inland organic soils & wetlands on mineral soils

→ **Integrated into EX-ACT as:**

- **Organic soils module**
- **Drainage, fires, rewetting**
- **On- and off-site emissions**

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Strategies to reduce GHG emissions

Improve fire management

Priority is to conserve intact peatlands
Rewet drained peatlands • Restore previous ecosystem • Apply climate-responsible peatlands management
Implement adaptive management where rewetting is not possible.


Photo: Inken Preuss

There is a **limited knowledge** about existing climate-responsible practices which reduce GHG emissions, improve livelihood and adapt ecosystems to climate change.