Food and Agriculture Organization of the United Nations

Template and explanatory notes to document peatlands management case studies

Mitigation of Climate Change in Agriculture (MICCA) Programme of FAO

2014

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Acknowledgements

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Title

Location

Author(s), organization(s)

Click inside the box to add an image.

Insert a title of the technical picture of the site and practice.

Summary

1. Practice description

Area of the site (ha)	
Current land cover/use	
Previous land cover/use	
Origin of intervention	
Types of intervention used in the area	☐ Rewetting ☐ Drainage ☐ Cultivation of crops ☐ Grazing ☐ Forestry ☐ Aquaculture ☐ Fishery ☐ Other
Duration of implementation	
Main purpose of the practice	
Level of technical knowledge	○ low ○ medium ○ high
Water table depth from surface (m)	
Present active drainage system (m)	Width of channels Distance between channels
Subsidence (cm year^{-1})	Before practice After practice

2. Implementation of activities, inputs and costs

N	Establishments of activities	Inputs/materials	Duration	Cost
1				
2				
3				
4				

Remarks

3. Environmental characteristics

Climate	◯ tropical ◯ temperate ◯ boreal
Average annual rainfall (mm)	
Altitude (m a.s.l.)	
Slope (%)	
Peat depth (cm)	☐ ≤ 30 ☐ 30-50 ☐ 50-100 ☐ 100-300 ☐ >300
Peatland type based on the water source	◯ fen ◯ bog ◯ undefined
Hydrologic network	
Main vegetation species	Before practice After practice
Water quality	Water pH Water turbidity (FTU) Dissolved organic carbon content (mg L^{-1}) After practice / Before practice

4. Socio-economic dimension

Local stakeholders	
Land tenure	
Land, water, and other natural resource access and use rights	
Conflicts	
Conflict resolution mechanism	
Legal framework	
Products derived from the peatland	
Market orientation	

5. Assessment of impacts on ecosystem services

1 highly decreasing/ 2 moderately decreasing/ 3 slightly decreasing/ 4 neutral/ 5 slightly increasing/ 6 moderately increasing/ 7 highly increasing

Provisioning services	Agricultural production	☐
	Food security and nutrition	☐
	Employment	☐
	Income	☐
	Non-timber forest products (NTFPs) yield	☐
	Livelihoods opportunities	☐
	Resilience and capacity to adapt to climate change	☐
	Other	☐
Socio-cultural services	Gender equality	☐
	Learning and innovation	☐
	Other	☐
Regulating services	Waterborne carbon (DOC) loss	☐
	Fire frequency	☐
	Biodiversity	☐
	Subsidence rate	☐
	Other	☐
Off-site benefits	Water quality	☐
	Frequency of flooding	☐
	Other	☐

6. Climate change mitigation potential

1 highly decreasing/ 2 moderately decreasing/ 3 slightly decreasing/ 4 neutral/ 5 slightly increasing/ 6 moderately increasing/ 7 highly increasing

Impact	Rate	Estimate ($t\ ha^{-1}\ year^{-1}$, CO_2 eq)	Remarks
Net GHG emission			
CH_4 emission			
CO_2 emission			
N_2O emission			
Increase carbon sequestration/storage aboveground			

7. Additional information

Title

Location

Author(s)

Organization(s)

Click inside the box to add an image.

Insert a title of the technical picture of the site and practice.

Indicate the source of the image

Summary

Provide a short summary (max . 200 words) of the practice, indicating its impacts on GHG emissions, ecosystem services and livelihoods.

1. Practice description

Area of the site (ha)
Enter the land size in hectares (100 ha =1 km^2).

Current land cover/use
Indicate the current land use e.g. forestry, cropland (annual or perennial), grassland, peat extraction land, plantation (please specify the type e.g. oil palm, sago palm), shrubland, aquaculture, fishery, non-timber forest products (NTFPs) collection, settlement, other (please specify).

Previous land cover/use
Enter the previous land use of the area: wetland (natural/ pristine peatland), forestry, grassland, peat extraction land, plantation (please specify the type e.g. oil palm, sago palm), cropland (annual or perennial), shrubland, aquaculture, fishery, NTFPs collection, settlement, other (please specify).

Origin of intervention
List the origin of the intervention: land user or private sector initiative, experiment or research project, government incentive, civil society project, other (please specify).

Types of intervention used in the area
Select the type of intervention. More than one option is possible.

- ☐ Rewetting
- ☐ Drainage
- ☐ Cultivation of crops
- ☐ Grazing
- ☐ Forestry
- ☐ Aquaculture
- ☐ Fishery
- ☐ Other (please specify)

Duration of implementation
Indicate duration (months, years) of the practice.

Main purpose of the practice
Identify two main purposes for implementing the practice e.g. reduction of GHG emissions, water quality improvement, income generation, improvement of livelihoods, fire risk reduction, protection of indigenous species, other (please specify).

Level of technical knowledge

- ○ low
- ○ medium
- ○ high

Water table depth from surface (m)

Present active drainage system (m) *The data should describe a dranage system of the current practice. If it is available, attach a schematic representation of the drainage system in the additional information section.*	Width of channels	
	Distance between channels	
Subsidence (cm year^{-1})	Before practice	
	After practice	

2. Implementation of activities, inputs and costs

N	**Establishments of activities** *The data should describe a dranage system of the current practice. If it is available, attach a schematic representation of the drainage system in the additional information section.*	**Inputs/materials** *Indicate required inputs and materials e.g. pump, tractor, construction materials for blocking drainage channels, seedlings etc.*	**Duration** *Enter the duration of each activity (months, years).*	**Cost** *Evaluate the cost in USD and rank it high/ medium/low.*
1				
2				
3				
4				

Remarks	

3. Environmental characteristics

Climate *Select the climatic zone.*	◯ tropical ◯ temperate ◯ boreal
Average annual rainfall (mm) *Insert the average annual rainfall in mm (if available, please use the average data for the last 10 years).*	
Altitude (m a.s.l.) *Insert the altitude in metres above sea level.*	
Slope (%) *Insert the slope in percent.*	

Peat depth (cm) *Indicate the peat depth in cm.*	☐ ≤ 30 ☐ 30-50 ☐ 50-100 ☐ 100-300 ☐ >300
Peatland type based on the water source *Select the type of peatland based on the water source.*	◯ fen — *A peatland that receives water and nutrients both from the atmosphere and groundwater.* ◯ bog — *A peatland that receives water and nutrients both from the atmosphere and groundwater.* ◯ undefined
Hydrologic network *List the hydrologic systems that are connected with the peatland e.g. river, lake, sea or please indicate if the peatland is not connected to any aquatic system.*	
Main vegetation species *Mention the dominant three plant species.*	Before practice After practice
Water quality *Indicate the values of pH, turbidity and dissolved organic carbon (DOC) content.*	Water pH *Insert the value of water pH in drainage channels.* Water turbidity (FTU) *Insert the value of water turbidity in drainage channels.* Dissolved organic carbon content (mg L^{-1}) (optional) — After practice / Before practice

4. Socio-economic dimension

Local stakeholders *Identify local stakeholders farmers, investors, seasonal pastoralists, fisher, folk etc.*	
Land tenure *Enter the land tenure type e.g. private, state/government, communal, cooperative, tribal, customary etc.*	

Land, water, and other natural resource access and use rights *Specify the land, water, and other natural resource access and use rights relevant to the current practice (formal/customary).*	
Conflicts *Describe, if they exist, types of conflicts e.g. over rights to use, between different groups (e.g. local people and private sector).*	
Conflict resolution mechanism *Describe the conflict resolution mechanism, if any exist.*	
Legal framework *Provide a list of key laws and governing institutions (local, regional, national or customary) that directly influence the current practice.*	
Products derived from the peatland *List the main products e.g. biomass for biofuel, fish, timber, fuel wood, berries, mushrooms, resin, fiber, medicinal plants, cosmetic plants, aquaculture products, other (please specify).*	
Market orientation *Enter the main market orientation e.g. market, regional trading market, international market, not applicable.*	

5. Assessment of impacts on ecosystem services

*Assess the **current** practice with following criteria:*
1 highly decreasing/ 2 moderately decreasing/ 3 slightly decreasing/ 4 neutral/ 5 slightly increasing/ 6 moderately increasing/ 7 highly increasing

Provisioning services	Agricultural production	
	Food security and nutrition	
	Employment	
	Income	
	Non-timber forest products (NTFPs) yield	
	Livelihoods opportunities	
	Resilience and capacity to adapt to climate change	
	Other (please specify)	

Socio-cultural services	Gender equality	☐
	Learning and innovation	☐
	Other (please specify) _____	☐
Regulating services	Waterborne carbon (DOC) loss	☐
	Fire frequency	☐
	Biodiversity	☐
	Subsidence rate	☐
	Other (please specify) _____	☐
Off-site benefits	Water quality	☐
	Frequency of flooding	☐
	Other (please specify) _____	☐

6. Climate change mitigation potential

*Evaluate the impact of the **current** practice on GHGs emissions and carbon sequestration using following criteria:*
1 highly decreasing/ 2 moderately decreasing/ 3 slightly decreasing/ 4 neutral/ 5 slightly increasing/ 6 moderately increasing/ 7 highly increasing

Impact	Rate	Estimate ($t\ ha^{-1}\ year^{-1}$, CO_2 eq)	Remarks
Net GHG emission			
CH_4 emission			
CO_2 emission			
N_2O emission			
Increase carbon sequestration/storage aboveground			

7. Additional information

Please provide further relevant information.