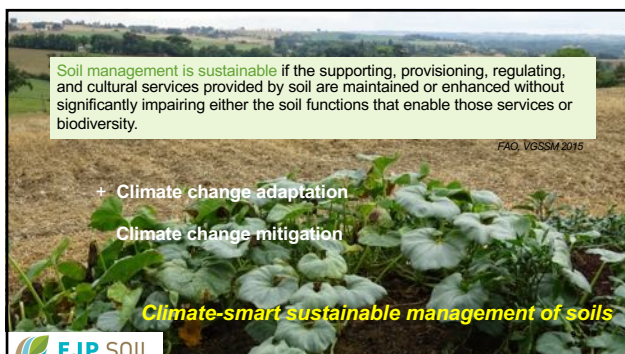


2) Solution?
Climate-smart sustainable soil management

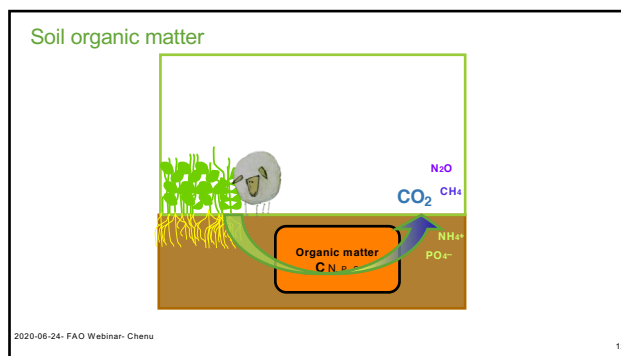
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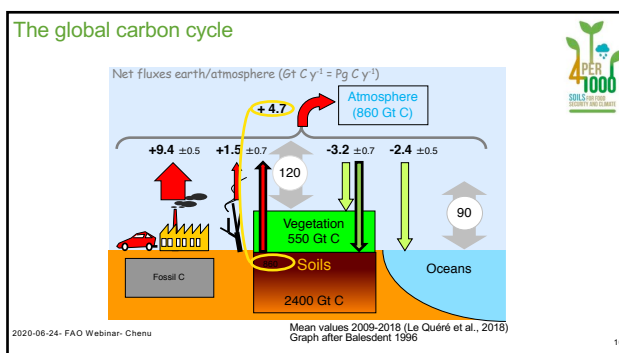
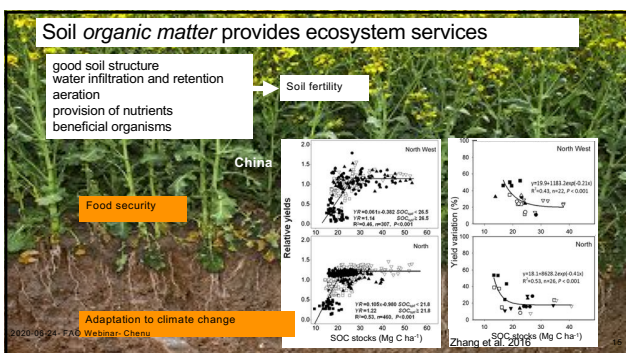
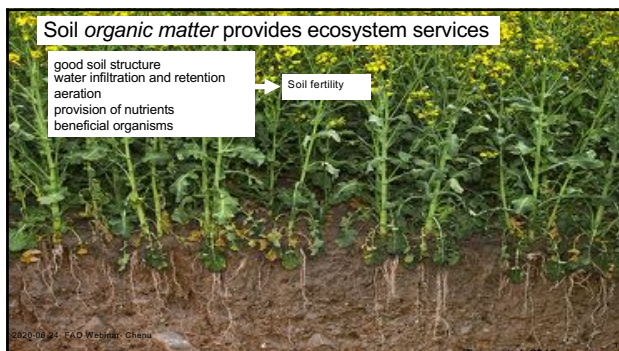
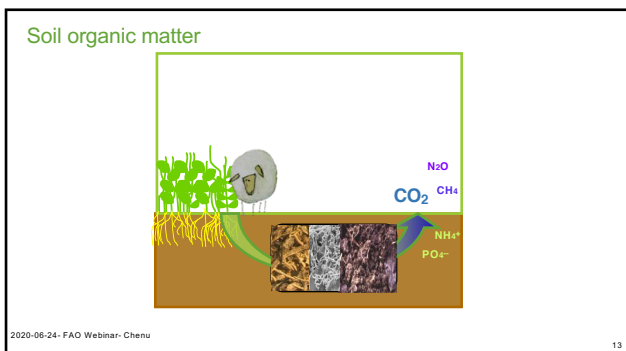


- Sustainable soil management
- Minimize soil erosion
 - Enhance soil organic matter content
 - Foster soil nutrient balance and cycle
 - Preserve and enhance soil biodiversity
 - Prevent and minimize soil acidification
 - Prevent and mitigate soil salinization and alkalization
 - Prevent and minimize soil contamination
 - Improve soil water management
 - Prevent and mitigate soil compaction
 - Minimize soil sealing
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3) Soil organic matter is key to climate-smart sustainable soil management

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4) Which management options?

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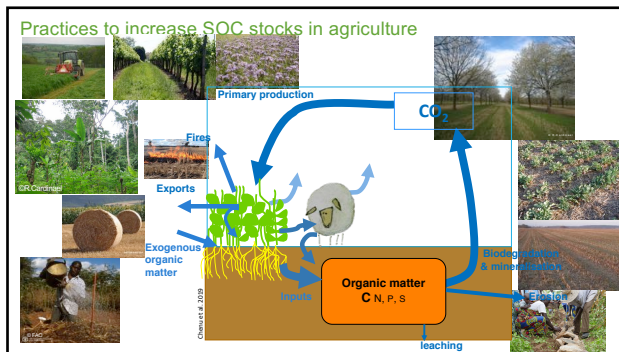


Agroforestry



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Climate-smart sustainable soil management with no SOM preservation/ increase ?

terracing




Food and Agriculture Organization of the United Nations

CLIMATE-SMART AGRICULTURE

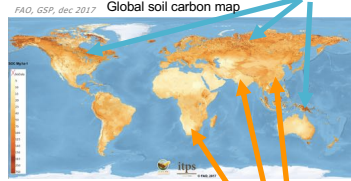
Crop diversification increases productivity and stabilizes income of smallholders

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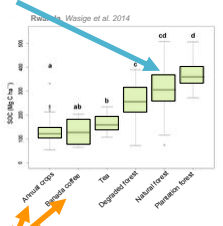
Different priorities

Protect existing SOC stocks



FAO, GSP, dec 2017

Global soil carbon map



Roelich, Wastge et al. 2014

Increase SOC stocks

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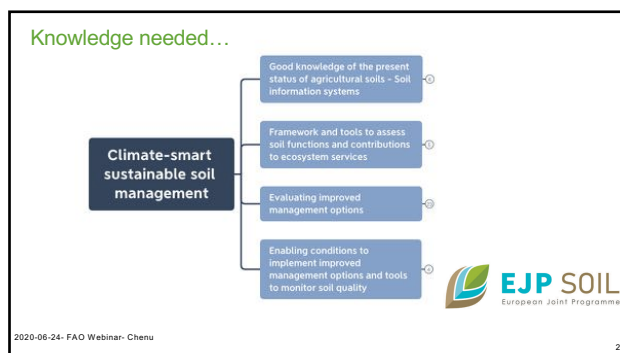
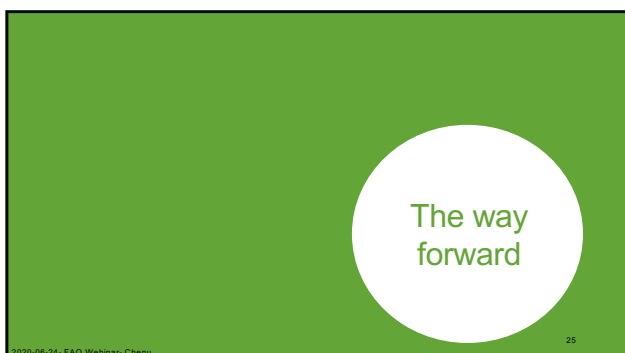


IPCC special report Climate Change and Land- 2019

Effects	Response options based on land management	Integrate	Adaptation	Resilience	Land Degradation	Food Security	Cost
Soil	Agroforestry	High	High	High	High	High	High
	Improved soil management	High	High	High	High	High	High
	Agroforestry diversification	High	High	High	High	High	High
	Improved grazing/land management	High	High	High	High	High	High
	Integrated water management	High	High	High	High	High	High
	Reduced soil erosion	High	High	High	High	High	High
	Reduced soil compaction	High	High	High	High	High	High
	Reduced soil salinization	High	High	High	High	High	High
	Reduced soil erosion	High	High	High	High	High	High
	Reduced soil salinization	High	High	High	High	High	High
Water	Agroforestry	High	High	High	High	High	High
	Improved soil management	High	High	High	High	High	High
	Agroforestry diversification	High	High	High	High	High	High
	Improved grazing/land management	High	High	High	High	High	High
	Integrated water management	High	High	High	High	High	High
	Reduced soil erosion	High	High	High	High	High	High
	Reduced soil compaction	High	High	High	High	High	High
	Reduced soil salinization	High	High	High	High	High	High
	Reduced soil erosion	High	High	High	High	High	High
	Reduced soil salinization	High	High	High	High	High	High
Ecosystems	Agroforestry	High	High	High	High	High	High
	Improved soil management	High	High	High	High	High	High
	Agroforestry diversification	High	High	High	High	High	High
	Improved grazing/land management	High	High	High	High	High	High
	Integrated water management	High	High	High	High	High	High
	Reduced soil erosion	High	High	High	High	High	High
	Reduced soil compaction	High	High	High	High	High	High
	Reduced soil salinization	High	High	High	High	High	High
	Reduced soil erosion	High	High	High	High	High	High
	Reduced soil salinization	High	High	High	High	High	High
Socioeconomic	Agroforestry	High	High	High	High	High	High
	Improved soil management	High	High	High	High	High	High
	Agroforestry diversification	High	High	High	High	High	High
	Improved grazing/land management	High	High	High	High	High	High
	Integrated water management	High	High	High	High	High	High
	Reduced soil erosion	High	High	High	High	High	High
	Reduced soil compaction	High	High	High	High	High	High
	Reduced soil salinization	High	High	High	High	High	High
	Reduced soil erosion	High	High	High	High	High	High
	Reduced soil salinization	High	High	High	High	High	High

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- Climate-smart sustainably managing soils, in particular preserving and enhancing soil carbon, brings multiple benefits
- **Benefits** ecosystem services delivery, climate change adaptation and mitigation, reducing soil degradation and restoring soils
 - preserving/ increasing soil C in is **feasible**, but heterogeneous
 - **achieve locally, spatially differentiated, global impacts**
 - **not a single good practice** but adequate combination of practises in a given context
 - **enabling environment**
 - **systems perspective, thinking**
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