



BODEM breedsymposium

Improved land management strategies for sustainable food production: examples from the EU-funded DESIRE project

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and the DESIRE consortium



What are Sustainable Land Management Strategies?

Interventions at local-regional scale aiming at:

- Increasing productivity
- Improving livelihoods
- Improving ecosystems

Soil
ecosystem
services



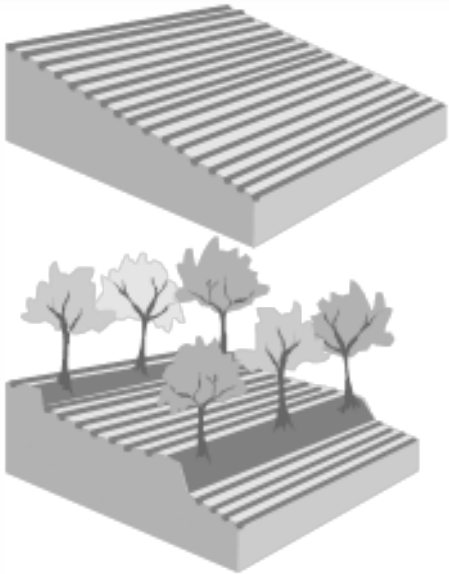
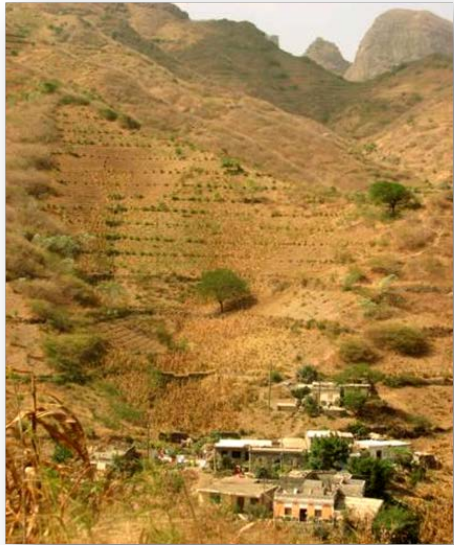
Pictures: www.wocat.net



WOCAT



World Overview of
Conservation Approaches
and Technologies



SLM
technology



SLM approach

Why research in SLM strategies ?

- Within reach of smallholder farmers
- Still need for scientific proof of performance of SLM strategies

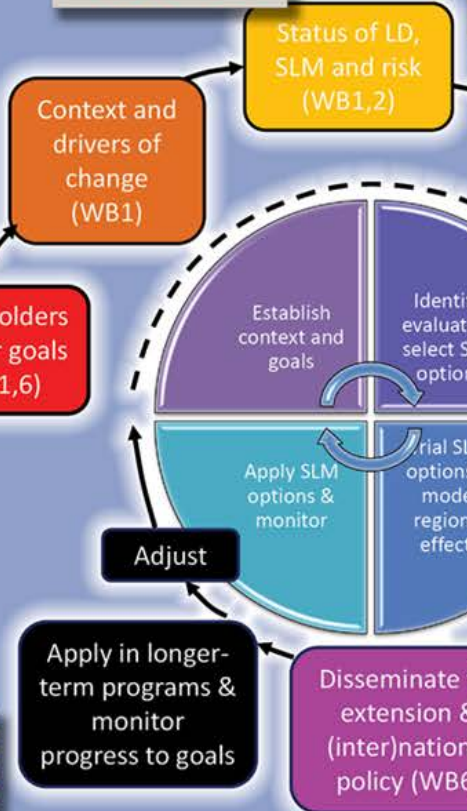
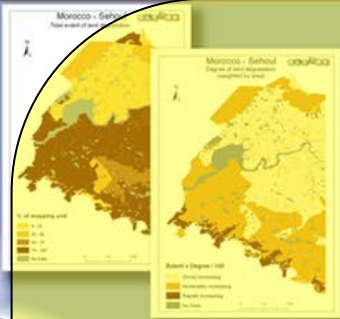
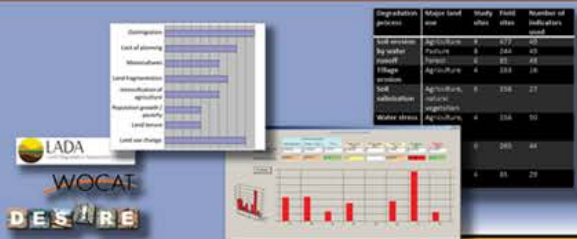


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Identify, document and evaluate SLM options (WB3)

Prioritize & select (WB3)

Trial SLM technologies in field experiments (WB4)

Model biophysical and economic effects at field & regional scale (WB4,5)

Disseminate for extension & (inter)national policy (WB6)

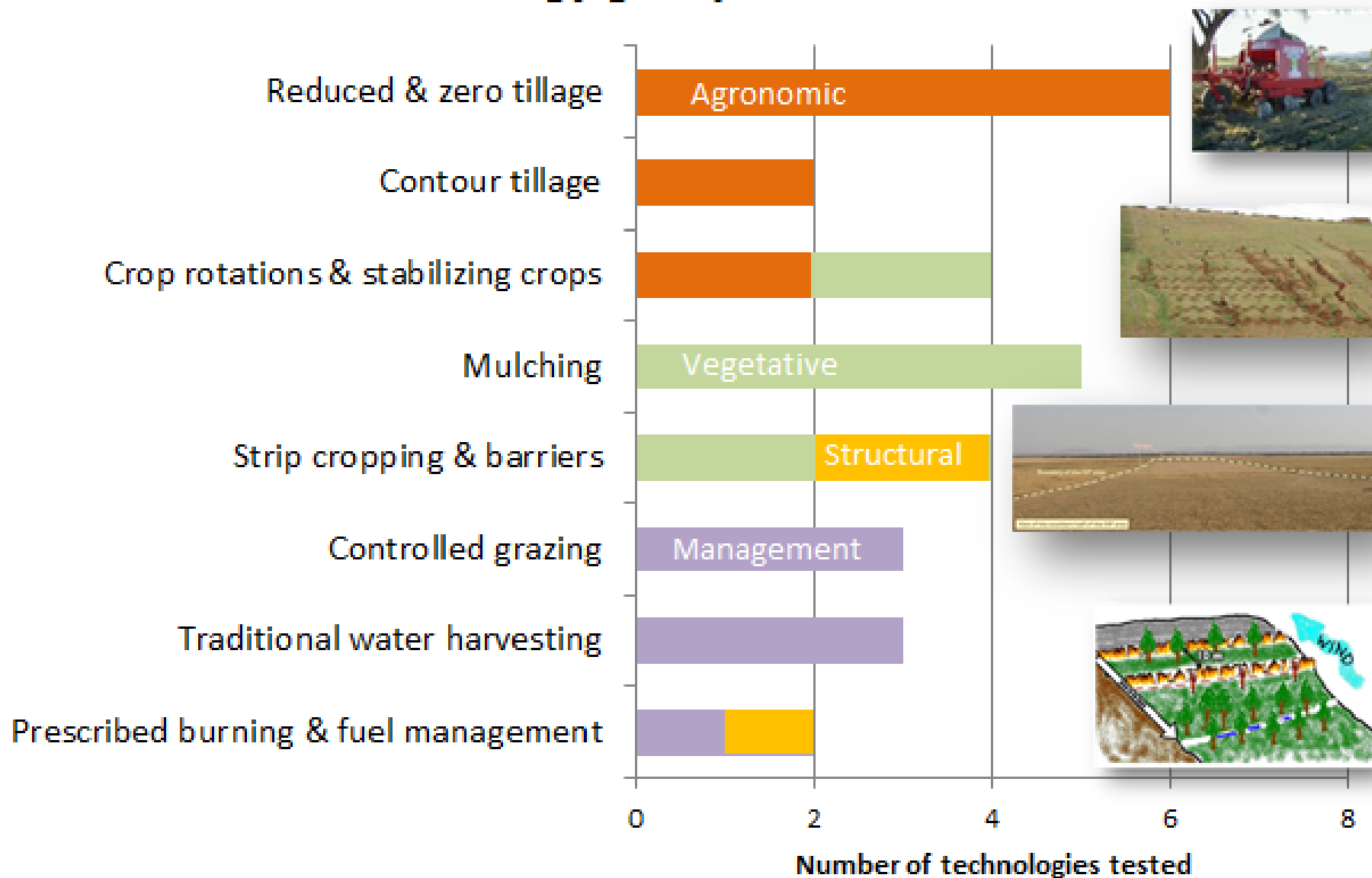
Apply in longer-term programs & monitor progress to goals



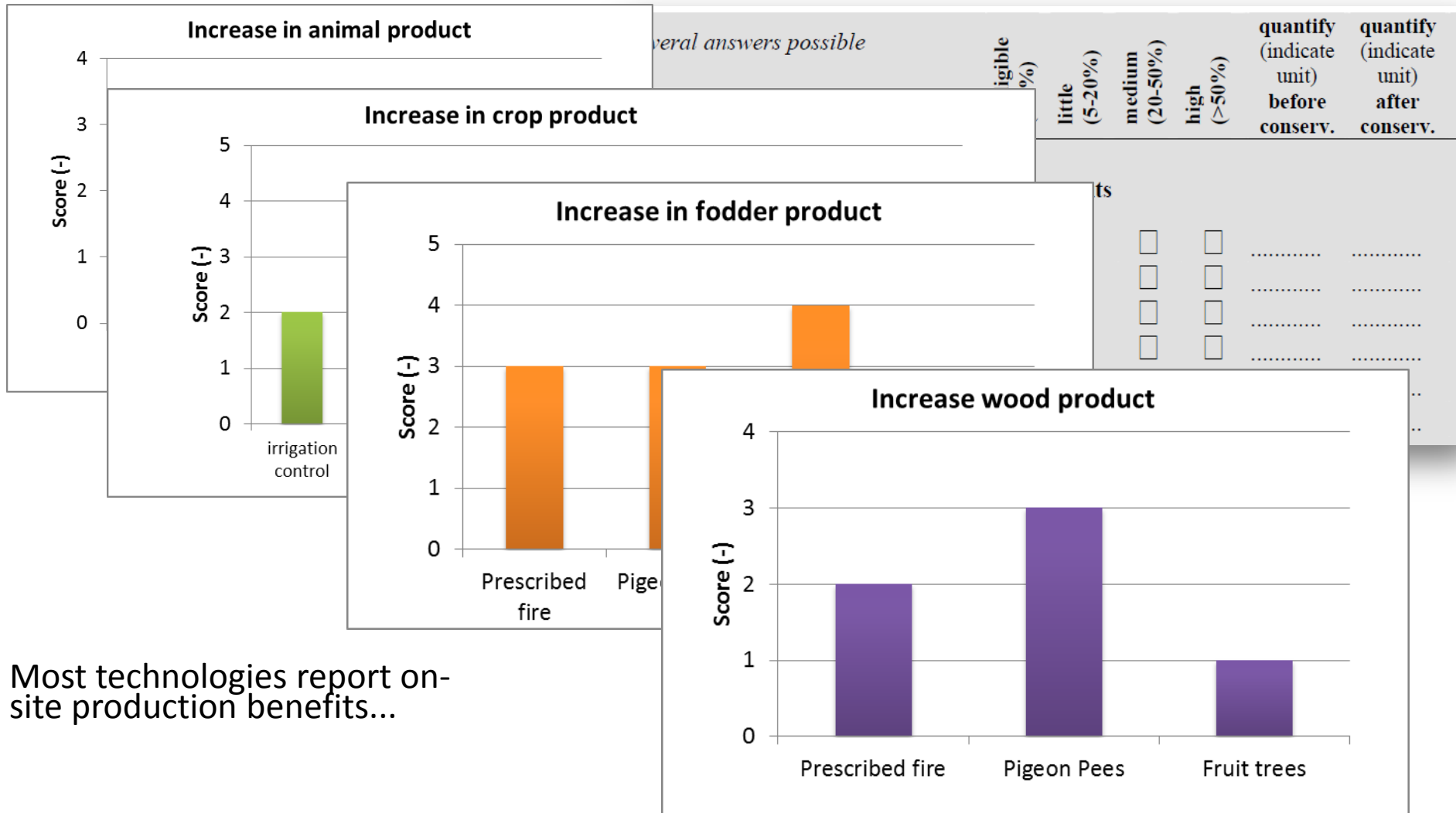
16 rural dryland areas with different manifestations of desertification



SLM Technology groups tested in DESIRE


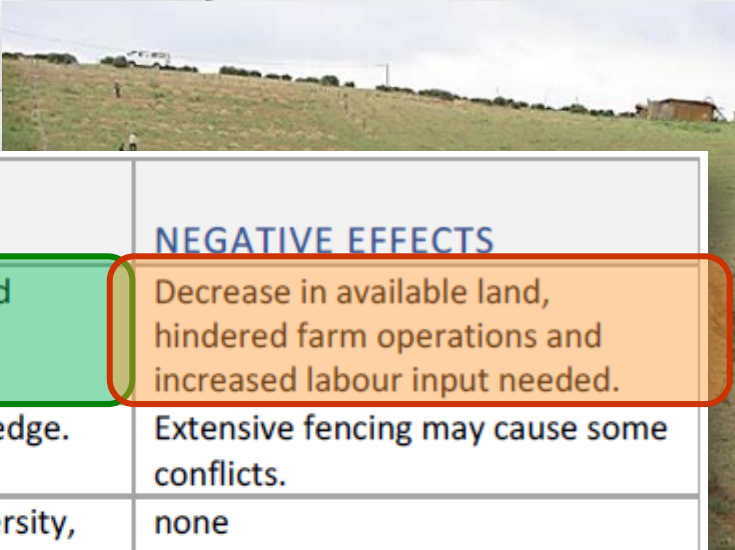


Assessment of improved food-feed-biomass production



Most technologies report on-site production benefits...

... but also socio-cultural and ecological benefits and disadvantages

Morocco - Gully stabilization			
Production			
Social	CATEGORY	POSITIVE EFFECTS	NEGATIVE EFFECTS
	<i>Production and socio-economic</i>	Increase in fodder quantity and quality, minor increase in farm income.	Decrease in available land, hindered farm operations and increased labour input needed.
<i>Ecological</i>	<i>Socio-Cultural</i>	Improved conservation knowledge.	Extensive fencing may cause some conflicts.
<i>Off site</i>	<i>Ecological</i>	Increased biomass and biodiversity, improved soil moisture and compaction reduction.	none
<i>short term \$</i>	<i>Off-site effects (assumed)</i>	Reduced siltation downstream, reduction of grazing pressure in other areas (forests).	none
<i>long term \$</i>	<i>Short term returns (1-3 year)</i>	Increase in quality fodder available after 2 years. Combined 3 year benefit approx. 50% of initial costs.	Initial costs (labour, fencing, planting, set aside) are high.
	<i>Long term return (>10 year)</i>	benefits (fodder production) are expected to be medium to high.	Maintenance costs (unknown).

Maximum bar length means on average >50% change compared to the reference situation

Farmers' perceptions



“The results of the experiment are positively regarded.

However the farmers point out that a large scale fencing and planting of the degraded lands in the region is impossible for them, without financial compensation for time and subsidized equipment and materials.

An initial set aside period of 2-3 years would mean a substantial (temporary) loss of grazing land.”

“The farmers are spectators at the moment, until the long term effects are clearer and more convincing. The general knowledge on land degradation is improving however, because of these experiments.”

Conclusions

- Success of technologies is consistently site specific
- Immediate improvement of production and socio-economic benefits required for adoption
- Implementation of SLM technologies appeared successful in sites where political changes were already supporting the implementation of these technologies



Picture: Hanspeter Liniger

For more information, visit:

www.desire-his.eu

www.desire-project.eu



Thank you for your attention!