

Capacity Development

Workshop report on: Sustainable Management of Silvopastoral Ecosystems workshop

Date: 26 February 2019

Project title: SUSTAINABLE SILVOPASTORAL RESTORATION TO PROMOTE ECOSYSTEM SERVICES IN TUNISIA

Pilot site: Ouled Sbaihia (Zaghouan, Tunisia)

Source of funding: FAO – W3/Bilateral

BUS number: 200310

Starting date: 26 November 2017

Ending date: 31 March 2019

Project leader: Dr. Mounir Louhaichi

Main Partner: Direction Générale des Forêts (DGF) **Focal Point:** Mr. Jamel Kailene

Other national partner: Ministry of Agriculture (CRDA); ESAM, GDA Ouled Sbaihia, and INGRES.

Objective: The overall objective of the project is to build resilience of a silvopastoral production system through reduced climate change impact and increased resilience to environmental impacts and natural disasters. The project also targets strengthening the capacity of communities as well as building regional platforms for knowledge sharing and collaboration.

Target beneficiaries: Smallholder farmers, livestock keepers and extension agents

Activity mapped to CRP: CGIAR Research Program on Livestock

Lead Center: International Livestock Research Institute

Flagship: Livestock and Environment



Introduction

Plants integrated into a degraded ecosystem have the potential to remove nutrients from deeper soil profiles that would otherwise be lost (Fike et al. 2016). Such silvopastoral systems yield benefits which include an increase in soil fertility and conservation, increased quality in forage and animal production and a high probability of income diversification (Fike et al. 2017). Coupled with these, there are also environmental benefits, such as biodiversity conservation, atmospheric carbon sequestration and the mitigation of the effects of greenhouse (Jose and Dollinger 2019). Thus, silvopasture management results in greater efficiency of resource (nutrients, light, and water) capture and utilization, and greater structural diversity that entails tighter nutrient cycles (Fike et al. 2016).

However, the success of a silvopastoral system depends on many factors which include the balance between pasture production, trees /shrubs and animal numbers, and the timing of grazing (Zabala et al. 2013). The success of a silvopasture system also depends on the extent of competition for growth and production resources such as radiation, water and nutrients, which may negatively influence the system's sustainable reproduction (Jose 2009). When planting for a targeted silvopastoral site, selected forage species must be tolerant to shade as well as competition with other plants (Orefice et al. 2016). When implemented and well-managed, silvopasture compares favorably to other land use systems and it also provides additional benefits made possible by the diversity and productivity of the system (Jose et al. 2019). While the above-and below-ground diversity provides more system stability and resilience at the site-level, the silvopastoral systems provide connectivity with grasslands, forests and other landscape features at the landscape and watershed levels (Frey et al. 2012). Thus, silvopastoral systems optimize the use of spatial, temporal, and physical resources by maximizing positive interactions (facilitation) and minimizing negative ones (competition) among the components, for which the principles of sustainable land use systems are relevant (Frey et al. 2012).

The actual benefit realized from implementation of silvopastoral practices depends on understanding the production requirements of each component, and how synergism among the components can be maximized (Peri et al. 2016). Thus, it is critical to plant species which are likely to improve soil nutrient conditions and well as manage the grazing activity once the site has established, as this will avoid returning the site to its pre-planted state. In line with the need to promote and motivate for the establishment and management of silvopastoral systems in Tunisia, a workshop was held in National Center of Agriculture Studies, on 26 February 2019. The aim of the workshop was to promote the establishment and management of silvopastoral systems in Tunisia, through the participation of local forest institute representatives.

Agenda

Sustainable Management of Silvopastoral Ecosystems workshop

Date: **26 February April 2019**

Location: **National Center of Agriculture Studies- Tunisia**

9.00 to 9.30 am	Registration and opening the workshop Colonel Salem Triqui Mr. Jamel Kailene
9.30 to 10.00 am	Evolution of forestry and pastoral policies in Tunisia Mr. Jamel Kailene
10:00 to 10.15 am	Discussion
10.15 to 10.45 am	Pastoral ecosystems in Tunisia Mr. Jellali Khalifa
10.45 to 11.00 am	Discussion
11.00 to 11.30 am	Coffee break
11.30 to 12.00 pm	Rangeland development approaches in Tunisia Mr. Taghouti Ezzedine
12.30 to 12.45 pm	Discussion
12.45 to 13.15 pm	The legal and regulatory framework for management of the silvopastoral systems Bedief Sahbi
13.15 to 14.10 pm	Discussion
14.10 to 14.30 pm	Recommendations and conclusion
14.30 pm	Lunch

Minutes: Workshop

Sustainable management of silvopastoral ecosystems

The workshop was held on the 26th of February 2019 at the National Center of Agriculture Studies in Tunis. At least 88 participants attended this workshop (Appendix 1), which was opened by Mr Trigui Salem (General Director of Forest) (Figure 1). He welcomed the participants and introduced the main aim of the workshop, which was to exchange knowledge and experiences in the establishment and management of silvopastoral ecosystems in Tunisia. The workshop was facilitated by Mr Jamel (Director- Directorate General of Forestry) and it had four themes:

- 1- **Evolution of forestry and pastoral policies in Tunisia** (Mr Kailene)
- 2- **Pastoral ecosystems in Tunisia** (Mr Jellali Khalifa)
- 3- **Rangeland development approaches in Tunisia** (Mr Taghouti)
- 4- **The legal and regulatory framework for management of the silvopastoral ecosystems** (Mr ben Dhief)

After a very rich discussion and exchange of experience among the participants, the following recommendations and conclusions were mentioned:

- 1-capacity building on technical aspects and integrated development approaches
- 2- renforcement des travaux de recherche appliqué en matière d'identification des approches intégrée pour la protection et le développement des écosystèmes pastoraux.
- 3- poursuivre les procédures pour l'établissement du code pastoral sur la base de la version finale établie dans le cadre du projet PIPP.



Figure 1. Mr Trigui welcomed the participants and introduced the main aim of the workshop

References

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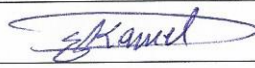
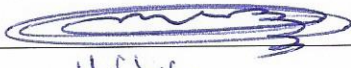


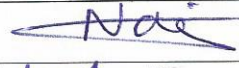
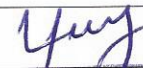
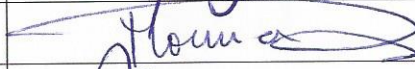

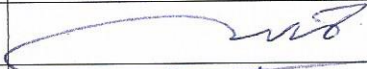

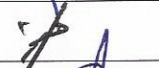

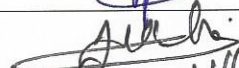





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Appendix 1



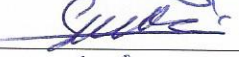

Participants list

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Ecosystem Services in Tunisia
Workshop - 26 February 2019
List of Participants**

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5	Rjeibi Najoua		<input checked="" type="checkbox"/>
6	Hmadi Wafi		<input checked="" type="checkbox"/>
7	Mouna Cairssi		<input checked="" type="checkbox"/>
8	Amar BAKKI ^o		<input checked="" type="checkbox"/>
9	Khmoussi Khab Khab		<input checked="" type="checkbox"/>
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13	Jelili Miloud		<input checked="" type="checkbox"/>
14	Gharbi Meh TAHAR		<input checked="" type="checkbox"/>
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17	Aidli Mehli		<input checked="" type="checkbox"/>
18	Slimani Mahamed Hodi		<input checked="" type="checkbox"/>

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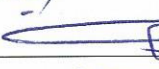









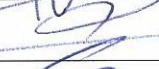



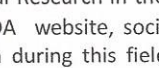
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23	Karben Jemel		<input checked="" type="checkbox"/>
24	SMOUN Mohsen		<input checked="" type="checkbox"/>
25	Hedi Selmi	Am -	<input checked="" type="checkbox"/>
26	Jellali Kalifa	Jell	<input type="checkbox"/>
27	Dhouai Souir		<input checked="" type="checkbox"/>
28	Asteri Koum		<input checked="" type="checkbox"/>
29	Beddief SAABSI		<input checked="" type="checkbox"/>
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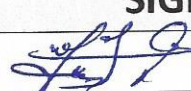
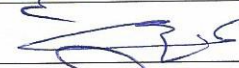
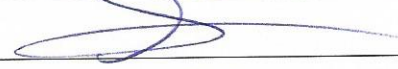

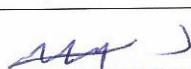




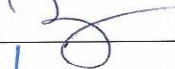
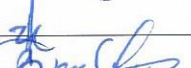
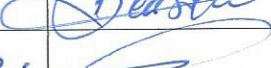



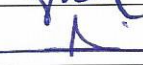
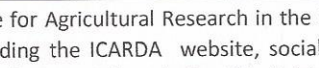
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45	Fayda Mgadmi		<input checked="" type="checkbox"/>
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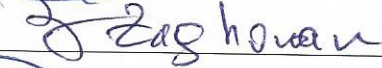






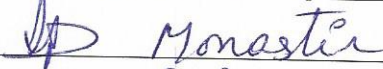
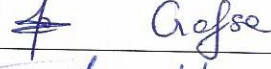
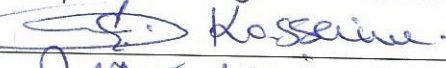


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