Report on Farmer-to-Farmer exchange visit in the Agroecological Living Landscape (ALL) of Tunisia, 21-23 May 2024

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Introduction

The Agroecology initiative in Tunisia supports an Agroecological Living Landscape (ALL) in the transect of Kef / Siliana where cereal / small ruminant, olive and agroforestry production systems are predominant. Since 2022 the initiative has co-created agroecological technologies with farmers of six farmer organizations in the transect. In collaboration with the national research institutes INRAT , INRGREF and the olive institute IO, the extension and training agencies OEP and AVFA and the NGOs ATAE and LACT several technologies have been developed, tested and demonstrated.

Previous ICARDA projects like the GIZ funded "Mind the Gap" project have proven, that one of the most successful technology transfer or scaling approaches are farmer -to-farmer exchange visits. Therefore, the initiative has organized a three-day exchange visit (21 - 23 May, 2024) for 24 farmers of the six farmer organizations (FO) composing the ALL. Each FO was invited to send 4 representatives. The 24 farmers with some extension staff visited all five FOs to exchange about the introduced technologies, challenges and opportunities and potential collaboration. The nights were spent at AVFA's training centers where informal exchange took place around traditional food.

FO Sers

Figure 1: Female farmer group showing mechanized forage harvesting (U.Rudiger, 2024)

The women farmer organization Sers explained to the visiting farmers that they have introduced mixed forages like Vetch – Oats – Triticale (V-O-T) as intercropping between their olive trees. They also introduced small scale mechanization like a mower to reduce labor and save time. Women explained the observed benefit of the forages. As compared to traditional feeding on concentrates and straw, milk production has increased by 2 l /day. Health of their dairy cows has improved and less antibiotics are needed. Artificial insemination is more successful than before (fertilization after first shot).

FO Chwernia

The farmer group Chwernia also uses innovative forage mixtures (V-O-T) and like the FO Sers they have observed positive impact. The growth rate of their small ruminants has increased to 240 g / day. In addition, they introduced a new vetch variety called Narbonne, which is very high in protein (30%) and can replace expensive imported soybeans. They now use it to produce feed pellets with the provided feed pelletizing machine.

Another successfully introduced technology is compost made of Aleppo pines, which is produced by a local start-up enterprise. Besides its impact on increased soil nutrients, it also helps in improving water holding capacity of the soil and acts as a natural herbicide.

Figure 2: Farmer group Chwernia shows new type of compost (U.Rudiger, 2024)

FO Hamman Biadha

Figure 3: Scientist of Olive institute explains Biochar (U.Rudiger, 2024)

The initiative partner “Olive Institute” has introduced the combined compost and biochar technology to the farmer group Hammam Biadha in addition to V-O-T between olive trees. The IO also showed farmers a better way to cut olive branches and take care of young olive trees. Farmers observed already an improvement in olive production and olive oil quality.

The combined biochar / compost technology plus the spreading of olive vegetation water improved water holding capacity and resistance to pests of olive trees

FO Rhahla

The FO Rhahla has received intense support from the initiative and previous project and is now considered as a knowledge hub for soil conservation and agroecology. A variety of technologies has been co-developed with the farmer group. Technologies like minimum tillage, sulla and mixed forage production, seed multiplication and small-scale machinery have been presented and discussed. The farmer cooperative disposes a well-equipped location with pedagogical material to scale innovations.

Figure 4: President of the FO explains concept of the knowledge hub (U.Rudiger, 2024)

FO Kesra

Figure 5: INRAT explains Rhizobia trial on Sulla (U.Rudiger, 2024)

The FO Kesra is very much engaged in figs and honey production. A major constraint in honey production is the lack of melliferous plants to provide sufficient quality feed for bees. The initiative introduced Sulla, a leguminous forage crop which also is a melliferous plant. To further boost the production of Sulla, the national research institute INRAT co-designed experiments with the FO to test different Rhizobia bacteria for nitrogen fixation and their suitability for Sulla.

Lessons learned

At the end of the three-day farmer-to-farmer ALL exchange visits all participants exchanged together about the importance of such an event and what they have learned and can take back to their communities. As a general consent farmer highly appreciated this exchange visit as it allowed them to actually see the different technologies in different communities and not only talk theoretically in a workshop about it. The same technology has sometimes been introduced at several farmer organizations, like the Vetch- Oats – Triticale (V-O-T) forage mixture. So, farmers of the different FOs could exchange about the different experiences of this specific technology.

Some areas of collaboration between the six FOs have also been identified. The FO Kesra has been impressed by the V-O-T experiences and would like to benefit from the V-O-T seeds of other FOs like FO Rhahla to test it in addition to their Sulla experiments. Kesra was also inspired by the Biochar technology in Hammam Biadha and asks the olive institute to install trials in Kesra as they have similar conditions and challenges.

The women of the Sers FO are convinced of the forage mixture trials but are lacking V-O-T seed mixtures. As the nearby Chwernia FO disposes a mobile seed cleaning unit, suitable for cleaning forage seeds they have negotiated access to the cleaning unit after harvesting they crops to preserve seeds for the upcoming season. The women are also interested in the new type of compost and obtained contacts to purchase and test the biofertilizer.

The FO in Hammam Biadha who will produce its own compost and biochar after having experienced the positive impact of the technology has seen a type of combined grinder and chopper at the FO and knowledge hub of Rhahla which is suitable to chop olive residues and produce compost. They were impressed by the organizational level of the women group in Sers and consider establishing their own female farmer group.

The knowledge hub Rhahla was attracted by the advanced honey production technologies of the FO Kesra and wants to establish an internal advisory system like they have. They were also interested in the types of bee hives they use and received contacts of suppliers. Finally, they were attracted by the technology Kesra uses to recycle wax.

The FO Chwernia is interested in the nurseries which have been installed in Rhahla and Kesra by the initiatives' partner, the NGO LACT. The nurseries are producing Carob trees to establish sustainable agroforestry production systems. This could be another income generating activity for the already well-established and experienced FO.

The visit has once again shown that direct farmer-to-farmer exchange is a highly appreciated and successful way to scale innovations. Farmers speak the same language, without using scientific technologies, thus creating trust and are more convinced. Scientists are still sometimes lacking the capacity to adapt their scientific language and technical terminologies to farmers context, thus not always reaching the farmers.

From a social perspective the visit was equally a success. Mainly the female participants appreciated the rare opportunity to leave their households and communities and get to know new people in new contexts.

Annex: Program of the 3-day farmer -to-farmer visit

Time	Activity	Comments
1.day (21/05)		
9 h	Meet and departure at OEP Siliana	Bus Ulysse
9h-10h	Travel with bus to GDA Sers	Bus Ulysse
10 h– 12 h 30	Exchange with GDA Sers	Topics: forages, animal husbandry (large and small ruminants), machinery, female engagement, income generation with farmers shop, Sulla inoculation
12h30 -13h30	Lunch break	Traditional lunch provided by GDA Sers
13h30 – 14h30	Travel Sers to Hammam Biadh	BUS Ulysse
14h30 – 17h	Exchange with FO Hammam Biadh	Topics: Compost, Biochar, olive intercropping with forages, olive production and processing
17h-18h	Trip Hammam Biadh to AVFA center Sidi Bouris	
18h – 8h	Diner, accommodation and breakfast at AVFA Sidi Bourris	

2. day (22/05?)		
Time	**Activity**	**Comments**
8h-9h	Travel Sidi Bourris to Rhahla	BUS Ulysse
9h-12h30	Exchange with SMSA Rhahla	Topics: Forage mixtures, Sulla, small machinery, erosion control, Carob, farmer organization
12h30 -13h30	Lunch break	Traditional lunch provided by SMSA Rhahla
13h30 – 14h30	Travel Rhahla to Chwernia	
14h30 – 17h	Exchange with SMSA Chwernia	Topics: Conservation Agriculture, forage mixture, machinery, farmer organization
17h – 18h	Trip Chwernia to AVFA center Gandra	
18h – 8h	Diner, accommodation and breakfast at AVFA Gandra	

3. day (23/05?)		
Time	**Activity**	**Comments /**
8h-9h30	Travel AVFA Gandra to Kesra	Bus Ulysse
9h30-12h30	Exchange with SMSA Kesra	Topics: Agroforestry, Bee keeping, Carob nursery, value addition
12h30 -13h30	*Lunch break*	*Traditional lunch provided by SMSA Kesra*
13h30 – 15h00	Exchange "lessons learned" from traveling workshop	Farmers from all six FOs exchange about similarities, differences, and areas of collaboration between the different FOs
15h – 18h	Trip Kesra to Tunis via OEP Siliana	Bus Ulysse, farmers get off at OEP Siliana