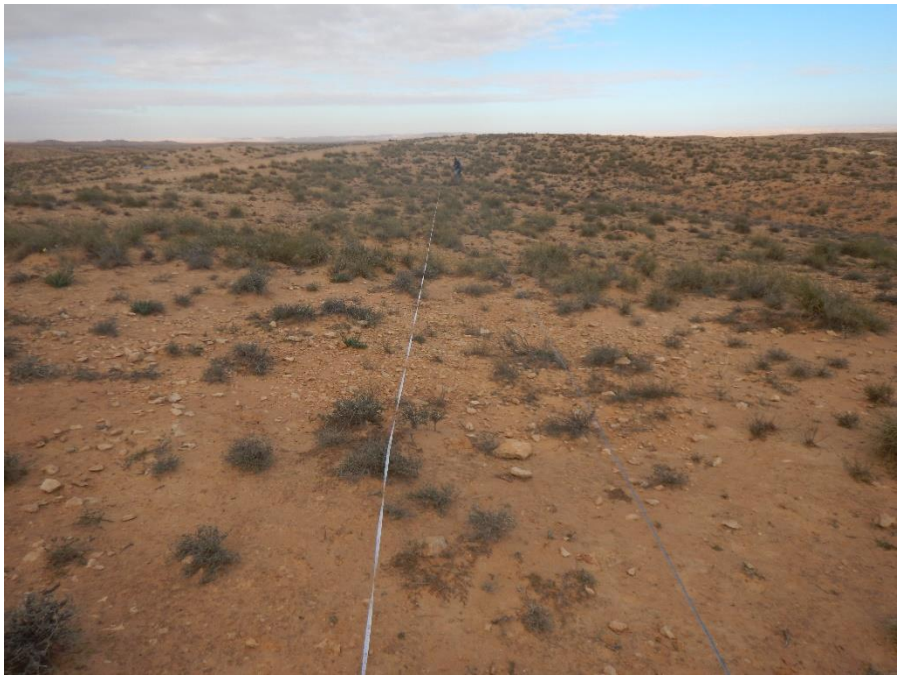
Final Report
On-the-job training during rangelands inventorying and monitoring



Jointly organized by the

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International Center for Agricultural Research
in the Dry Areas (ICARDA)

26 February - 21 March 2019
South of Tunisia – Medenine

Rangeland inventorying and monitoring is the process of determining the status of natural rangeland resources. Historically, data describing vegetation attributes is collected by sampling in an inventory and monitoring program (Pearson and Thomas 1984). From this information, the status of rangeland vegetation can be rated. Repeated measurements over time provides an indication of whether the vegetation is improving or declining compared to predetermined standards or goals (Smith 1984). The reasons for monitoring or assessing rangelands are diverse, but they are invariably tied to management decision making. Accordingly, monitoring and assessment should be tied to specific management goals (Jason et al. 2011).

On these training days, it was presented by Dr. Mouldi Gamoun which is rangeland scientist at ICARDA. The main focus of this training lays on rangelands inventorying and monitoring and aimed to develop and improve the capabilities of engineers and technicians in the Office of Livestock and Pasture of Medenine and Tataouine. Participants have been trained in the technical skills, such as plant identification and vegetation measurement protocols. Mr. Mouldi was also taught how to asses and evaluate rangeland. Rangeland evaluation is primarily concerned with the assessment of vegetation cover, density, soil surface, species richness and productivity under rest and with the extent to which resource condition has been altered by grazing.

After completing the data collection process Dr. Mouldi showed to participants how to prepare data for analysis in step by step using Excel. Most data sets require preparation before analysis. The data preparation process can imply different tasks, depending on the type of data they analyze. The comprehensive explanations provide him with some hints on how to implement these data entry in Excel. He points out how to make a graph in Excel, however, he always shows how to work with “pure” Excel functionalities.

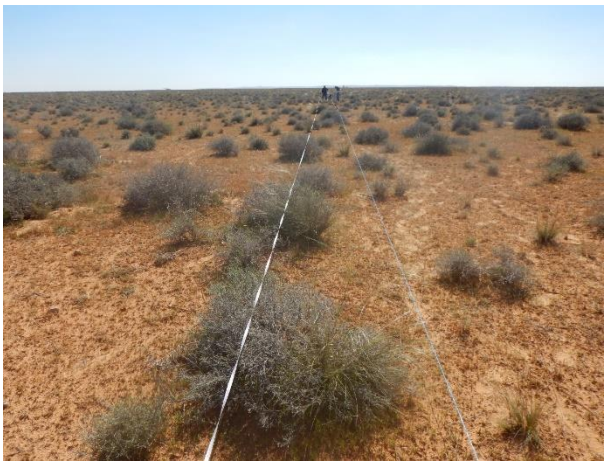
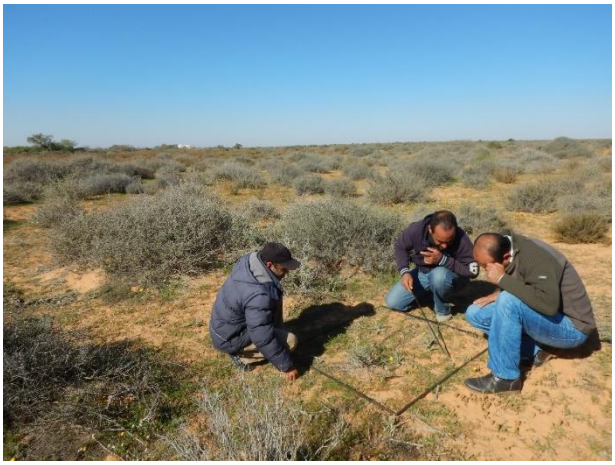
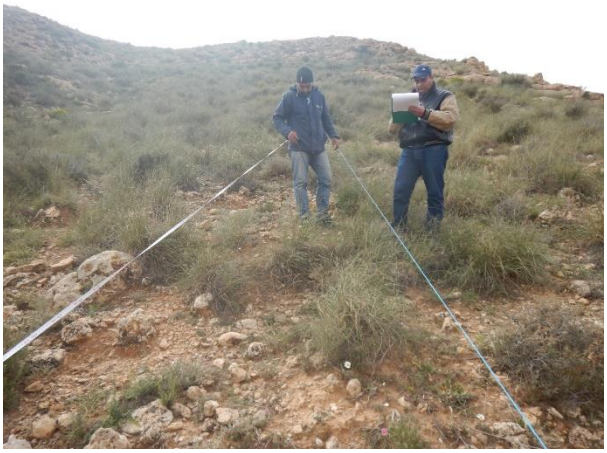
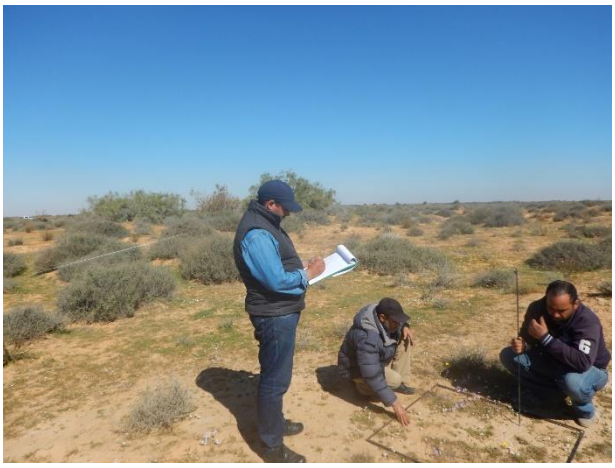
The assessment and monitoring of rangeland condition are one of the most important factors for pastoralists in order to calculate the rangeland productivity and carrying capacity of livestock with consideration for coexisting rangeland health. In this case, Mr. Mouldi showed how to calculate rangeland productivity using vegetation cover and index palatability of each species, which will then be used for calculating the carrying capacity.

Report writing is one of the most important components in the survey research cycle. In this case, Mr. Mouldi provided guidance on how to write a report so that the information is easy to understand, and so that the findings are not unintentionally misrepresented.

Using a dataset from 9 sites in Medenine including 7 private rangelands and two freely grazed site considered as control were retained for detailed monitoring-assessment study. We investigated changes in the spatial and temporal patterns of community structure and rangeland function in response to the period of rest.

This design will permit to appreciate the potential of regeneration and the persistence of plant species by monitoring the evolution of some descriptors (global plant cover, specific frequencies,

flora richness and the plant density, rangeland production and carrying capacity). The state of the soil surface (wind veil, crust, stones, litter) is also studied in order to monitor and assess changes of soil structure.

A job training at arid rangeland was attended by engineers and technicians, a chance to learn more about rangelands assessment.

References

Pearson, H.A., and J.W. Thomas. 1984. Adequacy of inventory data for management interpretations. In: National Research Council/National Academy of Sciences. Developing strategies for rangeland management. Westview Press. pp. 745-763.

Smith, E.L. 1984. Use of inventory and monitoring data for range management purposes. In: National Research Council/National Academy of Sciences. Developing strategies for rangeland management. Westview Press. pp. 809-842.

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ICARDA
Science for resilient livelihoods in dry areas

CGIAR RESEARCH PROGRAM ON Livestock

On the Job Training
Rangelands Inventorying and Monitoring
Southern Tunisia
26 February - 21 March 2019
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