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# NEAR EAST FORESTRY AND RANGE COMMISSION

## TWENTY-FIFTH SESSION

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### EFFECTS OF CONFLICTS ON FORESTS AND RANGELANDS IN THE NEAR EAST AND NORTH AFRICA REGION

#### I. Introduction

1. The Near East and North Africa (NENA) region is dominated by social and political conflicts that have detrimental effects on people lives and on the natural resources on which they depend. The devastating armed conflicts in Syria, Yemen Iraq and Libya and the protracted conflicts in Sudan have led to widespread food insecurity and massive displacement.
2. The relationship between natural resources and conflicts has been widely acknowledged. However, most studies focused on how natural resource settings contribute to conflicts. The effects of conflicts on natural resources have been less studied, although issues pertaining to natural resources and conflicts are closely linked with food security, migration, and social coherence.
3. FAO commissioned a study to evaluate the impact of conflicts on natural resources in the Near East and North Africa (NENA) region for the period 2010 – 2018 with a particular focus on the productivity of forests and rangelands. The study attempts to develop a suitable monitoring tool, by providing empirical evidence in terms of maps and statistics, and by analyzing the relation between conflict density and remotely sensed degradation indicators. Case studies were conducted in three conflict-affected countries; Syria, Lebanon, and Sudan. Earth Observation (EO) data were generated for three additional countries (Iraq, Libya, and Yemen) and analysed.
4. This paper presents brief highlights from the regional report<sup>1</sup> on the methodology, the results obtained and provides some recommendations for further actions.

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<sup>1</sup> FAO. 2020 Effects of conflicts on forests and rangelands in the Near East and North Africa region. FAO Regional Office for the Near East and North Africa, Cairo. Under publication.

## **II. Linking conflicts with grasslands and forests degradation and implications for natural resources management and livelihoods in NENA**

5. The study depicts significant number of degradations within the NENA region with not equally split over the region. Some countries showed much stronger impacts compared to others. For example, Syria and Iraq as conflict-affected countries were more strongly affected compared with other non-conflict affected countries such as Tunisia and Jordan as example.
6. For the core grassland areas, strong percentages of degraded land (3.4 percent) was found in Iraq followed by Syria, and Lebanon as compared with the other three countries (Sudan, Libya, and Yemen). The same three countries were most negatively affected by negative trends in forest degradation
7. Syria suffered seriously from destruction and/or insufficient management of its core forest area during the evaluation period.
8. The study findings have significant implications as it is the first time that long-term productivity degradations or improvements of core forests and core grasslands in NENA, respectively, have been quantified in a robust and transparent manner. Trends were derived for the entire NENA region as well as individual countries.
9. The fact that dramatic changes from positive to negative trends were observed within relatively short distances (a few kilometers) leads to the conclusion that climate change cannot be the main driver for the observed trends. Climate change is known to act at much coarser scales<sup>2</sup>. It is argued that conflicts drive people from place to place, and where they concentrate leads to degradation while areas from which they moved tend to naturally regenerate. Countries with the most intense and largest number of conflicts (Syria, Iraq, Lebanon, and Sudan) were the most heavily affected by degradations in land productivity.
10. The evidence of the impact of war on natural resources was more clear in the case of Syria where, over land cover (LC) classes, the country shows the largest amount of degraded land, compared to all NENA countries. This relationship is also visible when correlating the conflict density (ACLED data<sup>3</sup>) with the remotely observed degradation trends.
11. The focused group discussions in the three studied countries indicate that, displacement of people from their villages may often be associated with a decrease in the use of trees and reduced demand on rangelands. In addition, this may prompt more selling on livestock as in destitute or ac cooping strategy, thus leading to improvement in land productivity. The demand for obtaining supplementary feed may also increase putting more pressure on displaced families' income.
12. On the other side, in secured areas where people move to, they tend to clear more trees for farming, extensively cut trees for use fuelwood use or building and selling of charcoal and fuelwood for income generation, leading in turn to land degradation. In most cases, traditional governance mechanisms that regulate use of natural resources are disturbed or even abandoned with also reported difficulties in community organization and mobilization.

## **I. Conclusions and recommendations**

13. The NENA region has a long history of conflicts, while their impact on natural resources (both short- and long-term) remain by far unstudied. Climate change is expected to further amplify pressure

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<sup>2</sup> Parmesan, C., & Yohe, G. 2003. A globally coherent fingerprint of climate change impacts across natural systems. *Nature*, 421(6918): 37–42. DOI: 10.1038/nature01286

<sup>3</sup> Raleigh, C., Linke, A., Hegre, H., & Karlsen, J. 2010. Introducing ACLED-Armed Conflict Location and Event Data. *Journal of Peace Research*, 47(5): 651–660. (<https://www.jstor.org/stable/20798933?seq=1>)

on natural resources, pushing the need for studies highlighting the impacts of conflicts on natural resources.

14. More studies are, therefore, needed to assess the direct and indirect effects of conflicts on natural resources. Understanding and addressing the impact of conflict on natural resources serves as a key factor in preventing its recurrence. The current study is a step forward and provides a base in this direction.

15. The study concludes with high certainty that conflicts are the main driver behind the observed trends in land productivity in the region, as countries most heavily affected by conflicts have the highest rate of change in land productivity. It argues that the observed changes cannot be attributed to climate change as assumed changes in weather patterns would not be able to explain the differences between the countries, nor the observed high spatial variability of changes within a given country.

16. Although the established trends are real and were tested for statistical significance (and partly correlated with Armed Conflict Location and Event Data (ACLED)), it is worth pointing out that the grassland and forest strata used throughout this study were defined based on European Space Agency (ESA's) land use map 2015. In general terms, however, no expected significant impacts on the reported numbers if alternative LC maps would have been used. Nevertheless, any improvement in the accuracy of globally available LC maps would naturally improve the quality of generated data in such cases.

17. The following four main recommendations are drawn by the study:

- Grasslands and forests need to be protected during conflicts through special mechanisms, as otherwise ecosystem functions cannot be maintained.
- Immediate support is needed to sustain and/or re-establish functionality of grasslands and forests in Syria, Lebanon, Iraq, and Sudan.
- A global EO-based land productivity monitoring system needs to be established to permit repeated updates of the information.
- There is a need to conduct similar studies looking specifically at changes in LC type