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THE MITIGATION ROLE OF WOODED AREAS IN DESERTIFICATION RISK

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Sicily has a recent maps of desertification risk (Piccione et al., 2009), made according to MEDALUS protocol (Kosmas et al.)that , compared to other studies, it adds a bi-temporal representation of the risk (comparison of the scenarios in 50 years on). On average, it appears a reduction in risk from the 75% of macro class *critical* (44% of class *critical 3*), in the first period, to 61% of macro class *critical* (37,7% of class *critical 3*), in the second period. The areas belonging to the class *non affected* move from 4,5% in the first period to 12,7% in the second one. The improvement is due to the abandonments and/or changes occurring in soils mainly used for agricultural purposes and to better land management resulting in recovery of various degrees of naturalness.

Moving from regional to a more detailed scale emerges that the areas less sensitive to risk desertification, mainly coincide with those that fall within the boundaries of the regional parks (Piccione et al., 2011) and woods areas. These areas, while in the first half of XX century are located on the 4.5% of the region (113.127 ha), at the end of the century, have doubled (9,6%, 224.022 ha). In a century 17.4% of the existing forests in the first half of the last century have been reduced, 21% have remained unchanged between the two periods and 61,6% have suffered an increase in the second period.

Moving on the examination of the risk of desertification in wooded areas (according to MEDALUS legend: deciduous forests, evergreen forests, pine forests) it appears that:

- if the forest has not changed in the two periods under review, 99.1% of the land falls in the class ESA *not affected*;
- if the forest was not present in the first half of century, but it is in the second period, 61,7% 60% of the territory reverts in the

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class ESA *not affected*, 20,4% in the classes *fragile 1*, *2* and *3* and the classes *critical 1*, *2* and *3* only 9,9%;

- if the forest was present in the first period and it decreased in the second, 34,3% of the territory reverts in the class ESA *not affected*, 25,3% in the classes *fragile 1*, *2* e *3* and 26,8% in the classes *critical 1*, *2* and *3*.

The results are particularly interesting and promising to warrant further investigation, for example, the response of the risk of desertification in different types of wooded areas, also at various stages of maturity and quality, in relation to the dates of planting artificial reforestation and previous land uses.

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