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The current structure of key actors involved in research on land and soil degradation

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Land and soil conservation topics, the final mandate of the United Convention to Combat desertification in drylands, have been diagnosed as still suffering from a lack of guidance. On the contrary, climate change and biodiversity issues –the other two big subjects of the Rio Conventions- seem to progress and may benefit from the advice of international panels. Arguably the weakness of policy measures and hence the application of scientific knowledge by land users and stakeholders could be the expression of an inadequate research organization and a lack of ability to channel their findings.

In order to better understand the size, breadth and depth of the scientific communities involved in providing advice to this convention and to other bodies, this study explores the corpus of international publications dealing with land and/or with soils. A database of several thousands records including a significant part of the literature published so far was performed using the Web of Science and other socio-economic databases such as FRANCIS and CAIRN.

We extracted hidden information using bibliometric methods and data mining applied to these scientific publications to map the key actors (laboratories, teams, institutions) involved in research on land and on soils. Several filters were applied to the databases in combination with the word “desertification”. The further use of Tetralogie software merges databases, analyses similarities and differences between keywords, disciplines, authors and regions and identifies obvious clusters. Assessing their commonalities and differences, the visualisation of links and gaps between scientists, organisations, policymakers and other stakeholders is possible. The interpretation of the ’clouds’ of disciplines, keywords, and techniques will enhance the understanding of interconnections between them; ultimately this will allow diagnosing some of their strengths and weaknesses.

This may help explain why land and soil degradation remains a serious global problem that lacks sufficient attention. We hope that this study will contribute to clarify the scientific landscape at stake to remediate possible weaknesses in the future.