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## Coupling of Reticular and Fuzzy Set Modelling in the Analysis of the Action Chains from Socio-Ecosystem, Case of the Renewable Natural Resources Management in Madagascar

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**Abstract :** Management of Malagasy renewable natural re-sources allows, in the case of forest, the mobilization of several actors with norms and/or territory. The interaction in this socio-ecosystem is represented by a graph of two different relationships in which most of action chains, from individual activities under the continuous of forest dynamic and discrete interventions by institutional, are also studied. The fuzzy set theory is adapted to graduate the elements of the set Illegal Activities in the space of sanction's institution by his severity and in the space of degradation of forest by his extent.

Keywords: fuzzy set, graph, institution, renewable resource, system

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