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“Competition for Resources in a Changing World:
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***Acacia senegal* (Gum Arabic Tree): Present Role and Need for Future Conservation in Sudan**

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Abstract

Sudan is the largest African country (2.5 million km²) situated in the northeast corner of Africa, (latitude °4' 23 North, longitude °22' 38 East). Sudan shares common borders with nine African countries. Sudan has a tropical climate. From the north to the south, the climatically determined vegetation zones are: desert, semi-desert rainfall woodland savannah on clay soil, low rainfall woodland savannah on sand, high rainfall woodland savannah, special forests and the montane forests.

Insects and pathogens are integral components of forest ecosystems and normally are present at a relatively low density, causing little damage and having negligible impact on tree growth and vigour. From time to time, however, some species may quickly reach damaging densities, spatial distribution may increase and the outbreak may persist for a variable time before subsiding. Such large populations may have adverse effects on many aspects of forests, such as tree growth, survival, yield and quality of wood and non-wood forest products, and soil and water conservation. Pest outbreaks are costly to control and may cause considerable damage, compromise national economies, local livelihoods and food security. *A. senegal* tree is drought resistant, dominates the vegetation cover and exists in the wild as well as on cultivated land. It grows mainly on sandy hills, but also well on cotton soil. Gum arabic produces revenues for the farming communities of gum belt, and contributes significantly to Sudan exports. Besides gum Arabic production *A. senegal* is a multifunctional tree, which has been used for desertification control, reestablishment of a vegetative cover in degraded areas, sand dune fixation and wind erosion control.

The tree faced many problems including pests and diseases. It is e.g. vulnerable to the attack of termites, locusts (*Anacridium melanorhodon*), grasshoppers, longhorned beetles and borers, as well as goats and camels. Fires kill off seedlings and damage the trees. A good deal of damage is caused through cutting off large branches. Moreover, *A. senegal* is also attacked by fungi.

The study focus on pest control strategies, agroforestry systems, crop rotation and tree management, as important instruments to contribute to the conservation of the tree

Keywords: *Acacia senegal*, biodiversity conservation, pests, Sudan, tropical forest