



## **Approaches for resilience building through restoration of degraded dryland ecosystems in Kenya**

Dr. Stephen M. Mureithi (1,2), Ann Verdoordt (3), Peter N. Mwangi (4), and Eric Van Ranst (2)

(1) University of Nairobi, Faculty of Agriculture, Land Resources Management and Agricultural Technology, Nairobi, Kenya (stemureithi@yahoo.com), (2) Ghent University, Department of Geology and Soil Science (WE13), Laboratory of Soil Science, Krijgslaan 281/S8, B-9000 Gent, Belgium, (3) Ghent University, Department of Soil Management (BW12), Research Unit of Soil Degradation and Conservation, Coupure Links 653, B-9000 Gent, Belgium, (4) Jomo Kenyatta University of Agriculture and Technology, Department of Botany P.O. Box 62000, 00200 Nairobi, Kenya

In many of the world's drylands, environmental degradation is a major ecological and socioeconomic crisis. Rangeland degradation particularly in developing countries has increased the vulnerability of the pastoral societies, which depend directly on these ecosystems for their livelihoods. In many countries of Sub-Saharan Africa, rangelands are characterised by indiscriminate settlement policies, distortions of traditional common-property rights and land-tenure systems and policies that predispose these areas to over-exploitation, and simultaneously impede meaningful interventions. These systems and policies have also not been reformed to cope with the changing trends in the major drivers of rangeland degradation (population increase, climate and markets) and have therefore, only tended to enhance degradation of these fragile ecosystems. Rehabilitation of degraded grazing lands using various approaches and strategies and subsequent sustainable land management is becoming increasingly essential. Even though most efforts to restore degraded rangelands in the past resulted in failure, a few cases stand out as successful interventions in combating land degradation. Rangeland enclosure (site scale) involving reseeding and agroforestry in Baringo and West Pokot Counties, and community conservation management (landscape scale) in Laikipia County in Kenya has been successful in restoring severely degraded rangeland, thus improving the dryland ecosystem and pastoral livelihood resilience against climate variability and change. The success and persistence of the two approaches for a long period (10-30 years) demonstrates that they can be replicated to other areas under similar climatic and socio-economic conditions.

**Key words:** Conservation management; enclosures; land degradation; rangeland resilience; restoration; sustainable land management; Kenya