

# The Acacia Operation Project: a pilot activity for combating desertification and improving pastoralists livelihoods in the arid rangelands Kenya

Keya<sup>1</sup>, G.A., Muga<sup>2</sup>, M., Chikamai<sup>2</sup>, B

<sup>1</sup>Kenya Agricultural Research Institute (KARI), P.O Box 57811-00200 Nairobi, Kenya

<sup>2</sup>Kenya Forestry Research Institute (KEFRI), P.O Box 20412, Nairobi, Kenya

Email: [gakeya@kari.org](mailto:gakeya@kari.org) or [azengakeya@yahoo.com](mailto:azengakeya@yahoo.com)

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## Introduction

The Acacia Operation Project (AOP) was a pilot project supporting food security and rural development of gums and resins in African Sahelian countries of Burkina Faso, Chad, Kenya, Niger, Senegal and Sudan (AOP document, 2003). It was a preparatory phase of a 10-year programme in the framework of the Network for Natural Gums and Resins in Africa. The overall objective was to contributing to sustainable development, food security and combat desertification through the promotion and integration of gums and resins in rural economies. In Kenya, the project was piloted in Samburu and Marsabit districts from 2004-2006. The specific aim was to rehabilitate degraded land by planting *Acacia senegal* using novel water harvesting technologies and improving livelihoods through promotion of gums and resins production. This paper reports on outcomes, challenges and lessons learnt and implications for long term programme engagement in Kenya.

## Materials and Methods

Initial work started in 2004 with meetings and participatory rural appraisals (PRAs) to sensitize and mobilize stakeholders about the project and the need to improve natural resources utilization. Local Project Management Committees (PMCs) were setup to assist manage the project. Thereafter establishment of micro basins and planting of the basins with *Acacia senegal* trees and drought tolerant crops commenced. Other activities included rang-wide collection of germplasm for planting, capacity building for community groups, biophysical characterization of the soils in the sites, protection of planted sites, monitoring performance and survival of seedlings, training on utilization of drought tolerant crops and evaluation of alternative livelihood systems. Education tours were also conducted for the PMCs to facilitate technology transfer.

## Results and Discussion

Sensitization meetings made the all stakeholders to embrace the project. As a result, the community donated land for project activities. A total of 20 sites totalling 285 ha with 54000 micro-basins were ploughed and planted with various drylands trees and crops depending on the site. A total of 1208 individuals were trained on various subjects including tree propagation techniques, seed collection, and crop and tree production. Crop performance at the sites was dismal except in Sereolipi where performance for beans, cowpeas, green grams and watermelon was very good in the short rain season of 2004 and Laisamis where cowpeas and sorghum did well during the long rains in 2005. In all the other sites there was complete crop failure exacerbated by the 2005-2006 drought. *Acacia senegal* performance varied according to site with better germination and growth on rocky and sandy sites. Drought resulted in high seedling mortality in all sites thus necessitating replanting. Livestock and wildlife interference meant that the plots had to be protected thus increasing cost.

## Conclusion

Results showed that *A. senegal* can successfully be established in the region. However, biophysical characterisation is essential to guide on suitability of sites for the gum producing trees. Due climatic uncertainties project duration should be longer, say 10 years. Although crop production was limited by low rainfall, cowpeas, millet and green grams were promising in years of normal rain. More trials need to be done to come up with recommendations on integration of crops into the *A. senegal* areas. Wildlife menace and soil salinity are also important challenges facing farmers in this areas. Cultural bias towards livestock is a major challenge in mobilising the community towards plantation agro-silvopastoralism. Since economic benefits from *A. senegal* are realisable after about 5 years when gum production starts, motivation for local participation can be guaranteed if support is given to the community to exploit existing natural plantations by linking them to markets and providing credit to producer associations. Similarly income generating activities should be promoted and supported.

## References

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