

The potential of castor bean (*Ricinus communis*) to rejuvenate livelihoods in arid and semi-arid lands: the case of Tharaka and Mbeere districts, Kenya

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Abstract:

Ricinus communis L., (Castor bean plant) is among the many neglected industrial plants that could significantly change the lives of many rural communities in developing countries. Commercial production is cited in many countries in the world, but production in Kenya has been on the decline. This study sought to assess the contribution that castor bean could offer to the livelihoods of people living in the semi-arid Tharaka and Mbeere districts that are considered by the Ministry of Agriculture as traditional producers of the bean in Eastern province of Kenya. The target population was the household. Using Purposive Sampling Method, two administrative divisions were selected. one in Tharaka district and the other in Mbeere district. Eventually, a representative sample of households from the locations in the selected divisions was obtained through snow balling, starting from the Chiefs' camp. In each sample division 100 sample households were selected. Based on a list of registered/organized groups obtained at the Social Development Officer in the division of study, 15 office bearers from different groups were randomly sampled in each division. Similarly, 15 village sub unit heads were randomly sampled based on the list provided by the District Officer making another 30 households of local leaders from each division. A total sample of 260 households was obtained. Data collected was coded and the computer software (Statistical Package for Social Sciences) was used to analyze the data. The study found out that there was need to revise land ownership laws in Tharaka and Mbeere districts to give the youthful farmers a chance to practice more innovative farming methods and engage in the right enterprise mix. Age was a significant factor in domesticating castor ($n=260$, $p=0.01$, $r=-0.220^{**}$). Over 80% of the sampled respondents indicated that castor was useful. But even though useful, only 2.7% of the respondents grew it as a commercial crop. Lack of information on many technical issues largely contributed to this dismal performance. Indeed, 34.6% of respondents requested for backstopping in all technical areas whereas a paltry 4.2% of initial knowledge held by respondents came from extension workers and therefore enhancing the argument that extension workers also needed skills in producing castor beans. Different castor accessions are grown in the study area and may possess varied ricin content, with 85% of the respondents indicating that they are not poisonous: An overwhelming 92.7% of the respondents were willing and ready to plant castor for commercial purposes if the necessary support structures are put into place. Policy guidelines on the production of castor were lacking, making growth of castor a risky business. Urgent enactment of castor policy is needed not only to broaden the range of castor products in the market but also to boast its national value compared to other competing cash crops. This study is useful to policy makers, staff and farmers working in the agricultural sector.