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## Alternative Crops for Sustainable Rural Development — A Socioeconomic Evaluation of the Possibilities for Growing *Aloe vera* in Northern Mexico

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### Abstract

Since Mexico has signed the North American Free Trade Agreement (NAFTA), the structure of the rural economy is severely changing. 25 % of the population still draws their incomes from farming activities. In addition to political changes, farmers of arid regions in Northern Mexico face an increasing water scarcity and thus land degradation. Reasons for that is an inadequate use of regional water resources as well as decreasing precipitation. Both, scarcity of water and the lack of other possibilities to increase productivity have caused problems such as poverty, land retirement and migration. Many of the small scale farmers are forced to search for alternative crops and non-agricultural income.

*Aloe vera* is one of the most suitable plants due to its ecological adaptation to arid regions and to its increasing demand on global markets. The investigation of the potential of Aloe in Northern Mexico was linked to an already existing pilot project of the University of Chapingo, Mexico, dealing with sustainable rural development.

Compared with other regional crops Aloe was found to have both ecologic and economic advantages due to its high water use efficiency and high yields per hectare. Because of its drought resistance Aloe can also be integrated into agro forestry systems to stem desertification. Furthermore there is an increasing demand for organically grown Aloe on global markets which carries higher product prices.

The study also showed that for continuous production small scale farmers need free access to consulting, irrigation and financing.

The principal demand for Aloe products is still to be found in more developed countries. The study shows that it is difficult for small farmers to enter and to remain on global markets. Intensifying the transfer of knowledge between research and farmers could however, significantly increase the potential for regional and national commercialisation.

**Keywords:** *Aloe vera*, arid regions, commercialisation, Mexico, production characteristics, small scale farmers