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Can Underutilised Species Help to Build Resilience Against Climate Change? Study of Cactus Pear, Bolivia

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Abstract

The cactus pear (Opuntia ficus-indica) is adapted to semi-arid and arid climate. It is an alternative crop that has the potential to help the Bolivian rural population to face climate change. One of the most important characteristics of the cactus is the wide variety of by-products that can derive from the plant. This thesis is an attempt to answer questions concerning the actual state of the value chain of cactus pear fruits in Bolivia and the opportunities for future developments which could help rural farmers improve their income and build resilience against climate change. Three research questions were addressed. Economic importance of the cultivation of cactus pear fruit in Bolivia. The study revealed that of the 28 producers studied, none of them reach the minimal monthly income in Bolivia (BOB 2000). However, those results confirm that cactus pear production is actually a side crop, which complements the main income for the families coming from external activities or farming. The attitude of consumers in the urban market of Cochabamba regarding cactus pear. Some customers refuse to eat cactus pear for fear of facing digestive problems. Transformed products without seeds cause no digestive problems and could respond to a new demand. Concerning the cactus pear stem, there is yet no established habit of consumption. It could be introduced in the market, by mixing it with other functional foods and promoting the properties against diabetes and cholesterol. The future of the developments of the value chain. The main problem for production is the presence of cochineal on the fruits plantation. This lowers the quality and the quantity of the harvest. The market potential for production is vast. The plant could bring an income to many more communities unable to keep growing traditional crops such as wheat and maize. The cactus pear offers an alternative for fodder in communities living from livestock production. The results of the research reveal that by addressing the bottlenecks in production, processing and marketing, great opportunities to add value and increase farmers family income in semi-arid areas could be met.

Keywords: , Market research, market structure, *Opuntia ficus indica*, Plurinational State of Bolivia, supply chain

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