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## Stated Preferences of Functions of Llama Keeping in Bolivia

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### Abstract

Bolivia accounts for approximately 63 % of the South American llama population. Llamas keep playing an important role in the sustenance of smallholdings in the Andean regions fulfilling various functions in the productive, social and cultural life of the people. However, these functions have not yet been valued scientifically. This study therefore evaluates functions of llama keeping from a breeder's viewpoint. A ranking approach was applied with 75 farmers in 6 villages. The different functions of llama keeping were presented visually. Each farmer was asked to arrange the illustrations according to his personal preference order. The following 10 functions were suggested: i) Means of transportation to cultivated areas, ii) Means of transportation for other purposes, iii) Llama dung as energy source, iv) Sale and/or consumption of fresh/dried meat, v) Sale of live animals for savings, vi) Sale of live animals for emergency purposes, vii) Sale of fibre, viii) Domestic use of fibre, ix) Integration of animals in cultural events/rituals, x) Herd as capital resource. Subsequently, ranking frequencies of stated preferences were calculated (lower values representing higher preferences). Log odds ratios comparing each pair of functions were computed with a multinomial cumulative logit model. The capital function was most important (rank mean: 2.91, standard deviation: 3.11; 14.6 % of total ranking frequency), followed by the transport function to cultivated areas (3.39, 2.05; 13.7 %) and the transport function for other purposes in third place (4.79, 2.95; 10.9 %). Logistic regression analysis indicates that functions were highly significant. Estimated odds ratios showed significant differences for the three highest ranked functions, with the odds of the capital function being 4.65 times the odds of the transport function to cultivated areas ( $p < 0.0001$ ). The odds of the latter were 2.51 the odds of the transport function for other purposes ( $p < 0.01$ ). It was concluded that functions indicating the sale of live animals or fleece (ranked in 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> position) were actually not perceived as highly important by the farmers, a fact that has to be taken into account when aiming at the improvement of llama husbandry and breeding.

**Keywords:** Bolivia, functions of llama keeping, llamas, ranking, stated preferences