Characterisation of Livestock Production Systems in the Naban He National Nature Reserve, Yunnan Province, China

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Abstract

China developed from a huge, but economically less important country to an important global player within the last years. The southwestern part of the country, formerly being a remote, self-subsistent area between Laos, Vietnam and Burma, and one of the world's major biodiversity hotspots, is presently subjected to a huge infrastructural program. Nevertheless, in rural areas of Xishuangbanna, a mountainous prefecture at the Lao border, farmers still run their traditional crop livestock systems. Focusing on livestock, this study aims at characterising the production systems in the regional Naban He nature reserve, in order to identify priority farmer groups for livestock intensification trials. Data were obtained by applying PRA tools, key informant interviews and a structured quantitative survey addressing the demographic characteristics of 204 farms, farm assets and farming practices. Data was collected from 12/2007 to 05/2008 and was subjected to cluster analysis using SPSS 17 software. Only interval scaled variables were considered in the analysis, tested for auto-correlation and transformed to binary values. The squared Euclidean distance served as distance measure and Ward's method was used as merging algorithm. Three distinct farm classes were identified, located at altitudes of 1686 m, 1032 m and 694 m above sea level. Production assets are more diverse on highland (H) and midland (M) farms than on lowland (L) farms. Tea plantations (in mu, H: 16.1 ±44.5; M: 12.7 ±27.7; L: 0.8 ±2.1), paddy fields (in mu, H: 27.6 ±26.7; M: 11.6 ±7.9; L: 6.7 ±8.3) and pigs (H: 5.0 ±3.5; M: 4.75 ±3.5; L: 2.5 ±1.9) are more important in classes H and M, while rubber-tree cultivation (*Hevea brasiliensis* (Willd.)) dominates on lowland farms. Class L has better access to extension services and a more intense pig management, although pigs are kept for self consumption only. On farms H and M the local pig breed is extensively reared in order to be sold but farmers lack appropriate access to markets and extension services. Especially class M farmers would like to intensify their pig production but identify lack of labour as a major constraint.

Keywords: Cluster analysis, highland systems, pigs, rubber

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