

Knowledge, Perception and Attitude towards Agroforestry Contribution to Environmental Conservation among Tambunan Community of North Borneo in Malaysia

ABSTRACT

The integration approach between trees with crops and livestock in systematic land management through Agroforestry practices contribute to climate-smart agriculture for food security and climate change sustainability. Agroforestry system support crop diversification, which reduce farmer's vulnerability and increase rural livelihood. The rural communities residing in the Sunsuron division in Tambunan district, North Borneo's knowledge degree of Agroforestry and Agroforestry practices, contribution perception were assessed by conducting a random survey, visual aids, interview and observation. The questionnaire was randomly distributed to 167 residents, mainly from eight villages which are Sunsuron, Kinabaan, Tontolob, Pantai, Tombotuon, Kapayan Baru, Kipaku and Kapayan Lama. The majority of the respondents belong to the Dusun ethnic group. Most of the respondents practiced Agroforestry and only half of the respondents had heard the term Agroforestry. Although, Agroforestry practitioner knowledge on Agroforestry was at the moderate level, a third quarter of the practitioners have been practicing Agroforestry more than ten years. Majorities were practicing agrosilvopastoral including home garden, which maximize soil utilization and crop yield through crop diversification. Other Agroforestry systems that were applied at Sunsuron were silvopastoral and agrisilvicultural. Agroforestry practices contributions, which were selected by respondents, were determined by Factor Analysis and Principal Component Analysis (PCA) showed that ecological factors had the highest eigenvalues, 1.82 and followed by economic factors (1.28) and social factors (1.18). Respondents perceived that Agroforestry practices contribute towards sustainable land management in conserving environmental protection more than socioeconomic. Income from Agroforestry practices was not a significant contribution in the socioeconomic development of local communities in Tambunan because edible crops were mostly for their own consumption and only excess was sold to supplement their income. Agroforestry contributions ensure sustainable development in Tambunan by preventing environmental degradation, achieving food security and poverty alleviation.