

Financial Feasibility of Integrating *Jamnapari* Goats into Underutilized Pastures under Coconut Cultivation in Coconut Research Institute, Sri Lanka

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This study was conducted to evaluate the nutritional and botanical composition of underutilized pastures under coconut lands in Coconut Research Institute (CRI), Sri Lanka and to assess the financial feasibility of *Jamnapari* goat integration into these pastures. Naturally grown (uncultivated) and improved (cultivated) pasture samples were collected from coconut lands in Bandirippuwa and Makandura estates, respectively. Improved pasture varieties were *Brachiaria brizantha*, *Brachiaria ruziziensis* and *Brachiaria milliformis*. Quadrat cut samples were taken randomly and analysed for the dry matter availability (kg/ha), Crude Protein (CP %) and Crude Fibre (CF %). Feasibility analysis was carried out based on of average dry matter yields and respective carrying capacities of pastures and related production and market data. In natural and improved pastures, mean dry matter yields varied from 2141±193 kg/ha to 3314±212 kg/ha and from 4231±407 kg/ha to 9152±531 kg/ha, respectively. The CP % and CF % varied from 6.31±0.29% to 18.51±0.22% and from 30.07±0.48% to 33±0.39%, respectively. Grass and legume percentages of natural and improved pastures varied from 1.97% to 66.38% and 7.03% to 83.91%, respectively. Estimated *Jamnapari* goat carrying capacities for natural and improved pastures were 8-11 heads/ha and 24-27 heads/ha, respectively including does, kids, and a buck. The Net Present Value for the coconut monoculture system was around LKR 0.441 million whereas, for integrated systems with natural and improved pastures, it was LKR 1.432 and LKR 4.689 million, respectively at a 15% discount rate for 10 years. Feasibility and profitability estimates increased in the order of Coconut monoculture, Coconut-Natural pasture-Goat integration and Coconut-Improved pasture-Goat integration.

Keywords: Coconut, Financial Feasibility, Goats, Integration, Pasture

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