Economic Aspects of Mechanization of Tea Harvesting in Maskeliya Region: A Field Experiment.

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Harvesting is the most labor-intensive phase of tea production. As a result, tea producing companies have moved to mechanical harvesting to avoid high cost of production and labor shortage. We empirically compare mechanized (motorized) to shear and manual plucking in a quasi-experimental design conducted in Mousakellie tea estate, Maskeliya. Unit of analysis is 100 sq.m. plot and 32 plots were established in the estate. Plots were stratified under three main dimensions: slope, pruning year, propagation type. Four plots (1 manual plucking plot, 1 shear plucking plot, 2 Machine plucking plots) were randomly assigned under each combination of the above stratification. Data was collected for three harvesting rounds for each plot to generate 96 total plot observations. Cost and benefit analysis was done to compare the three harvesting methods. Quantity and quality aspects of leaves, labor conditions were also enumerated to compare the plucking methods. Multiple linear regression method was used to identify key relationships in quality, quantity, and labor parameters. The results revealed that machine harvesting is more viable than hand and shear plucking as it yielded high benefit to cost ratio (4.01). Cost per plot was 234.81, 303.04, 177.16 LKR for machine, shear and manual plucking respectively. The corresponding total benefit per plot was 943.35, 784.88, 520.74 LKR respectively. Machine pluckers reported significant higher labor income compared to other pluckers. When comparing the labor requirement per hectare, machine plucking showed an important labor input reduction (on average, 8 pluckers per ha per day).

Key words: Benefit**,** Cost, Harvesting, Mechanization, Tea

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