IMPROVING INTERPRETABILITY OF PARTICIPATORY RURAL APPRAISAL (PRA) THROUGH APPROPRIATE STATISTICAL METHODS: CASE STUDIES FROM THE SMALLHOLDER RUBBER SECTOR OF SRI LANKA

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Participatory Rural Appraisal (PRA) has gained a considerable interest among the researchers recently. Thus, it is vital to introduce statistical concepts into PRA, which is an area where statistical applications are very rare. Therefore, many participatory studies report only data summaries as results. The objective of this presentation is to introduce appropriate statistical methods employing illustrations from PRA carried out in the smallholder rubber sector in Sri Lanka. This study is focused on commonly used participatory tools, which employ ranking, *viz.* pair-wise ranking, matrix ranking and preference ranking and also on problem tree analysis (cause and effect diagrams). The ranking methods provide a basis for identifying the priorities of certain decisions, preferences or perceptions while the problem tree generates cause and effect diagrams. This study proposes the Friedman's test for the analysis of both matrix ranking and preference ranking followed by multiple comparisons. The use of binomial test and Kruskal Wallis test is employed for the analysis of pair-wise ranking exercises. An illustration is also made on quantifying cause and effect diagrams using Bayesian Belief Networks (BBN).