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Agricultural Research Needs in a Globalized World: Method Improvement

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Abstract

Economic evaluation of farming systems in developing countries is very complex and subject to error as rural farmers do not keep records. Most researchers and students have diverse opinions, leading to the use of several methods in farm analysis. As such, difficulties arise in comparing results, since assumptions differ in each method. There is therefore a great need for a globalised method for farm analysis. The TIPI-CAL (Technology Impact and Policy Impact Calculations) model was developed by the IFCN (International Farm Comparison Network) and is a method that can stand global applications. This model has an advantage of revealing feasible economic situations under given farm conditions, thereby exposing irrelevance and allowing for checks on the validity of submitted data.

Raw data was collected from typical dairy farms in Cameroon, using in-depth interviews. Data which had previously been analysed using Excel without the model was re-analysed using the TIPI-CAL model. The model enabled a precision in data input of vital elements of cost and revenue such as mortality rates, annual milk yields, opportunity costs and depreciation costs. The separation and measurement of dairy inputs and revenues from those of the whole farm was also plausible with both small and large farms, thereby enabling the model applicable in small-scale farming systems as well. From comparison of the two methods we found that, the TIPI-CAL model revealed significantly higher total costs of production as well as the total income generated from dairy production than the former method. It was realised that, the profit, though still low, appeared double when all cost and benefit components (cash and non-cash) were included in the model calculations. This internationally accepted methodology helped in clarifying doubts from previous studies, which questioned why farmers remained motivated in production, despite the low cash profits they obtained. In addition, this method allows the comparison of production systems at regional, national and international levels.

Keywords: Farm analysis, Globalisation, International comparison, TIPI-CAL model