

Managing the uncertainties of long-term strategies: a methodological proposal

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Abstract: This paper proposes a methodological approach to study processes of innovation in rural contexts. During the various phases of the project, the researchers' perspective is integrated with the farmers' point of view. The major drivers of change that may affect farming systems are identified through specific exercises conducted with the participation of the farmers as well as by means of an academic research analysis. A Delphi exercise is presented for the purpose of identifying possible future scenarios. Integration of farmers' perspective with that of the researchers is proposed for the development of the Delphi technique during the experts' identification phase. Lastly, a critical evaluation of the proposed methodology is presented.

Keywords: co-innovation, rural development, Latin America, Delphi technique, future scenarios.

General objective

Ensuring sustainable development through adaptive management of farming systems requires a shift from the short term perspective to the long term one; consequently, new tools and new approaches are needed to help rural stakeholders in dealing with future uncertainties rather than with facts.

The research is part of the EU Funded project "Breaking the Spiral of Unsustainability in Arid and Semi-Arid Areas in Latin America Using an Ecosystems Approach for Co-Innovation of Farm Livelihood" (EULACIAS)¹. The overall aim of the project is to identify opportunities and trade-offs for livelihood improvement and sustainable use of natural resources. A co-innovation approach is developed and structured according to the concepts of social learning and action research. The research includes case studies.

Specific objectives

The proposed methodology is aimed at:

- identifying major drivers of change of farming systems
- providing scenarios of combinations of major drivers in order to identify recommendations for regional policies for each case study area.

Methodology

Identification of key drivers

Drivers of change are considered external forces that are not directly controlled by the farmers. In order to identify the most important drivers, the researchers' perspective is integrated with the farmers' point of view. A review of the literature and an analysis of the secondary sources make it possible for the research teams to gain a general understanding of key elements and trends within the context as well as of the institutional, social and economic factors for the case study areas which may influence farming and supply systems. At the same time, participatory workshops involving stakeholders in the definition of problem trees are organized for the purpose of identifying those issues which impact on sustainability in selected regions.

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Construction of scenarios

Scenarios are tools employed in considering the future; they are based on the assumption that the future is unlike the past and that it cannot be predicted. The Delphi technique uses experts' knowledge to make future projections in a qualitative way. It is defined as a "method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem" (Turoff & Linstone, 2002 p: 3). The main steps involved in designing the survey include (Ilbery et al., 2004, Shon & Swatman, 1998): identifying and recruiting the participants; designing and circulating the first round of open-ended questionnaires; drafting feedbacks from the first round questionnaire, designing and circulating the second round of the closed-ended questionnaire and analysing the results of the second round. As in the selection of drivers, identification of the participants will be handled by the research teams; participants will also be identified during the participatory workshops. Consequently, even in this research phase, a top-down approach is integrated with a bottom-up one.

Results

In South Patagonia (Argentina) the research focuses on cherry farming system. The competitiveness of the sector is limited by tariff regime and high cost of labour. In this context, key drivers are identified within trade policy and labour availability.

In Canelones department (Uruguay) the analysis regards family-managed farms which mainly produce vegetables that are sold in Montevideo market at prices that do not permit the sustainability of the farms. On the other hand, the low integration within the supply chain hinders the capacity of the farmers to diversify the production and enlarge the market. Policies influencing the integration of the supply chain and changes in the purchasing power of consumers are identified as main drivers.

The scenarios will highlight the impact of the above drivers on farming systems, with particular attention to the price of products, the cost of labour and of other relevant inputs.

Based on the final outcome, a hypothesis of appropriate policies will be formulated.

Critical evaluation of the methodology

The research focuses on processes of rural innovation which are analyzed as complex management systems of uncertainties; they are aimed at identifying long term strategies that involve the human agency, the generation of knowledge and are applied within the contexts which are characterized by trade-offs of livelihoods strategies involving access to and control over different kinds of capital. In this sense, Long and van der Ploeg (1989) argues that there are inherent epistemological and theoretical incompatibilities of structural versus actor explanations. However, this reconciliation is possible when a top-down approach is integrated with a bottom-up perspective both for drivers' selection and for Delphi's experts' identification. This integration is expected to yield more inspiring results than the two methods taken separately. In addition, a comparison of the two approaches is expected to provide methodological results that should have their own value that goes beyond the content.

The Delphi technique is particularly useful when accurate information is not readily obtainable for all the factors that influence a multifaceted phenomenon and when the problem does not lend itself to precise analytical techniques while it can benefit from collective judgments on a collective basis. In addition, it offers the following advantages: there is no need for participants to meet together and it can be conducted through electronic means allowing the involvement of participants from disparate geographical areas (Turoff & Linstone, 2002); participants are not influenced by the presence of others, it offers opportunities for individuals to revise their views, it provides some degree of anonymity for the individual response, it makes it possible to maintain participant heterogeneity which confers validity to the results, thus avoiding the domination by strong personalities (ibid.).

However, the same considerations that characterize qualitative researches apply in this case as well: some subjective judgement is required and unavoidable during the analysis of the open-ended answers and this can give rise to possible biases. To limit this kind of problem, the text analysis will be achieved by parallel processing on the part of different researchers as well as with specific software. Lastly, reliance on a small and manageable number of participants (given the difficulty recruiting

enough motivated experts and the time-consuming procedure to analyze the answers to open-ended questions) constitutes its main weakness. Results obviously depend on the selected participants and selection biases cannot be ruled out a priori. However, reliability should be improved by integrating the farmers' opinions into the selection of the stakeholders to be represented among the participants of the Delphi exercise.

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