Implementing successful interdisciplinary research programmes in agriculture

td-conference 2010

Geneva, September 15-17, 2010

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Introduction

- Increasing amount of knowledge in agriculture
  - -> larger number of factors to be taken into account in research and development
- Increasing demands towards agricultural research and development
  - -> economic, social and ecological aspects
- Donors and decision-makers requirements for inter(trans-)disciplinarity projects in agriculture
- But… Impacts of interdisciplinary projects have been lower than expected!
  - -> Producers' income growth lower than expected
  - -> Risk of dissatisfaction among stakeholders

Content

- **Introduction**
- **The good reasons** for interdisciplinary research in agriculture
- **Farming system**: an example of interdisciplinary research in agriculture
- **The undermining factors**: general and specifics
- **The way to success** in driving interdisciplinary research in agriculture

The good reasons for interdisciplinarity in agriculture

Changes in consumption

- Urbanisation: 50% urban population in 2015
  - > Change in relationship with agriculture, food, nature
- Increased income
  - Relative importance of food in total income
  - Change in diet and preferences
  - Change in buying habits: supermarkets

The good reasons for interdisciplinarity in agriculture

Change in framework conditions

- Technologies: transport, communication, stock, varieties, etc.
- Increase in total world population + ubanisation

Change in production conditions

- Reduction of state intervention since the 80’s
- Concentration in supply chains
- Production -> Demand-driven value chains
- New acknowledged roles of agriculture

The good reasons for interdisciplinarity in agriculture

- Complexity of farming units
  - Family business unit
  - Production and consumption
  - Diversity in activities
    - Productive and reproductive
    - Subsistence and commercial
    - Agricultural and non agricultural
  - Seasonality
  - High risks

Farming system: an example of IR in agriculture

- Definition

  “A population of individual farm systems that have broadly similar resource bases, enterprise patterns, household livelihoods and constraints, and for which similar development strategies and interventions would be appropriate.”
- Objectives
  - Complexity of the real world
  - Diversity of farmer values and know-how
  - Multi-scale approaches
- Key elements
  - Inter(trans-)disciplinarity
  - Farm and household as one system
  - Dynamic approach
  - Participatory approach

The “traditional” undermining factors

- Value-laden nature of science
- Different perceptions and use of concepts
- Different culture and integration models

The undermining factors

- **« Agriculture is interdisciplinary *per se*! »**
  - Agriculture = genetics, soil science, husbandry, pathology, engineering, …
  - Often applied research
  - Complex farming units
  - Incredible amount of non-formalised socio-economical knowledge among research fellows
  - Interdisciplinarity not often formally defined and two different definitions worldwide!
  - « Hard » vs. « Soft » sciences
  - Bad experiences
  - Lack of socio- and agro-economists

The undermining factors

- **New research approach, same management…**
  - Lack of formalisation of interdisciplinarity
    - -> implications of implementation are underestimated
  - Duality of research approaches within the institution
  - Lack of flexibility in management
  - Top-down decision process
  - Lack of re-allocation of time budget, resources of research fellows
  - Time for « meeting » other sciences
  - Outputs often considered more important than processes
    - -> Evaluation of research inadequate
  - Budget reduction but increasing partnerships required
  - Sometimes “alibi”

The way to success

- Institutional embedding…
  - Formalise and communicate the interdisciplinarity approach
  - Foresee and plan institutional and management implications
  - Clear decisions about implementation' process, expected results and impacts
  - Support and commitment from management

The way to success

- Formalise a clear vision
  - That allows for interdisciplinarity
  - Communicable
  - To which social and natural scientists can identify
- Make use of new management, learning and change management tools
  - Allowing for flexibility in tools and approaches used
  - Train all employees for increasing ability and willingness to cooperate across disciplines

The way to success

- Time…