Approaches and methods for monitoring and evaluation

The aim of many agricultural innovation networks is to realize a system innovation. With system innovation, whole production and consumption systems change, including social relationships, division of roles, formal rules and values, and the technical artefacts and infrastructure. This type of innovation takes place when stakeholders learn from each other in a process of thinking and acting together. In order to get to grips with these learning processes, it is increasingly common to use monitoring and evaluation methods. What are the methods that can be used, what are the most significant differences between them and to what degree are the methods from the different approaches of use in evaluating and managing innovation projects?

In the world of monitoring and evaluation (M&E) three approaches can be identified: result-oriented, constructivist and reflexive (see table p.32). Every approach includes principles, methods and tools that can be used for projects that have the ambition to contribute to (system) innovation. But they differ widely in their vision on reality, the on-going processes and their results and how to support, manage or adjust these processes. Deciding which method is the best depends heavily on the nature of the project, its context, and the monitoring and evaluation objectives. In practice, it may be desirable to use a selection of methods from the different approaches in order to combine their strong points.

>> Result-oriented approach

The emphasis on result-oriented monitoring and evaluation lies in "measuring": to what degree have the original project objectives and subsequent interventions been achieved? In other words: what

are the results? (The "what" question; Zall Kusek and Rist, 2004). Result-oriented approaches are often used to provide an accountability trail for the investment in the project, whenever financiers and their backers have to or want to see what has been done with their money. Planning methods which match this type of M&E are LogFrames or Logic Charts or the more flexible Theory of Change (Davies, 2002).

These methods are based on assumptions and expectations of causality and linearity: 'If we do this in the project, then this will happen and this or that change will take place; to put it another way, the project can plan for change and then measure it.' The strength of result-oriented methods lies in strategy and planning. They force project managers and participants to consider carefully what they want their contribution to be and how they think they should act to achieve this. In other words, they support the development or explication of the intervention strategy. By developing an intervention strategy the project managers and participants can assess what works and what doesn't work at specific times. If necessary, the strategy can be modified along the way. As well as that, the result-oriented methods can be useful in monitoring the progress of the projects, the so-called operational process.

Result-oriented methods are powerful instruments but they have their limitations in (system) innovation processes. An example of a well known intervention strategy in system innovation is the stimulation of unforeseen contacts in order to trigger surprising new insights and initiatives. During the implementation of a result-oriented M&E, project managers and the participants will want answers to a number of questions. In the short term, to what degree they are successful in stimulating unforeseen contacts (output). Further in the process, they will want to know to what degree these contacts have lead to surprising new initiatives (outcome). In the long term, they will want to gain an insight into the degree to which the initiatives have contributed to, for example, a more sustainable agricultural sector (impact). The strength of result-oriented methods lies in asking these pointed questions, but they can often only provide part of the answer. Collective learning and innovation processes do not evolve in a linear way but are unpredictable. As a consequence, cause and effect relations are not easily traceable. Result-oriented methods do not address the value of collective learning and the development of a shared understanding of the project and/or its context.

>> Constructivist approach

The constructivist M&E approach assumes that people are the motor behind the development of novelties and societal change processes. They achieve this through interaction and negotiation (Guba and Lincoln, 1989). Mutual understanding and exchange of experiences support collective learning, improvement and change. Constructivist methods focus heavily on monitoring and evaluation of the progress of the collective learning process. They do not so much define (the "what" question) but highlight more how successful collective learning processes are initiated and prolonged (the "how" question).

A central activity is sharing experiences from different perspectives by different people. An analysis of the most important issues is made on the basis of individual stories and together with the story-tellers, the group reflects on possible further steps. Related M&E methods are Learning Histories (Kleiner and Roth, 1997), see Networks Learning from Learning Histories, p.34, and Responsive Evaluation (Abma and Widdershoven, 2005). A method like Most Significant Change (Davies and Dart, 2005) also falls under this approach.

The strength of constructivist methods is that they stimulate the exchange of perspectives. They ensure a good insight into how processes evolve. These insights are of value for the learning process itself and the relationships within the project or network

	Result-oriented approach	Constructivist approach	Reflexive approach
Methods	LogFrames, Logic Charts, Theory of Change	Learning Histories, Responsive Evaluation, Most Significant Change	Reflexive Monitoring in Action/ Reflexive Process Monitoring / Interactive Learning Approach
Objective	Accountability and managing	Learning from each other and modifying processes Agenda setting	Learning, change of practices and their institutional setting
Paradigm	Reality exists and can be measured/defined objectively	Reality is constructed through interaction and negotiation.	Reality has to be reconstructed/ a new reality has to be developed
Focus	Results/predefined objectives or procedures	Meanings and values, based on negotiations	Calling existing practices and institutional settings into question

Table. Summary of the differences in objective, paradigm and goals between the three M&E approaches.

can be strengthened using the results of monitoring and evaluation. In particular, constructivist methods can help collective learning when the outcomes of an intervention are unpredictable, the process of change is intangible involving multiple pathways and interrelated factors, and the actors involved have different perspectives on the central problems and their causes, a common phenomenon in innovation projects. This type of learning can increase support for the project. One weakness of this method is that the insights are not easily transferable or exchangeable with the people who have not taken part in the M&E process. One trap can be that there is so much focus on the exchange of perspectives that the intention of a project to contribute to actual change is forgotten.

>> Reflexive approach

We call the most recent approach in M&E-country reflexive (Voss *et al.*, 2006). Reflexive methods focus on both a collective learning process (in groups of actors and in networks) as well as on the results in terms of learning and institutional change. The reflexive approach has a constructivist basis but goes further. Project or network participants not only exchange their personal viewpoints and motives but they also debate their presumptions and underlying values and norms and the institutional context in which they operate. In this way, they can arrive at diverse agreements about possible joint actions. Reflexive monitoring assumes that system innovation can only take place if the institutions (laws, regulations, culture, etc.) which have until now perpetuated the current (non-sustainable) practices change as well (Mierlo, 2010a). The leading question in reflexive monitoring is whether the activities in an innovation project stimulate precisely those learning processes that can lead to a change in current practices of interdependent parties.

The strength of this approach is that it is based on thinking in terms of systems; current practices are questioned and the aim is to change a complete system. For this reason, the approach is promising for projects where the ambition is to contribute to system innovation. Because reflexive monitoring has not yet been implemented in practice very often, there are few people with knowledge and experience of it. It requires sincere commitment and intensive effort; self-monitoring is not or hardly possible. Related methods are the Interactive Learning Approach (Regeer *et al.*, 2009), Reflexive Process Monitoring and Reflexive Monitoring in Action. Reflexive Monitoring in Action (RMA) has mainly been conducted in the context of agriculture in the Netherlands; a few examples of RMA experience in practice can be found in Mierlo *et al.*, 2010a and Mierlo *et al.*, 2010b.

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