



# Replication and translation of co-innovation: The influence of institutional context in large international participatory research projects



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## ABSTRACT

Stakeholder involvement in research processes is widely seen as essential to enhance the applicability of research. A common conclusion in the extensive body of literature on participatory and transdisciplinary research is the importance of the institutional context for understanding the dynamics and effectiveness of participatory projects. The role of institutional context has become increasingly important in view of large international research projects implementing shared participatory methodologies across countries (for example within Horizon 2020 and within CGIAR programmes), which each have different institutional contexts. Despite the generally accepted importance of the institutional context for understanding the unfolding of participatory and transdisciplinary research projects, surprisingly little research has actually looked into its role in greater detail. This paper aims to fill this gap in the literature by studying how a set of participatory principles and methods in a European project on integrated pest management (denoted as co-innovation in the project under study) was applied by researchers and advisers operating in a single international research project under the institutional conditions of four countries. The principal finding of this study is that, although constraints and enablers of participatory research at the personal level (e.g. researcher identity) were similar across the studied countries, research organisation- and community-based constraints and enablers differed, as well as those at the level of the overall innovation system. The institutions at different levels interact and create country-specific histories and path-dependencies, which lead to different degrees of propensity and preparedness, and hence different starting positions for participatory approaches. Consequently, when participatory research methods and approaches are applied in different contexts following a one-size-fits-all approach they may be less effective if not translated to institutional conditions at different levels. The study suggests that large international participatory research projects make provision in their design for careful selection of project team individuals, the composition of teams, and pay attention to the room for manoeuvre that the project, institute and national contexts provide for participatory research. To support the adjustment of participatory approaches to local institutional conditions, large international projects would benefit from fostering learning spaces that enable reflection on translation to local contexts and are capable of connecting to a wider network of decision makers and influencers that can facilitate institutional change in organisations and innovation systems.

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## 1. Introduction

Over the past few decades, much work has been done on analysing approaches, methodologies and functions of participa-

tory agricultural research that may include stakeholders other than farmers (Merrill-Sands and Collion, 1994; van de Fliert and Braun, 2002; Hoffmann et al., 2007; Tress et al., 2007; Neef and Neubert, 2011). One of the findings in this extensive body of literature is the importance of the institutional context in which the participatory research is carried out, as it co-determines effectiveness (Martin and Sherington, 1997; Hall and Nahdy, 1999; Clark et al., 2002, 2007; Klerkx and Leeuwis, 2008; Reed, 2008). In this paper, the rules-of-the-game approach to institutions is used (following

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North, 1990): institutions constitute sets of norms, rules, routines or shared expectations that govern actors' behaviour (North, 1990; Hall et al., 2001, 2003). The institutional context refers to the environment in which these sets of norms, rules, routines or shared expectations are present and govern actors' behaviour. Hall and Nahdy (1999) argue, for instance, that researchers' behaviour in participatory processes is not just an issue of individual personalities, values and skills. Rather, it is more a matter of conditioned responses to the prevailing institutional contexts, such as historical patterns of scientific research practice, institutional politics, personalities, professional aspirations, the quality of human resources and country-specific cultural norms. There are thus different dimensions to the institutional context, at different levels: the researchers, their organisations and the broader system in which research organisations are embedded.

Given the influence of a country's specific institutional context on how participatory research unfolds and the degree to which it can be effective (Neef and Neubert, 2011), several authors have observed the problems involved in exporting or replicating participatory approaches in agricultural research and extension, as well as collaborative innovation and planning more broadly, that have been largely developed elsewhere for implementation in a blueprint fashion (Millar and Connell, 2009; Parkinson, 2009; Minh et al., 2010; Owen et al., 2011; Reid and Brazendale, 2014; Schut et al., 2016; Turner et al., 2016). For example, Reid and Brazendale (2014) document attempts in the 1990s to introduce a Farmer First approach to agricultural research (Chambers et al., 1989) developed in developing country contexts and implemented in New Zealand. Poor actor engagement and limited broader organisational legitimacy and support constrained the project's influence on sustained change in the agricultural innovation system prevailing at the time. They conclude that later efforts to introduce participatory research and innovation modelled on Dutch approaches (Fischer et al., 2012) have been more successful. Nonetheless, Turner et al. (2016) find that also here the institutional context presents several problems to embedding new approaches. Another example: in a developing country setting, Parkinson (2009) and Minh et al. (2010, 2014) look at a shift from supply-driven to demand-driven agricultural extension in Uganda and Vietnam, respectively, following international trends advocating this shift. In both cases, considerable learning was needed to enable operationalisation of the espoused approach in terms of changing involved actors' mindsets as well as incentive schemes. This shift was unsuccessful in the Uganda case, but successful after decades of adaptation in the case of Vietnam. As an example of collaborative innovation and planning, Schut et al. (2016) find that the innovation platform approach now amply implemented in international agricultural research for development is hindered by an explicit reflection on what this means for international and national research institutes. They conclude that the institutional embedding of innovation platforms requires structural changes in organisational mandates, incentives, procedures and funding, as well as investments in exchange of experiences, learning and capacity development. In the context of land-use planning, Owen et al. (2011) investigated the implementation of so-called village design statements (VDS) in Ireland, originally developed in local communities in England. They conclude that when an established community-led initiative is being transferred from one cultural, political and institutional context to another, aspects of that new context need to be addressed to redress the loss of appropriateness to local conditions in the new location. Lastly, Millar and Connell (2009) find that agricultural technologies generated by participatory research, and thus already adapted to farmers' realities, nonetheless need an additional participatory process in each new village to adapt them to local conditions and contexts.

Although this earlier work thus indicates the limitations of replicating participatory approaches or the solutions generated by them, it is precisely such replication (i.e. bringing a participatory methodology from one context to another context, or applying a common methodology in a similar fashion in multiple contexts) which is increasingly becoming a practice in large international research projects. A common methodology is applied, on the assumption that it will unfold more or less similarly in all countries in which the project is active, thereby ignoring how differences in institutional contexts can affect outcomes. Examples include projects under the European Horizon 2020 programme that work on the basis of multi-actor approaches by multi-country consortia (Edler, 2010), projects between the United States and neighbouring and other countries (Chen et al., 2013; Song et al., 2016), and projects within the consortium-wide research programmes of the Consultative Group on International Agricultural Research (CGIAR), which work across different continents (de Janvry and Kassam, 2004; Ekboir, 2009). Furthermore, the general internationalisation trend in research and technology organisations (Jonker and Cruz-Castro, 2010; Berger and Hofer, 2011; Sharif and Baark, 2011) is extending to applied agricultural research organisations that formerly operated nationally. These establish satellite offices outside their country of origin (Guimon et al., 2016), thereby often exporting and replicating country-specific methodologies. More generally in the context of participatory land-use planning processes, similar developments have also been described in cross-border projects in several countries with shared methodologies (Faehnle and Tyrväinen, 2013; Roth and Winnubst, 2014; Drazkiewicz et al., 2015; Eiter and Vik, 2015).

Some work has focused on systematising institutional dimensions (Martin and Sherington, 1997; Tress et al., 2007; Neef and Neubert, 2011; Franzén et al., 2015), analysing cross-cultural challenges of international research collaboration (Termeer et al., 2010; Chen et al., 2013), analysing comparatively the contextual embedding of knowledge (Ingram et al., 2010; Klerkx and Proctor, 2013), and assessing how agricultural innovation systems in different countries may affect the potential for participatory research and extension approaches to be effective (Garforth et al., 2003; Hermans et al., 2010; Ugolini et al., 2015). These studies, however, have not systematically and comparatively analysed how institutional dimensions play out in international research and innovation projects that follow a common participatory research approach. Hence, there is a gap in the literature as to how participatory research in a project with a shared approach, executed in several countries, unfolds under the different institutional conditions in those countries. This paper aims to fill this gap by studying institutional dimensions in international research and innovation projects – using a systematic and comparative method, guided by the following research questions: 1) how do different institutional conditions at different levels in four European countries influence the enactment of a shared set of participatory principles and methods by researchers and advisers working in the same international project?; and 2) how do differences and similarities in institutional conditions matter for the design of large international participatory research projects? By answering these research questions, the paper aims to contribute to theory building and policy guidelines for international research cooperation (Termeer et al., 2010; Chen et al., 2013) and theory building and policy guidelines as regards the institutionalisation of participatory research (Martin and Sherington, 1997; Tress et al., 2007; Neef and Neubert, 2011; Franzén et al., 2015). The insights provided by the paper can stimulate discussion on how programme design can accommodate differences in institutional context in large international research programmes, and can provide pointers for which institutional changes may be induced to achieve a better embedding of participatory methods.

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