

Understanding Learning in Natural Resource Management

Experiences With A Contextualised Responsive Evaluation Approach

Augustin Tèko Kouévi

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responsive evaluation approach

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To Fidèle, Gracia, Primaël, and Béni

&

In the memory of my lovely Dad
and Mam, Adrien L. and Odile D.

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CHAPTER 1

General introduction

1.1 Introduction

Sustainable management of natural resources (NRM) has been a challenge for ecologists and development workers since the beginning of the 1970s (United Nations, 2012; WCED, 1987; World Congress on Justice, Governance and Law for Environmental Sustainability, 2012). Concern for this challenge has emerged during the Earth Summit of Stockholm (1972) during which the worldwide development workers diagnosed resource degradation threats which the world will face in the near future if there is no collective effort for more efficient management of the available resources (Coalition Eau, 2012; United Nations, 2002, 2012; WCED, 1987). In order to meet this sustainable resource management goal, several intervention approaches have been experimented with different degree of effectiveness around the world. Regulation and compliance, participatory management, community-based management, community-led management, integrated management, and adaptive management are examples of resource management approaches experimented to date around the world (CapNet et al., 2005; Gonçalves et al., 2005; IFAD, 2006; IUCN et al., 1980; Stankey et al., 2005). The evaluation of the effectiveness of these approaches has revealed that integrative, and adaptive management approaches are required for sustainability because of the unpredictable dynamics characterising natural resources (CapNet et al., 2005; Campbell et al., 2006; Holling, 1978; Operations Evaluation Department, 2005; Stankey et al., 2005; United Nations, 2012; World Congress on Justice Governance and Law for Environmental Sustainability, 2012). Therefore the worldwide resource policymakers and managers have been reshaping their management policies according to integrative and adaptive management perspectives. While the integrative perspective emphasizes collaboration among stakeholders in the different management activities, the adaptive perspective stresses at iterative learning and collaboration between stakeholders for the sake of continuous adaptation to the dynamics of the resources. This means that effective NRM is increasingly equated to collaboration and learning among stakeholders from experiences, and to adaptation of management practices to the dynamics surrounding resources (Campbell et al., 2006; Holling, 1978; Ison, Bawden, et al., 2007; Ison, Blackmore et al., 2007; Kessler et al., 1992; Röling, 2002).

While these management perspectives are growing around the world and increasingly put into practice in a few, mostly developed countries, this is not yet the case in

developing countries (United Nations, 2012; World Congress on Justice Governance and Law for Environmental Sustainability, 2012). Here these perspectives are often adopted in discourses and plans, but not integrated in the practices of managers and other stakeholders (Allan, 2007; Muro & Jeffrey, 2008; Regeer et al., 2009; United Nations, 2002, 2012; World Congress on Justice Governance and Law for Environmental Sustainability, 2012). The ineffectiveness of NRM policies is still a major concern in Africa (Operations Evaluation Department, 1998, 2005; United Nations, 2012; UNEP, 2012). To date, very few studies have investigated in-depth whether and how learning or the lack of it influences the effectiveness of the resource management interventions in developing countries. This thesis aims at filling in this gap. It aims at contributing to the understanding of the limited effectiveness of natural resource management (NRM) interventions from a learning perspective, and explores a way of enhancing learning in a NRM context with an action research approach. It does so by studying a fishery case in Benin Republic.

In order to further situate the research, different explanations for the ineffectiveness of NRM interventions are presented in section 1.2. This is followed by a discussion (section 1.3) on the role that monitoring and evaluation (M&E) may play in learning in the context of NRM. Subsequently, the research questions that have guided this research are formulated (section 1.4). Following this, section 1.5 discusses an approach to monitoring and evaluation relevant to stimulate learning in a NRM context, and explains how the concept of learning may be understood in the thesis. The research design and methodology are discussed in the section 1.6. Section 1.7 presents the thesis' outline and concludes this introductory chapter.

1.2 Explanations for limited effectiveness of NRM interventions

This section explores the reasons for the limited effectiveness of interventions in natural resource management in the African development context. It paves the way for studying NRM interventions from a learning perspective, with an emphasis on the role of monitoring and evaluation (M&E).

1.2.1 The contested meaning of effectiveness in NRM

Effectiveness is a concept generally understood as a person's perception resulting from the match between pursued and reached goals (Argyris, 1970; Campbell et al., 2006; Samuels & Ryan, 2011). This means that the effectiveness of an intervention or

an activity can be perceived differently by people depending on differences between the goals they pursue and reach. That means also that, given this link between the pursued goals and the activities undertaken to reach them, people with different goals could implement different activities to be effective. Thus, the goals pursued are central to the appreciation of the effectiveness of activities by a person or group of persons. Diverging goals may lead to diverging activities and effectiveness. This brought Bourguignon and Sundberg (2007: 316) to qualify the concept of effectiveness as an ambiguous one. This implicates that the explanation for limitations in effectiveness may be looked for in the multiplicity of stakeholders, and in the multiplicity and divergence between goals, activities, and outcomes (Dietz & Zanen, 2011).

In the context of NRM interventions in Africa, it is clear that we are dealing with multi-stakeholder settings, and highly divergent interests among stakeholders (Dangbégnon, 1998; Hounkonnou, 2001; Idrissou, 2012; Milgroom, 2012; Schut, 2012). In this light, several authors have characterised NRM interventions and projects as arenas of struggle (Bierschenck, 1988; Idrissou et al., 2011; Long & van der Ploeg, 1989; Milgroom, 2012) in which different groups tend to work for attaining their own objectives and interests rather than the formal objectives specified in interventions documents and policies. In essence, the argument here is that the effectiveness of NRM interventions is often hampered by a lack of agreement about the goals that need to be achieved, and hence contestation of the criteria on which 'effectiveness' should be assessed. This frequently leads to overt and hidden tensions and conflicts (Idrissou et al., 2012) that hamper effective natural resource management.

1.2.2 Limited participation of stakeholders

In view of the diverging interests mentioned above, it has been argued that working towards effective NRM requires that the different objectives and interests of stakeholders need to somehow be accommodated and anticipated (Leeuwis, 2004; Röling, 2002). Many authors have argued that, in order to achieve such accommodation, it is necessary that stakeholders somehow interact and participate in the development of NRM interventions (Campbell et al., 2006; CapNet et al., 2005; Gonçalves et al., 2005; IUCN et al., 1980; von Korff et al., 2012; Walter, 2009).

Indeed, with the inclusion of the views and goals of different groups of stakeholders in intervention processes, these last tend to work for the success of interventions because of the account taken of their interests (Abma, 2005 a,b; Leeuwis and Aarts, 2011; van Woerkum et al., 2011). Evaluations of several experiences have shown that participation of stakeholders in NRM interventions is limited in most African countries, which contributes to limitation in effectiveness of the interventions (Dangbégnon, 1998; Hounkonnou, 2001; Idrissou, 2012; UNEP, 2012; United Nations, 2002, 2012).

1.2.3 Limited realism of goals

Unrealistic goals contribute to failing interventions (International Civil Society Steering Group, 2008; OECD, 2002, 2005, 2008, 2011). In practice, to obtain funds, intervention designs tend to make promises that they cannot reach due for instance to limitations in the funds looked for (Bourguignon & Sundberg, 2007; Doucouliagos & Paldam, 2009). This is often the case in NRM sector in Africa, where, sustainable management policies are adopted and funded, but fail in their implementation and outcomes because of limitations in intervention means (United Nations, 2002, 2012). As consequence, interventionists may be perceived as liars or indifferent by the people expecting effective solutions to come from the interventionists (Dietz & Zanen, 2009). Such wrong promises happen because intervention designers tend to be mostly concerned with raising funds by fitting funding conditions often established in advance by funding organizations independently on beneficiaries' realities (Booth, 2005; Bourguignon & Sundberg, 2007; Dietz & Zanen, 2009). This situation is often aggravated by limited participation of stakeholders.

1.2.4 Inadequate theories of intervention

According to some authors, effectiveness of interventions depends on the extent to which perspectives or theories underlying them match contexts (Allan, 2007; Bourguignon & Sundberg, 2007; Kessler et al., 1992; Long & van Der Ploeg, 1989; Samuels & Ryan, 2011). This adaptation of intervention theories to contexts seems often absent in the field of NRM in most areas where interventions tend to follow pre-conceived and non-dynamic or non-adaptive trajectories (Baland & Platteau, 1996; Crabbe & Leroy, 2008; Holling, 1978; Leeuwis & Aarts, 2011; Regeer et al., 2009; van Woerkum et al., 2011). This happens so sometimes because of aid conditions, and other time because of a lack of understanding of the complexity of the context of

intervention by designers and implementers as well as a limited understanding of this complexity by the beneficiaries (Allan, 2007; Bourguignon & Sundberg, 2007; Crabbe & Leroy, 2008; Ison, Bawden, et al., 2007; Ison, Blackmore, et al., 2007; Smith & Reynolds, 2010). By complexity of context is meant the multiple interconnected loci of control of intervention processes and outcomes, the multiple management stakeholders, the differences in power positions, and the diverging and competing interests.

In Africa, NRM intervention designers, implementers, evaluators, as well as beneficiaries, often lack the necessary systemic or adaptive management competences (Operations Evaluation Department, 1998, 2000; United Nations, 2012; UNEP, 2012). As a consequence, interventions tend to be narrow in the face of the NRM realities, and to result in limitations in effectiveness. This reason for limited effectiveness has for instance been mentioned by the RIO+20 summit (United Nations, 2012), and authors concerned with natural resource complexity management (Campbell et al., 2006; Crabbe & Leroy, 2008; Regeer et al., 2009; William & Imam, 2006). Because the activities have specific focuses and do not address other all relevant dimensions, all kind of problems occur further in the intervention cycle, and hence contribute to the ineffectiveness of interventions.

1.2.5 Lack of coordination between different interventions

Scholars and interventions' effectiveness analysts have pointed to the lack of coordination between different interventions as an explanation for limited effectiveness (Bourguignon & Sundberg, 2007; OECD, 2002, 2005, 2008, 2011; United Nations, 2012). Indeed, the co-existence of multiple interventions with overlapping goals (generally poverty alleviation in NRM in developing countries), combined with lack of precisions in designs and of coordination, give room for lack of rigor in intervention and evaluation activities, and hence for the effectiveness of interventions. Coordination of interventions is often absent between interventions (NRM included) in Africa due to lack of competence and interests conflicts among interventions' stakeholders (Operations Evaluation Department, 1998, 2005). Meanwhile, coordination for more traceability and accommodation in views and practices is necessary for effectiveness of interventions in NRM contexts (Giller et al., 2008; Leeuwis & Pyburn, 2002; Röling, 2002).

1.2.6 Synthesis

The red thread in the factors mentioned above is that NRM interventions are affected negatively by various limitations in the sphere of perspectives and understanding. Limited understandings of NRM complexity, limitations in interactions for exchange among stakeholders, differences in management theories and practices, multiplicity and lack of coordination of interventions explain the ineffectiveness of NRM interventions. These kinds of observations have led authors in the field of NRM to make a plea for adaptive approaches, in which forms of learning and social learning are prominent (Giller et al., 2008; Holling, 1978; Ison, Bawden, et al., 2007; Lee, 1998; Leeuwis & Pyburn, 2002; Wals, 2007; Walters, 1986). In some of these approaches, monitoring and evaluation of experiences with earlier interventions are assumed to have an important role in learning and adaptive management facilitation (Holling, 1978; Lee, 1998; Regeer et al., 2009).

1.3 Role of monitoring and evaluation (M&E) in NRM

Several literatures present M&E as a way to enhance learning and improve intervention projects and programmes (Lackey, 1998; Mackay, 1999, 2011; Mark & Pfeiffer, 2011; Operations Evaluation Department, 1998, 2005; Operations Evaluation Unit, and Operations and Evaluation Department, 2000; United Nations, 2012). However, whether learning is expected to occur as a result of M&E depends on the M&E approach. Some approaches essentially focus on checking the attainment of predefined goals (Crawford & Bryce, 2003; Leeuwis, 2004; Muller-Praefcke et al., 2010; Woodhill, 2007). Well known goal-oriented approaches are: standards-based evaluation, impact assessment, cost-benefit analysis, programme theory evaluation, logical framework approach, etc. (Crabbe & Leroy, 2008; Stake, 1983; Stufflebeam, 2001). Because of their focus on predefined goals, emerging goals and unexpected outcomes are ignored. Moreover, such approaches tend to exclude goals and issues of some groups of stakeholders, mainly those who are vulnerable (Abma, 2005a,b; Dietz & Zanen, 2011; Guba & Lincoln, 1989; Lee, 1998; Miller, 2010; Stake, 1983; Stufflebeam, 2001). In this way, they fail to generate relevant understanding about the outcomes of interventions and how they came about (Abma, 2005a,b; Stake, 1983, 2006). It follows that further interventions lack knowledge about how to avoid earlier mistakes and reach better outcomes. These M&E approaches are actually still dominant in the world because of interventionists, evaluation commissioners and

evaluators' tendency to ignore uncertainty and unexpected surprises that can result from addressing non-planned situations (Bourguignon & Sundberg, 2007; Doucouliagos & Paldam, 2009; Campbell et al., 2006; Dietz & Zanen, 2011; Guijt, 2008; Lee, 1998; Long & van der Ploeg, 1989; Morell, 2005). As a consequence, M&E hardly contributes to learning and improvement of the effectiveness of NRM interventions.

Other M&E approaches put collective agenda setting and learning as the core aim. They include stakeholders and their issues in M&E processes, with the aim to be responsive to their concerns and acknowledging diverging and changing goals (Crabbe & Leroy, 2008; Dietz & Zanen, 2011; Lee, 1998; Muller-Praefcke et al., 2010; Stankey et al., 2005; Williams & Imam, 2006). Examples are inclusive evaluation (Mertens, 1999), transformative research and evaluation (Mertens, 1999, 2009), developmental evaluation (Gamble, 2008; Patton, 1994), and responsive evaluation (Abma, 2005a,b; Abma and Stake, 2001; Operations Evaluation Department, 2005; Stake, 1983; Stufflebeam, 2001).

In Benin, M&E of NRM interventions predominantly follows requirements of financial and technical partners such as the World-Bank, the International Fund for Agriculture Development (IFAD), the European Union (EU), and many other donors. Hence, the monitoring, documenting and reporting focus on the attainment of goals and/or results predefined by intervention designers in logical frameworks. In addition, they tend to be selectively participative, because essentially concerned with highlighting successes. This may hinder learning. Given the importance of natural resources for the sustainable subsistence of humans, this thesis commits itself to exploring the learning effect of an inclusive and adaptive monitoring and evaluation approach on fishery management in Benin.

1.4 Research questions

In view of the above, this dissertation studies the role of learning within NRM interventions, and between different generations of interventions. Moreover, it has a special interest in the potential of responsive evaluation (a new action oriented approaches to M&E, see below) in the field of NRM. Thus, the key research questions are:

1. To what extent do interventionists learn from earlier ineffective natural resource management interventions?
2. What kind of monitoring and evaluation approach may a researcher use to stimulate learning among stakeholders in a natural resource management context?
3. To what extent is the contextualised responsive evaluation design valuable for supporting learning by natural resource management stakeholders?

1.5 Monitoring and evaluation for learning

This section introduces the M&E approach focused on in this thesis, and gives information about how learning may be understood.

1.5.1 Interest in responsive evaluation (RE)

Responsive evaluation (RE) has a clear concern for social inclusion of issues of the stakeholders (especially those who are marginalized) in intervention processes, and for social learning and improvement in effectiveness of interventions (Abma, 2005a,b; Abma and Stake, 2001; Baur et al., 2010). This matches well with the study context characterized by limited inclusion of issues of marginalized people in intervention practices, and limited effectiveness of interventions. However, the use of RE is not common in NRM field. Thus, with this approach, the research is expected to gain understanding in the value of RE in this context, while stimulating learning. Details about RE and the arguments to choose it as the action research for this study are provided in the chapter 3.

1.5.2 Operationalization of learning

The concept of learning is often used loosely in evaluation processes. For more precision about this concept, this thesis borrows the perspective of Argyris and Schön (1976) to operationalize it. According to this perspective, learning equates to the construction of, or changes in action theories (Argyris & Schön, 1976). Action theories are assumptions underlying actions. They are presented to others as espoused action theories, and put into practice as theories in-use. Assumptions of action theories relate to facts (what), reasons (why), strategies (how), and conditions (where and when) of action. Learning occurs with changes in action theories. Thus, single loop learning occurs when only theories about action strategies change, while the

other aspects remain unchanged. Double loop learning occurs when both reasons for action and action strategies change in action theories.

This conceptualisation from the field of organisational learning is not common in the field of NRM. In the NRM literature learning is usually studied on the basis of changes in espoused assumptions (Muro & Jeffrey, 2008; Regeer et al., 2009). Moreover, not all dimensions of action theories are systematically taken into account. The conceptualisation of Argyris and Schön provides a wider understanding of the perspectives and practices of people. The pursuit of the construction of stakeholders' action theories in a RE process may help people to raise awareness of their own perspectives and practices and reflect on them. Hence, the concept of learning will be used not only to unfold the action theories of people and their changes, but also to enhance reflection and learning about their own action theories and those of others.

1.6 Research design and methodology

To answer the research questions, a case was intervened on, and studied. This section discusses the overall research process and choices. Further details are provided later in individual chapters.

1.6.1 Case study as research approach

To be able to study the occurrence of learning before and after the learning interventions, a case study approach was opted for. The choice of this study approach was due to the fact that it is widely known as relevant for studies like the one concerned in this thesis. Indeed, case studies allow in-depth investigations, analysis, and understanding of issues related to people, locations, phenomena, events, processes, etc. (Kumar, 2005). This study approach uses multiple investigation methods such as interviews, observations, triangulations, and interpretations, etc. It contrasts with single investigation method approaches which often use structured interviews or surveys.

The case study concerns fishery management in the fishing municipality of Grand-Popo, South-western Benin. In this region the fishery resources played an important roles in the food security of the residents, but were threatened by exhaustion due to fishing techniques, the high demand for fish to catch, ineffective interventions, the decrease of the quality of the water system, and the degradation of the living and reproduction conditions of the fishery resources (FAO, 2011, 2012; Godfray et al.,

2010; Hilborn et al., 2003; Payne, 2000; Worldfish center, 2005, 2012). Globally, fishery contributes to about 40 percent to animal protein intake of humans and the current need of people for food (fish included) will be multiplied by two by the year 2050 in the world (FAO, 2011; FAO, 2012:27; Welcomme, 2011). However, of 600 marine fish stocks monitored in the world by the FAO, about 52% are fully exploited, 17% are overexploited, and 7% are depleted (FAO, 2005). This brought the FAO and many scientists to suggest more care for population dynamics and the diversity of the fishery resources in order to secure the fulfilment of the needs of the actual and the future generations (FAO, 2012; Payne, 2000; Smith et al., 2010).

In Benin, since several decades, about two thirds (about 80000 tons in 2011) of the total fishery consumption is imported (Direction des pêches, 2012a,b,c). Still, this country has a high fishery resources' capture and production potential (FAO, 2007). To date, all the reasons behind this capture, production and importation situation are not yet totally elucidated (FAO, 2007; MEHU, 2001).

This study focuses on the coastal municipality of Grand-Popo because almost 33% of its population dependent on fishery have been exposed to food insecurity and livelihoods' precariousness due to the scarcity of fishery resources and the economic potential of fishery (Direction des études démographiques, 2004; FAO, 2011). Thus, attention for the case of Grand-Popo was driven by concern for the increase of the valuation of its fishery potential for the sake of the improvement of the food security of not only the population of Grand-Popo, but also of the other people relying on fishery resources. Such improvement could also contribute to the increase of the contribution of fishery to the gross domestic product (GDP) of Benin Republic which is currently established at 12%. Another reason to study fishery management in Grand-Popo relates to the long period the livelihoods and fish resources depletion problems have persistently lasted and even worsened (since the 1950s) despite interventions. From the perspective of learning, people concerned with the problems as well as those who have been intervening could have learned from their earlier experiences such that the problems could have diminished. Thus, the persistence and the worsening of the problems may be evidence of absence of learning by the problems solving stakeholders. This case was therefore ideal for studying the extent to which limitations in effectiveness can be explained by limitations in learning among people as well as to investigate whether and how learning was stimulated.

1.6.2 Action research for stimulating learning in NRM context

Stimulating interaction for reflection and learning among stakeholders is an approach requiring the engagement of both researchers and stakeholders in the research process. Research methodologists refer to such an active process as action research (Checkland & Holwell, 1998; Kumar, 2005; Walsham, 2006; Walter, 2009). According to Reason and Bradbury, action research is “a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes, grounded in a participatory worldview... It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities” (2001: 1). In other words, in action research process, “the researcher enters a real-world situation and aims both to improve it and to acquire knowledge” (Checkland & Holwell, 1998: 3). An action research is characterised by iterative cycles of planning, acting, observing (also called 'evaluating') and reflecting (Campbell et al., 2006; Kumar, 2005; Milgroom, 2012; Schut, 2012; Walsham, 2006; Walter, 2009). In action research, not only researchers but also the stakeholders themselves are involved in at least some of these activities, especially in the evaluation of and reflection on the results of the actions. In the case of Grand-Popo the main researcher observed the action theories, the interaction and the reflection among the fishery stakeholders in Grand-Popo while taking action to provide the stakeholders the opportunity for stimulating further reflections and learning on the fishery management intervention programmes mainly, but also on the value of the interventions of the action researcher to stimulate learning.

To develop an action research approach for the stimulation of reflection and learning among the fishery stakeholders, it was first diagnosed whether conditions for reflecting and learning existed, and then approaches that seemed relevant for the study context were explored, after which RE was chosen and adapted to the study context. Details about the learning conditions prevailing in the study context and the developed learning facilitation approach (RE) are provided in chapter 3 of this thesis.

1.6.3 Interpretive methodology

The methodology of this thesis has been inspired by the interpretive perspective on reality and the role of research. The choice of this perspective had been guided by the conviction that realities are constructed, given meaning, or forecast by people in

interaction according to their experiences, values etc. (Argyris & Schön, 1976; Fairclough, 1985; Goodwin & Heritage, 1990; Yanow, 2000). Artifacts or symbols such as language, objects, and acts are seen to represent concrete expressions of, and shape, values or knowledge, beliefs or moral, and feelings or emotions of people (Yanow, 2000, pp. 1-23). This means concretely that what people say or do during an interaction (interview for instance) comes from and may be understood as derived from the interpretive background they constructed before or construct in the interaction. Hence, people are regarded as actively making sense of their situation, new information, events, etc. (Abma, 2005a; Leeuwis, 2004). This view contrasts with those of other scientists according to whom realities are considered to be objective (Lee, 1991; Walsham, 2006).

The choice of this perspective influenced the analytical framework and methodological design of the study. Thus, as mentioned above, the action theories espoused and in-use (practices) of the fishery stakeholders of the case study of Grand-Popo are considered as concrete representations of the interpretive backgrounds of the stakeholders. Acknowledging the differences in interpretive backgrounds meant expecting differences in action theories of interventionists and fishing people in Grand-Popo. They were studied in the discursive interactions during interviews and meetings. The interpretive methodology of this research thus materialised in diverse research methods (interviews, observation and policy documents' review), and the interpretation of the action theories of the fishery stakeholders of Grand-Popo, as well as the specific validation procedures like member checks.

1.6.4 Data collected, collection, interpretations and validation methods

The study consists of four main parts:

1. The assessment of the evolution of intervention action theories of interventionists from generation to generation, for the sake of appreciating the extent to which interventionists learned from earlier experiences;
2. The assessment of similarities and differences between the action theories of interventionists and beneficiaries for the sake of choosing and adapting the action research approach;
3. The experimentation with, and the assessment of the contribution of the RE approach to changes in action theories of (i.e. learning by) interventionists and beneficiaries; and,

4. The study of the sensitivity of important issues for the interventionists and fishing people and the discursive strategies they use to put them on the agenda during homogeneous and heterogeneous group interactions, and the relation with learning by these fishery stakeholders.

To study whether the action theories of interventionists had changed over the generations of interventions, five subsequent intervention projects and programmes designed and implemented between 1950 and 2011 were studied (see chapter 2 for detail). The intervention action theories of these subsequent interventions are compared to each other such as to detect the extent to which subsequent interventions build on results of the evaluation of earlier experiences. This study builds on the analysis of the contents of the interventions' policy documents and evaluation results, and on results of interviews and observations. Aspects of action theories focused on are the reasons for the interventions, the goals, the strategies, and the outcomes. In the analyses, subsequent intervention action theories are expected to change according to the outcomes of the earlier experiences. The absence of such changes is understood as a lack of learning. The reasons for the lack of learning are further explored in the degree of interactions with beneficiaries, and in the quality of the feedbacks exchanged with beneficiaries.

To develop a good approach to stimulate learning, the study is extended to the unfolding of the action theories of the interventions' beneficiaries (in chapter 3), for the sake of comparing them with those of the interventionists. We assume that ambiguity in the action theories of interventionists and beneficiaries affects interventions' outcomes negatively. The action theories of 50 interventionists and 160 fishing people are studied on the basis of individual and group interviews, and observations. Interventionists interviewed are influential actors of intervention projects, NGOs, and other influential intervention organizations (fishery directorate, communal agriculture promotion centre, municipality, etc.). Fishing people come essentially from six landlocked fishing villages accessible mainly via water or marshlands, which are marginalised by interventionists for diverse reasons (see chapter 3 and 4). The action theories are derived from the review of the interview transcripts and discussions' and observations' notes. Because of the ambiguity found, a RE approach was designed and adapted to the context. The main adaptations compared to 'regular' RE relate to the operationalization of learning in terms of

changes in action theories, the investigation of action theories in-use in addition to those espoused, and the inclusion of an analysis of the history and the intervention system to deal with routine and complexity of NRM, and to stimulate high level learning.

The adapted RE approach is experimented with in the fishery context of Grand-Popo, and its contribution to learning is assessed (see chapter 4). During the RE experience, the action theories of interventionists and fishing people are recorded with the help of notes and transcripts. The assessment of the contribution of the adapted RE approach to learning among interventionists and fishing people consists of comparing their action theories during and after the RE activities to their action theories in the beginning of the RE process. Changes are considered as learning, while status-quos are qualified as absence of learning. Emerging similarities in the action theories of the interventionists and the beneficiaries are qualified as social-learning (chapter 4).

The expectation was that the responsive evaluation process would offer opportunities for stakeholders to put important issues on the agenda, albeit with indirect discursive strategies. Given the limited learning notwithstanding the responsive evaluation approach, it was perceived to be necessary to investigate in-depth how the stakeholders discursively handled important issues. Hence, to understand the limitations in the learning, the sensitivity of important issues for the stakeholders were analysed by studying if and how they were discussed in the different interaction settings of interviews, meetings with fishing people and interventionists separately and meetings with both groups (chapter 5).

1.7 Thesis outline

The thesis is structured around six chapters. After this introduction, four chapters follow which give an account of each of the research parts described above. They are all papers for international journal in different stages from submitted to published.

For the sake of in-depth understanding of the problems faced by stakeholders in the case study, the process of learning among generations of intervention projects and stakeholders in the fishery context of Grand-Popo in Benin is investigated and discussed in chapter 2, thereby answering the first research question. This chapter reveals that fishery interventions are repeatedly ineffective. Moreover, it shows limited learning by interventionists interpreted as repetitive discrepancy between their

espoused and in-use action theories. Therefore, learning interaction facilitation among the stakeholders toward more effectiveness of the fishery management interventions is suggested as an alternative solution.

In chapter 3, the understanding of the limitations in learning is deepened with the help of the exploration of learning conditions prevailing in the study context in order to answer the second research question. In this chapter, the following conditions hindering learning are revealed: the ambiguity between the fishery management action theories of the interventionists and the fishing people; the power differences among the stakeholders; and, the absence of learning interactions among the stakeholders. In order to deal with these learning conditions the action research approach was designed, experimented with, and assessed. Given the power differences and ambiguity, conditions for which responsive evaluation has been developed, a contextualised responsive evaluation approach is proposed to stimulate learning among the fishery management stakeholders of the case study of Grand-Popo.

In order to assess the relevance and performance of the proposed responsive evaluation approach (the third research question), it was experimented with in the fishery case study of Grand-Popo. Chapter 4 reports on how this evaluation approach was experimented with and the extent to which it contributed to learning by and among the interventionists and fishing people involved. This chapter reveals the occurrence of single-loop and some double-loop and social learning, but also a remaining gap between changed espoused theories and theories in use.

Chapter 5 goes into depth to understand the limited learning as a result of the responsive evaluation process. It discusses which issues were sensitive for the stakeholders, and how they presented them in different interaction settings of the adapted RE approach. It discusses which discursive strategies the stakeholders employ to put their issues on the agenda in the meeting with the other stakeholder groups. It shows that some sensitive issues were not discussed at all, while others were discussed with indirect discursive strategies.

The thesis ends with the concluding chapter 6 which recalls the research questions, summarizes and discusses the major findings, and concludes the dissertation with lessons and implications for policy and practice in NRM and monitoring and

evaluation (M&E). The reasons for the limitations in learning by the interventionists and the fishing people are explored on the basis of relevant literature. They relate to the opportunities to learn offered by the environment, the motivation and the capacity to learn of the interventionists and the fishing people.

In all, this thesis will demonstrate that limitations in learning are prevalent in Grand-Popo, and likely to undermine the effectiveness of (series of) NRM interventions. It will be made clear that we should not have naïve expectations about the potential of systematic approaches and methodologies to foster learning, and that creating more conducive conditions for learning should be a first priority.

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CHAPTER 2

Repetitive discrepancy between espoused and in-use action theories for fishery intervention in Grand-Popo, Benin¹

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Abstract

In order to be able to adapt successfully to eco-challenges, interest in change-oriented learning is growing around the world. The authors of this paper aim to assess the occurrence of learning for effective action-taking in successive fishery problem-solving interventions in the municipality of Grand-Popo, South-Western Benin, where interventions aimed at fishery development have been taking place for several decades with limited outcomes. Case studies were examined to investigate learning by intervention parties from generation to generation of interventions, with reference to organisational learning theory. Historical analysis of intervention processes within their context based on document review, conversations and observations helped in describing and tracking the intervention processes and their outputs since the 1950s. Findings indicate some single-loop learning by some interventionists, but mainly continuing discrepancy between espoused and in-use intervention/action theories. The learning needed to improve the effectiveness of interventions is absent.

Keywords: fishery problem solving; intervention action theories; learning for improved effectiveness; Benin.

2.1 Introduction

The effectiveness of sustainable natural resource management interventions, especially in developing countries, has been an issue of interest for the worldwide development institutions, actors and scientists for several decades (MEHU, 2001; United Nations, 2002; Cap-net, GWP and UNDP, 2005). By analysing learning between different generations of projects and programmes, this paper seeks to understand the repeated failure of such interventions in the Beninese municipality of Grand-Popo.

Grand-Popo is a municipality of about 289 km² located in South-Western Benin, West Africa. It comprises a water system composed of the Atlantic Ocean, the Coastal Lagoon, the Gbagan Lagoon, the Aho Channel, the Sazué River, the Mono River and shallows (Dagnon-Prince et al., 2004; see Figure 2.1). Fishing is one of the most important income-generating activities of its population, settled here since the seventeenth century. This activity has been threatened by exhaustion of fish stocks since the first half of the 1900s, due to overfishing and pollution, and natural phenomena such as erosion, siltation and floods. Therefore, the livelihoods of fishing community members have been impaired. Since the 1950s, Grand-Popo has witnessed numerous programmes and projects aimed at solving problems in fisheries management. However, earlier studies and reports suggest that successive interventions implemented to reverse this resource depletion and impoverishment have resulted in limited outcomes (Association Nonvitcha, 1921, 1987; Pognon, 1955, 1958; Pliya, 1980; MEHU, 2001; Tomety et al., 2001; Dagnon-Prince et al., 2004; MPDEAP, MEF and MAEP, 2007).

Against the background of increased interest in learning-based strategies for achieving effective and adaptive management of natural resources (Halbert, 1993; Capnet, GWP and UNDP, 2005; Stankey et al., 2005), we decided to analyse whether and how the repetitive problems with regard to effectiveness could be understood in terms of the occurrence of learning between successive generations of interventions. Therefore, this paper analyses interventions in Grand-Popo across three historical sub-periods between 1950 and 2010. As elaborated in the theory section, we study learning from the perspective of organisational learning theories, and in particular the work of Argyris and Schön (1976). Thus, we analyse learning in terms of the various types of action theories that (supposedly or actually) guided interventions in the different

periods, and the (more or less substantial) changes that occurred in these (see section 2.2). As detailed further in the research design (section 2.3), these action theories were reconstructed historically on the basis of an analysis of different kinds of documents (e.g. diagnostic reports, project documents, intervention plans and project evaluations) and individual and group interviews with selected stakeholders. After discussing the analytical framework and research design, the paper presents the findings per historical period, and subsequently proceeds with the analysis and discussion. We end the paper with conclusions and recommendations.

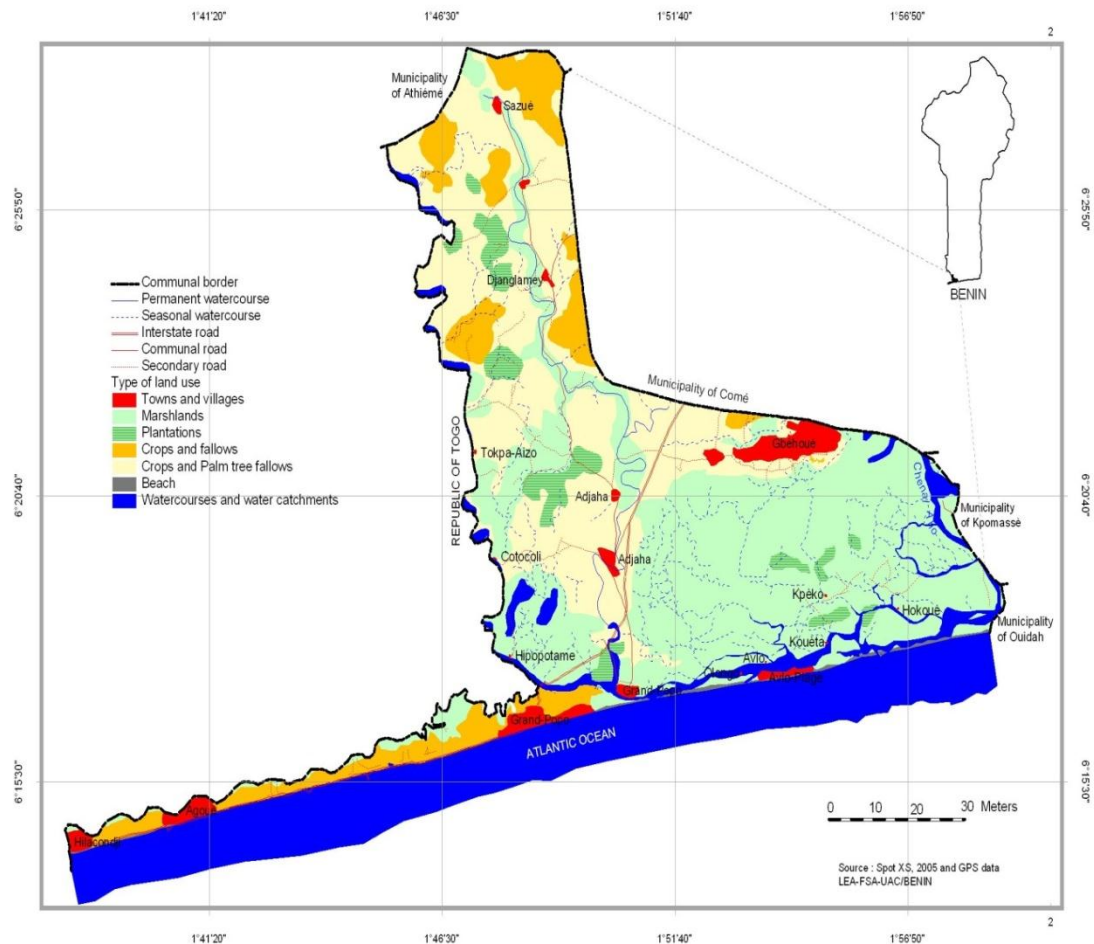


Figure 2.1: Map of Grand-Popo Map of Grand-Popo

2.2 Building an analytical framework

This section consists of a literature review of relevant concepts and of the design of an analytical framework.

2.2.1 Literature review

This section discusses the concepts of intervention, action theories and learning in context of natural resource management, which are central to our analysis.

➤ *The concept of intervention*

Intervention is a concept used in several human activity domains. Whatever the human activity domain is, intervention is commonly understood as a deliberate, imposed, stimulated, or both stimulated and deliberate, entrance of an external actor or factor into an ongoing interaction process (Parton, 2000; Leeuwis, 2004; Du Preez and Roux, 2008). To be more definitive, Argyris (1970, p.6) stated that: “to intervene is to enter into an ongoing system of relationship, to come between or among persons, groups, or objects for the purpose of helping them.” This definition suggests that the system exists independently of the intervener, and that the deliberate or requested intervener has to assist the system to become more effective in problem solving, decision making and decision implementation so that the system can either become increasingly effective or continue being effective in these activities and have a decreasing need for the intervener (Argyris, 1970).

An intervention is an active process requiring the interventionist to adopt an intervention action theory in order to be able to be effective in his intervention initiatives (Argyris and Schön, 1976; Mertens, 1999, 2009), because every actor, i.e. anyone who expends effort (Warner, 1978, p.1341), is considered to have some worldview perspectives or some theories governing his actions and practices and informing him about his effectiveness and need to learn (Argyris and Schön, 1976; King and Jiggins, 2002; Maarleveld and Dangbégnon, 2002; Blackmore, 2005; Bawden, 2010). What is action theory and what makes one’s action theories so important?

➤ *Action theories*

A person’s action theories are the assumptions governing his action. These assumptions generally state the fact or action (what?), the reasons behind the action (why?) in terms of causes and consequences, the strategies to make sure that the action will satisfy the reason (how?) and the conditions required to make the action and strategies meet the intended action consequence (where? when? constraints? opportunities?) (Argyris and Schön, 1976). As hermeneutic beings, every actor is

considered to have at least one explicit or implicit action theory governing his actions and appreciations (Mertens, 1999, 2009; Abma, 2005; Blackmore, 2005).

Argyris and Schön (1976) distinguish two action theories or micro-theories: action theories espoused and action theories in-use. Espoused theories are those theories stated by a person when he is asked about what he does or will do in a given condition. Espoused theories are more or less strategic/defensive, so that they do not always match or reveal the actual action theories: the theories in-use. Theories in-use are the theories governing practices. They are not always conscious, but can be empirically inferred from practices.

When well-informed, conscious, and less strategic, espoused action theories and action theories in-use often match, causing the concerned actor to feel effective and to be perceived so by others. If an actor's espoused action theories and theories in-use are not congruent, he could perceive his action as ineffective, as also external evaluators. Everybody is considered to be pursuing effectiveness in their actions. The need for learning and improvement is felt when one perceives oneself, or is aware of being perceived by others, as ineffective in one's actions (Argyris and Schön, 1976; Engeström, 1999; Beretta, 2007; Sun and Ho, 2008).

➤ *Effectiveness in action and learning*

Learning is an active process of exposure to learning opportunities, selection and integration/reintegration of deliberately or stimulatively perceived desirable new factual, causal, contextual, methodological, theoretical or epistemic knowledge, skills and/or attitudes to one's existing knowledge, skills and attitude stocks. This synoptic definition is inferred from the existing literature on learning (Argyris and Schön, 1976; Leeuwis and Pyburn, 2002; Taylor, 2003; Wals, 2007).

Learning opportunities are all interactional settings like formal schools or daily life in which humans are challenged to learn in order to reach a given goal. The learning interactions could relate humans to humans or humans to objects or phenomena. During learning interactions, learners select information and integrate it into their knowledge, skills and/or attitude stocks from which they can choose to act in perceived relevant conditions (Argyris and Schön, 1976; Taylor, 2003). The desirable information selected by the learners can concern: the record of facts/phenomena (what and/or who?), the reasons behind the facts/phenomena (why? – causes and

consequences), the strategies engaged in the facts/phenomena (how?) and the conditions in which the facts/phenomena are observed (when? where? – constraints and opportunities). When the selected information concerns all these aspects of action theories, the learning is qualified as theory-level learning (Ferreira, 2006), desirable for long-term actions/practices. When the selected information focuses on strategies for realising already existing goals, and does not call into question underlying assumptions and phenomena, the learning is qualified as single-loop, conducive to superficial and strategic change. When the integrated information leads to changes in underlying assumptions, theories and goals, the learning is qualified as double-loop, conducive to deep change (Argyris and Schön, 1976). When the learners can learn about their learning, they have acquired a meta or triple-loop learning skill.

Single-, double- and triple-loop learning are desirable for the effectiveness of interventions. However, double- and triple-loop learning are often more desirable because they are conducive to deep and sustainable change (Argyris and Schön, 1976; Jiggins et al., 2007).

The main strategy suggested by Argyris and Schön to facilitate double-loop learning consists of identifying and discussing dilemmas with ineffective actors, in such a way as to stimulate them to develop improved action theories and to bring them to commit themselves to improvement in practice. This strategy is referred to in the following section as a feedback mechanism.

➤ *Conditions for double-loop learning and facilitation of change processes*

Feedback is considered to be a crucial mechanism in human learning and an influential element in humans' practice shaping (Argyris and Schön, 1976; Leeuwis, 2004). It is the information received about outcomes, characteristics and/or consequences of our actions that helps to evaluate these.

Self-capture of feedback is often difficult and requires meta-cognition skills, which most people lack. Also, most of the time, without confronting ourselves with others, we seldom become aware of the need to go beyond what we already know or are used to. Confrontations or interactions with other realities are important factors in double-loop or triple-loop learning. Feedback must be relevant and of good quality in order to lead to the desirable responses or actions. It can be obtained or stimulated through exploring perspectives, measuring things, comparing things, experimentation,

visualisation of processes difficult to observe, etc. (Liyanage, 2002; Leeuwis, 2004). These are all strategies that reveal to actors the incongruity underlying their action theories espoused or in-use in relation to the effectiveness they seek.

It is relevant to note that feedback does not automatically result in learning. It has been argued by Leeuwis (2004, pp.155–161) that whether or not learning (i.e. the acceptance of feedback) occurs may depend on several conditions such as the urgency of problems experienced, the social and organisational space for learning and the interdependence felt between stakeholders.

In conclusion, some of these preconditions for learning will help us to understand the learning process and outcomes of the fishery management interventions in the study context. The following section provides the framework for our analysis.

2.2.2 An analytical framework for action theories and intergenerational learning assessment and analysis

Figure 2.2 visualises the model to analyse the learning of interventionists over different generations of intervention policies in Grand-Popo. It is deduced from the above theoretical discussions, and it traces the process of learning through time. It also presents the process of learning from feedback perceived from diagnosis and evaluations of outcomes of interactions between espoused and in-use action theories. This model shows that learning is an endless process happening in every interactional setting and causing humans to confront their espoused action theories with those in-use. The espoused action theories belong to the mental worlds and are communicable in interactions to others through all kind of media such as verbal, written or other non-verbal communication means. Real actions or practices reflect the theories in-use of actors. When there is a match between the action theories espoused and those in-use, both theories are reinforced. When the comparison of the action theories espoused and in-use during diagnosis and/or evaluations reveals discrepancies between the two action theories, learning is supposed to occur that will improve effectiveness in subsequent similar interactions settings.

Learning from generation to generation of interventionists is referred to as intergenerational learning in the model (see Figure 2.2). Arrows in the model show intergenerational learning. If feedback does not trigger double-loop learning, the core of the existing knowledge stocks remains unchanged; but when feedback challenges the core of the existing knowledge stocks by revealing discrepancies at the level of

reasons for actions and/or practices, double-loop learning could occur and lead to improved effectiveness.

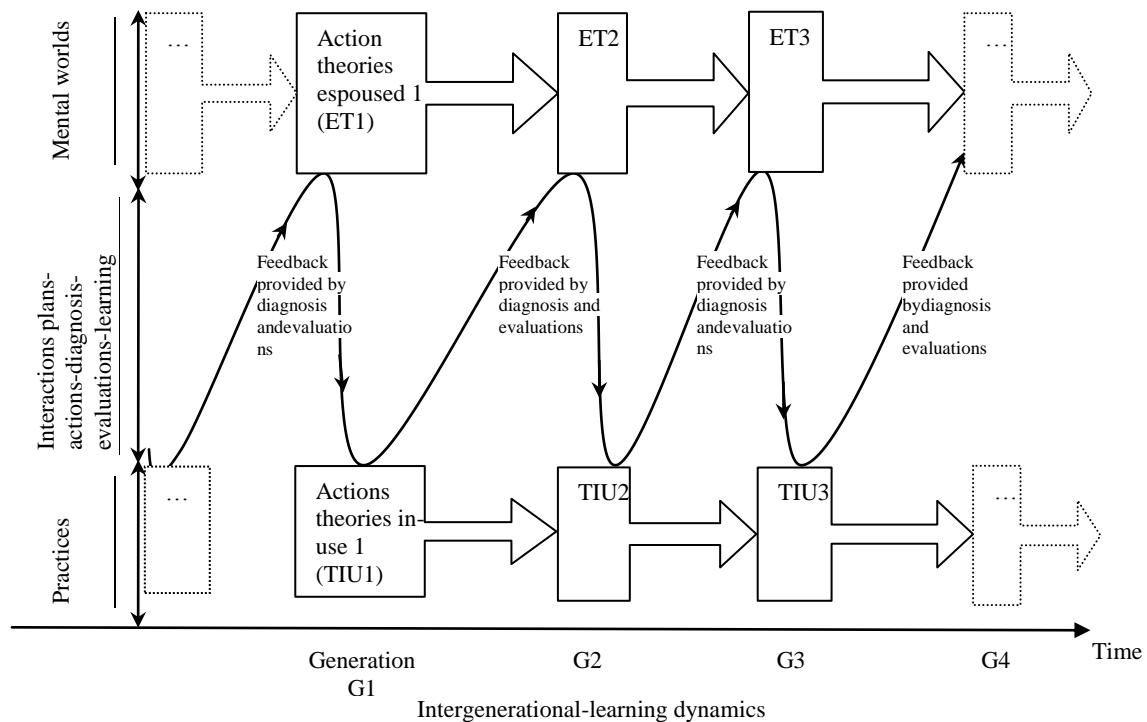


Figure 2.2: A model to analyse intergenerational learning with reference to espoused and in-use action theories

Note: Differences between ET and between TIU in time correspond to single- or double-loop intergenerational learning.

2.3 Research design

In order to identify the intervention action theories espoused and in-use by fishery problems management interventionists, and to see whether learning for improvement took place in the fishery context of Grand-Popo, we tracked fishery intervention processes from a historical perspective, because learning is the outcome not only of spatial interactions (organisational, collective or individual learning) but also of historical interactions (generational learning) (Vaughan et al., 2003; Ison et al., 2007; Kenner et al., 2007).

The total period considered for the study runs from 1950 to 2010, six decades, a period sufficiently long to allow generations of fishery interventionists to learn and improve their practices. This period has been divided into three sub-periods, 1950–

1975, 1975–1990 and 1990–2010 linked to the evolution of political–institutional contexts influential in the management choices of the studied fishery intervention.

The baseline chosen for the analysis is 1950–1975, the period in which the fishery problems became evident. This period coincides with a political transition during which political power was transferred from colonists to national policymakers, i.e. the independence movement period. During this period, management aspects escaped the control of the national administration, among which was fishery resource management control. Fish stock depletion worsened, and this led to the degradation of the livelihood conditions of the fishing community in Grand-Popo (Pognon, 1958; Pliya, 1980). In this period, fishery problems were managed directly by the Fishery Department (*Service des Pêches*) of the Ministry of Agriculture and Fisheries.

The second period analysed runs from 1975 to 1990, a period characterised by a stronger (military) attempt by the government to take firmer administrative control. During this period, the fishery problems were managed by the Fishery Directorate (*Direction des Pêches*) and its regional departments.

The more recent period considered for the analysis runs from 1990 to 2010 and corresponds to a context of democracy, liberalisation, deconcentration and decentralization in which collaboration between the government, private stakeholders and non-governmental institutions is expected to result in more effective action. From 1990 to date, fishery problems have been addressed by projects and programmes initiated by the Fishery Directorate in collaboration with its decentralized departments (*Centre Régional pour la Promotion Agricole* [CeRPA] and *Centre Communal pour la Promotion Agricole* [CeCPA]) and with NGOs.

From this historical background, we selected five cases of fishery management to analyse intergenerational learning. The first two cases emanate from the Fishery Department [*Service des Pêches* (1950–1975)] and the Fishery Directorate [*Direction des Pêches* (1975–1990)]. The three other case studies are the *Projet de Développement Rural Intégré du Mono* (PDRIM) implemented from 1991 to 1999; *Projet d'Appui au Développement Rural du Mono-Couffo* (PADMOC) implemented from 2003 to 2010; and *Programme d'Appui au Développement Participatif des Pêches Artisanales* (PADPPA) implemented since 2004 through the same Fishery Department of the Ministry of Agriculture and Fisheries.

The espoused fishery management intervention theories have been inferred from diagnosis documents, interventions plans, or project and programme documents, and from the discourses of interventionists interviewed from projects and programmes. In parallel, in-use intervention theories have been inferred from (1) evaluation documents on what happened in practice and (2) observations and discourses of intervention clients (fishing community members) interviewed for the last period. Per project/programme, two key managers and two implementers of interventions were interviewed. Furthermore, 40 intervention clients (20 women and 20 men), selected in 20 fishing villages with the help of agents of the Grand-Popo fishery management department, were interviewed individually. In addition to individual interviews, group interviews took place in the fishing villages for collective check of the views expressed by their peers who had previously been interviewed individually. Content analysis of the interviews and the interventions planning documents concerned issues such as perceptions of problems, perceptions of potential solutions, planned solutions, implemented solutions, conditions for effectiveness and outcome evaluations. The espoused intervention theories were compared with those in-use, as revealed by evaluations, by interviews and by observation outcomes, and discrepancies were inferred and analysed. The way in which these discrepancies were dealt with through the successive interventions that resulted from feedback is assessed in terms of quality of feedback and indicators of the level of learning.

2.4 Findings

This section retraces the dynamics of the interventionists' action theories espoused and in-use between 1950 and 2010, and gives the outcomes of evaluations, discrepancies between the action theories and intergenerational learning.

2.4.1 The intervention by the Service des Pêches between 1950 and 1975

➤ Diagnosed problems

Reports on fishery problems in Grand-Popo (Association Nonvitcha, 1921, 1987; Pognon, 1955, 1958; Pliya, 1980) mentioned weak respect for fishery rules by fishing community members, fish stock exhaustion because of overfishing, impoverishment of fishing communities and constraining natural phenomena. The constraining natural phenomena highlighted were land and coastal erosion in the Mono valley and along the coastline, siltation of the Mono River and of the Coastal Lagoon, and floods in the

Mono River valley. Other constraining natural phenomena pointed out were reduction in the exchange of fish and other resources between the sea and the water system in the delta, and ocean swells with their influence on fish stock distribution in the water–sea system. Fishery rules established before this period related to fishing technologies and techniques to be adopted by fishing community members to limit overfishing and reduce fish stock exhaustion. Because fishing practices were not monitored and offenders were not sanctioned, fishing community members persisted with their overfishing technologies such as prohibited fishing nets, i.e. fishing nets of unapproved mesh size, and nets, such as *Gbagbaloulou* or *Mindokpokonou*, capable of excluding other fishermen from access to fish stocks. They persisted also with fishing techniques such as *Djètowlé*, whereby fishermen actually got into the water and thus disturbed fishes' habitats, thereby potentially threatening the normal reproduction and development of fish stocks. This lack of respect for fishery rules led to the depletion of fish stocks and consequently to the impoverishment of fishing communities. In addition to the unsustainable fishing practices, mangrove forests that are reproduction shelters and parts of the fish stocks' food-chain were destroyed, and the trees were used as cooking fuel-wood by women, thus threatening the reproduction of fish species.

Flooding, which occurred in an almost 10-year cycle, was a natural phenomenon faced by the fishing communities living in the Mono River valley. It was associated with natural siltation which progressively reduced the capacity of the water beds, forcing the excess water into the valley and flooding farms and houses during high-water periods. Due to the absence of flood defences at the river bank and the destruction of aquatic forests, the valley and coastal lands were eroded by the water flows and the tidal waves from the sea.

The delta where the water system and the sea system meet was periodically obstructed by silt, and this obstruction resulted in the reduction of fish stocks, minerals such as salt, and the exchange of other fishery nutrients between the sea and the water system. Ocean swells, cyclical in time and season, were other natural phenomena that affected the distribution of minerals, fish nutrients and fish stocks in the sea system. Therefore, it can be concluded that fishery problems in the Grand-Popo water–sea system were diagnosed as being caused by both anthropic and naturally interconnected phenomena, so that interventions to solve the fishery problems had to address

simultaneously such interconnected phenomena before they could be expected to be successful and sustainable. How were these interconnected phenomena treated by interventionists of this period?

➤ *Intervention plans*

During this period (1950–1975), the establishment and implementation of fishery rules and the diversification of income-generating activities were proposed in policy documents (Pognon, 1955, 1958; Dadé, 1973; Pliya, 1980) as solutions to fish stock exhaustion and fishing communities' impoverishment problems. Little attention was paid to the other problems diagnosed, relating to the natural constraints (floods, erosion, siltation, etc.).

➤ *Intervention activities*

Fishery rules regarding permitted fishery technologies (fishing net mesh size, fishery habitation preservation techniques – no more *Djètowlé* for instance) were determined by the government *Service des Pêches* (Arrêté 1907-Ben4377; Arrêté no. 207, 1950; Arrêté no. 152/MDRC/SP, 1970; Arrêté 1974-Ben4287). Fish farming in cooperative farms (*acadja*, i.e. a fish farm in natural surface water) as an alternative income-generating activity was promoted through training, and technology and credit support were provided to fishermen's cooperatives (Le Masson, 1961; Collart, 1965; Loko, 1970; Dadé, 1973). The *acadja* fish farming technique was in fact designed and promoted to overcome fish stock exhaustion and poverty among fishing community members by improving yields and incomes.

➤ *Conclusions of evaluations*

According to evaluation results, the prescribed fishery rules were not respected by fishermen due to the laxity and vote-catching attitudes of the implementers of the rules (Loko, 1970; Dadé, 1973; Pliya, 1980; Association Nonvitcha, 1987). By this, the evaluators meant that interventionists were helpless when faced with offenders, because sometimes they depended on the votes that these offenders could mobilize for the policymakers.

Furthermore, the promotion of cooperative fish farming as an alternative income generating activity resulted in conflict among fishermen because of the underhand activities of some cooperative members (theft of the communally owned fish), and

therefore led to the abandonment of the *acadja* fish farming alternative (Arrêté no.152/MDRC/SP, 1970; Pliya, 1980).

➤ *Discrepancies and learning*

From the comparative analysis of the espoused and the in-use intervention theories, it can be inferred that there was a match between activities planned and conducted, but there was a neglect of the natural constraints diagnosed. Evaluations revealed a gap between goals and outcomes due to incomplete implementation of planned activities with respect to the application of the fishery rules. Another constraint to effective intervention was the conflict around *acadja*, which was not foreseen in the diagnosis documents and intervention plans.

2.4.2 The intervention by the Direction des Pêches between 1975 and 1990

➤ *Fishery problems diagnosed*

In 1975, the fishery problems of the previous period had not been solved. In addition, new issues emerged in the period to 1990 as addressed by evaluation of the interventions in the previous period. These included violent conflict among fishermen because of the underhand behaviour of cooperative members, lack of economic opportunities (Loko, 1970; Dadé, 1973; Association Nonvitcha, 1987), laxity and vote-catching attitudes of people in charge of the implementation and monitoring of the rules and the imposition of sanctions. Floods and land erosion increased because of the *Nangbéto* hydroelectric dam built upstream in Togo in 1987 (Gnelé, 1991; Ouali, 1995; interviews 2009–2010), causing all kinds of problems downstream. From 1988 onward, for the proper and sustainable functioning of this transnational hydroelectric dam, its managers have released each year the excess stock of water from upstream to downstream, mainly around August–September–November, creating sudden, large and destructive floods downstream in Grand-Popo. Furthermore, due to the presence of this dam, characteristics such as water flow, mineral distribution and siltation rate changed, contributing to the increased erosion of fish stock biodiversity in the Grand-Popo water system (Gnelé, 1991). Whereas flooding had previously taken place in about a 10-year cycle, this reduced to 2–3 years until 1990 (Appretectra, 1995). Erosion of valley lands also increased. Such problems, in addition to those that remained unsolved by previous interventions (non-compliance

with fishery rules, fish stock exhaustion, improvement of fishing community members' livelihoods, etc.), were diagnosed as issues to be addressed.

➤ *Intervention plans*

To overcome fish stock exhaustion and poverty among fishing communities, interventionists chose to refine the rules mainly in aspects perceived by rule designers as lacking or not precise enough (technical specifications) to ensure more respect for the rules, and proposed the diversification of income-generating activities. To avoid conflicts, the plan was 'to forbid the *acadja* fish farming technique and to propose other activities to implement in cooperation' (Arrêté no. 152/MDRC/SP, 1970). New activities suggested were cooperative fish farming in ponds, cooperative agriculture and cooperative maritime angling (Pliya, 1980; Gnélé, 1991).

➤ *Intervention activities*

Between 1975 and 1990, the regulation department of the *Direction des Pêches* updated fishery management rules by being more precise about unclear aspects of the rules in order to reduce fish stock exhaustion (Ordonnance no. 76-49, 1976; Gnélé, 1991; interviews 2008–2010). There was a change in the strategies deployed to ensure respect for the rules, in that flagrant offenders were more systematically sanctioned. Agriculture, fish farming in ponds and maritime angling in cooperatives as alternative income generating activities were promoted through credit, training and infrastructure facilities for fishing community members.

➤ *Conclusions of evaluations*

Evaluations revealed that conflicts due to *acadja* fish farming were reduced because of the banning of the *acadja* fish farming technique, and rules were more respected due to fear of the military applying the sanctions provided for in the rules (Pliya, 1980; Tomety et al., 2001). Offenders caught were sanctioned according to the rules, but free riders who were not caught were not touched. However, working in cooperatives was no longer attractive for fishermen because of their conflict experience and its related mutual mistrust among fishermen (Pliya, 1980). Therefore, several hundreds of fishermen chose to migrate to areas with better fishing opportunities or other regions in Benin and elsewhere in the world with better income-generating opportunities (Pliya, 1980; Association Nonvitcha, 1987; Gnélé, 1991). Evaluation reports in this period stressed fishermen's lack of participation in

the design of solutions as one of the causes for their weak adoption of the proposed alternatives.

➤ *Discrepancies and learning*

From the espoused and in-use intervention theories, it can be noticed that proposed plans were implemented. There was a discrepancy, however, between the diagnosis of the dam as a problem and the proposed intervention plan and activities.

Also, evaluation results showed a gap between the interventionists' goal of diversifying income-generating activities and the outcomes. This gap is revealed by the weak adoption of the cooperative income-generating activities proposed by interventionists as alternatives, because of fishermen's lack of interest in working cooperatively. This weak adoption of the proposed solution shows that there was gap between this intervention strategy (cooperative working) and the requirements of the intervention context. As suggested by the evaluation results, the intervention context would have required the participation of the intervention clients in the design of the intervention strategies.

Between the first period (1950–1975) and this period (1975–1990), learning occurred in relation to respect for the rules and resulted in the improvement of the quality of the fishery rules and their implementation. However, it failed to prevent free riding (Pliya, 1980).

Learning occurred also about the conflict outcome of cooperative *acadja* fish farming so that *acadja* practices were forbidden. The natural constraints such as erosion, siltation and floods were, however, ignored.

2.4.3 Programme and project interventions between 1990 and 2010

➤ *Fishery problems diagnosed*

In 1990, most of the problems from the previous periods had persisted to some extent, but there was a considerable reduction in violent conflicts among fishermen. The persisting problems included: weak respect for fishery rules attributed to laxity and vote catching attitudes of interventionists, in combination with natural constraints (floods, erosion, siltation, fish stock regeneration and distribution), anthropic modification of ecological orders (hydroelectric dam) and the absence of relevant alternatives (for implementation of income-generating activities and conflicts in

cooperatives). These all contributed to fish stock depletion and to poverty among fishing communities in Grand-Popo (Gnélé, 1991; Tomety et al., 2001; Dagnon-Prince et al., 2004). In addition to these persisting problems, the lack of stakeholder participation in intervention processes, lack of cooperation between interventionists, lack of consideration of aspirations of stakeholders, weak skills of evaluators in monitoring and evaluation and lack of economic opportunities were the main new problems highlighted in the evaluations of the previous interventions (Association Nonvitcha, 1987; PAMR, 1989; PADMOC, 2001; FAO, 2008; interviews 2009–2010). These emerging problems were considered as the major causes of the persisting ones. The interviews revealed that very few representatives of intervention clients (fishing communities) participated in the intervention process, and that they seldom reported back and consulted with their peers about intervention events. Although aware of one another's existence, interventionists did not cooperate in order to work complementarily towards shared goals, because of the lack of commitment to do so. Lack of competence on the part of evaluators to monitor and evaluate was also perceived as a cause for the weak performance of interventionists by evaluators from the African Development Fund and the Government (PADMOC, 2001; MPDEAP, MEF and MAEP, 2007).

➤ *The intervention of the PDRIM Project between 1990 and 2000*

During the period 1990–2000, the Fishery Directorate's intervention in Grand-Popo was channelled mainly through the PDRIM Project. This project was designed to lead to the integrated rural development of the Mono region to which Grand-Popo municipality belongs. Among other objectives, PDRIM aimed to promote the development of fishing through the diversification of income-generating activities in an integrated way, paying attention to all interrelated factors such as institutions, infrastructures, income-generating activities, clients' livelihoods, etc. (PDRIM, 1990; PADMOC, 2001).

Intervention plans. To solve the diagnosed problems, PDRIM interventionists chose to promote the diversification of income-generating activities by providing fishing communities with all the facilities needed for the implemented activities to succeed in an integrated way. By integration, PDRIM interventionists meant paying attention to all the interrelated intervention aspects such as respect for rules, infrastructures (fish hatching equipment, fish processing and preserving equipment, road construction),

credit provision, etc. Emphasis was put on promotion of fish farming in ponds and agriculture through fishing organizations, and the reinforcement of fishery rules (PDRIM, 1990; PADMOC, 2001).

Intervention activities. Income-generating activities promoted were fish farming in ponds and agriculture through farmer organisations. Facilities to promote income-generating activities – infrastructures for fish hatching and fish processing, road construction and credit provision – were offered to farmers' and fishermen's organisations by PDRIM (PDRIM evaluation results in PADMOC, 2001; interviews, 2009–2010). The participation of fishing communities consisted of their involvement in the execution of planned activities, where their help was needed (free labour mobilisation, task execution facilitation, etc.). In parallel, interventionists from the Fishery Directorate refined, in technical detail, aspects of conditions for fishery rules implementation and compliance (Arrêté no. 0030, 1992; Arrêté no. 715/92, 1992; Arrêté no. 312, 1997; Arrêté no. 350, 1998; Decret no. 98-522, 1998).

Conclusions of evaluations. Evaluations of the PDRIM Project that ran from 1991 to 1999 revealed, among other things, limited cooperation between the project's donors (African Development Fund and the European Union); delay in implementation of planned activities; non-adaptation of facilities for the promotion of income-generating activities to fishermen's aspirations and conditions, resulting in the non-adoption of proposed activities; weak respect for fishery rules; and weak participation of farmers and fishermen in intervention processes (PADMOC, 2001; Tomety et al., 2001; interviews 2009–2010). Infrastructures, such as roads and fish hatching and processing equipment provided through PDRIM interventionists, were not of good technical quality because of lack of technical skills on the part of the technicians contracted, and therefore these infrastructures were no longer used by the fishing communities, nor did they resist flood and erosion. Furthermore, neither the fish hatching and fish processing equipment nor agriculture met the aspirations of the fishing communities. The main aspiration of fishermen was a reduction in fish stock depletion to improve their livelihood opportunities. Internal and external monitoring and evaluations remained weak because of lack of skills on the part of monitoring and evaluation staff (PADMOC, 2001).

Discrepancies and learning. Comparison of the espoused and in-use intervention theories shows that the intervention strategies suggested were reflected in practice,

mainly in terms of diversification of income-generating activities and updating the rules. However, the evaluation results also revealed several gaps. There was a gap between the proposed strategy of integrated management and how it was put into practice, as well as a time delay for activities planned. The main reasons for the gap are the lack of activities to stimulate cooperation between intervention parties, the weak participation of intervention clients and neglect of natural phenomena (floods included). Many of the diagnosed problems were thus not taken into account by this project. Finally, the weak respect for fishery rules and the bad quality of infrastructures, as stated in the evaluations, are evidence of the gap between the aims defined and the goals reached.

The main learning perceptible from the analysis of the above information on the PDRIM Project relates to a change in action concepts, such as changing from a cooperative into a fishermen's organisation and the idea of integration. The cooperative concept was dropped due to the previous conflict that it had entailed and its revolutionary undertones, which were disliked by fishermen. This change aimed at facilitating the cooperation of fishermen within professional associations. Improvements in the promotion of income generating activities consisted of extending planned and in-use activities to infrastructure constructions, to partial involvement of intervention clients and to the provision of other facilities (such as partial credit support) to beneficiaries. No more progress was made in relation to respect for fishery rules, except the extension of the rules.

➤ *The intervention of the PADMOC Project between 2000 and 2010*

Intervention plans. Enhancement of fishing communities' food security, i.e. food-crop production, availability and access, was a central issue for the PADMOC Project. This goal was perceived to be reached through the improvement of fishing communities' livelihoods, and building on the experiences of the PDRIM Project. The main approach chosen to improve fishing communities' livelihoods was the promotion of income generating activities as the PDRIM Project had done, i.e. by integrated intervention. However, in addition to the espoused strategies of the PDRIM Project, the PADMOC planned to work towards *sustainability*. For ecological sustainability, promotion of alternative fuel-wood plantation and natural resources protection by interventionists and fishing communities were planned (PADMOC, 2001; interviews,

2009–2010). In parallel, the Fishery Directorate planned to improve compliance with the fishery rules in order to alleviate fish stock depletion.

Intervention activities. The PADMOC Project intervened from 2003 to 2010. Alternative income-generating activities proposed to fishermen were agriculture, small animal farming, fish farming in ponds and maritime fishery. Some credit supports were given to a few farmers' and fishermen's organisations (CeCPA-Grand-Popo, 2004, 2009; interviews and observations, 2009–2010). The fishery rules were updated in more specific detail by the Fishery Directorate (Decret no. 2001-364; Arrêté no. 1242, 2002; Arrêté no. 1007, 2005; Arrêté no. 3537, 2005; Decret no. 2005-192; FAO, 2008).

Fishing community participation consisted of contributing to some extent to problem diagnosis and execution of planned activities.

Conclusions of evaluations. Evaluations pointed out, among other things, weak respect for fishery rules; delay in implementation of planned activities because of poor mastery of fund disbursement procedures and the non-respect of deadlines by technicians; fewer activities implemented than planned; non-adaptation of implemented solutions to fishermen's aspirations and conditions, namely the alleviation of fish stock exhaustion and type of income-generating activities to promote; and weak participation of fishermen in planning and implementation (MPDEAP, MEF and MAEP, 2007; interviews and observations 2009–2010). For instance, for fishing communities, the deterioration in their livelihoods is mainly due to the siltation of their water system, exacerbated by the *Nangbéto* hydroelectric dam. Therefore, the solution to fish stock scarcity may be found in the dredging of the water system. Also, it is not conceivable, according to some fishermen, that the diversification of income-generating activities does not include, for instance, pig farming, which is well adapted to their context. Besides, fishermen said that even when they agree to implement the promoted income-generating activities, they lack the credit needed to do so. Other fishermen said that they were tired of all the time being consulted at the design stage of the intervention, only to find that their proposed solutions were not taken into account by interventionists.

Discrepancies and learning. A first comparison of the espoused theories and those in use by PADMOC interventionists shows that the intervention goals were addressed in

practice, mainly with respect to the diversification of income-generating activities. However, evaluation results reveal a gap in relation to building on PDRIM experiences (successes and failures, for instance). Examples for this gap include the lack of adaptation of proposed solutions to fishermen's aspirations, relating mainly to the dredging of the water system and to the promotion of relevant, exhaustive and effective alternative income-generating activities (from training to creation of trading facilities); the weak participation of intervention clients; and the delay in practice. The sustainability perspective is also lacking in practice; no alternative fuel-wood was proposed to fishing communities, no alternative for fish stock regeneration, etc.

Learning happened partially at the level of consulting fishing community members in relation to problem diagnosis and project design, to justify their participation. This consisted mainly of discussions with some fishing community representatives, selected by the interventionists, and a very few field visits for observation and measurement of the reality in each concerned fishery area. Representatives, in the end, did not participate in the final planning with the interventionists who determined intervention strategies and budget precisely, but remained vague about the conditions that needed to be met for the interventions to be effective. This partial participation was referred to in the evaluation conclusion as weak participation by clients.

The project design changed in relation to the definition of goals, the planning of activities and the definition of strategies based on evaluations of previous interventions. Thus, it can be stated that learning occurred partially in espoused theories, mainly at the levels of what, why and how. However, theories in-use hardly changed, apart from the partial participation of fishing community members in the intervention process by way of their consultation in relation to problem diagnosis and proposal of solutions.

➤ *Intervention of the PADPPA Programme between 2000 and 2010*

Intervention plans. The PADPPA's goals were mainly to reduce poverty in fishing communities, to reduce pressure on fish stocks and to promote the restoration of the water resources in general. In this line, PADPPA interventionists planned to promote, participatorily, the diversification of income-generating activities and development using a value-chain approach, protection of water basins and river banks against erosion, demand-driven intervention, synergic working with similar intervening organisations and the development of local water resource management plans

(Tomety et al., 2001; PADPPA, 2004; interviews, 2009–2010). Demand-driven intervention is considered to be a way to take account of clients' aspirations. The value-chain approach is another concept to address the integrated management issue. Synergic working is a solution to strengthen cooperation among interventionists (PADPPA, 2004; interviews 2009–2010).

Intervention activities. The PADPPA Programme ran from 2004 to 2011. Alternative income-generating activities suggested to fishermen included agriculture, small animal farming and fish farming. Some intervention clients were trained to engage in new income-generating activities like rabbit farming, and provided with credit without support for trading. Some mangrove trees were planted in certain villages, mainly at Gbéhoué village in Grand-Popo, to protect the water basin and river banks against erosion. Local water resource management plans were designed and supposed to become solutions to effective compliance with the fishery rules (MPDEAP, MEF and MAEP, 2007; Cabinet Golfe-Expertises, 2008; interviews and observations, 2008–2010). Fishing community participation consisted of contributing somewhat to problem diagnosis, suggestion of solutions and execution of planned activities.

Conclusions of evaluations. Evaluations revealed, among other things, fewer activities implemented than planned, non-adaptation of proposed income-generating activities to fishermen's aspirations and conditions, lack of synergy with other similar intervention organisations and weak participation by fishing community members (MPDEAP, MEF and MAEP, 2007; interviews, observations and member check, 2008–2010).

Discrepancies and learning. An examination of the intervention theories espoused by interventionists shows internal inconsistency between the problems intended to be solved and the proposed solutions. The comparison of the intervention theories espoused with those in-use also points out an apparent inconsistency between the proposed solutions and the solutions put into practice. Evaluation results revealed, for instance, gaps at the levels of satisfaction of demands and participation of the fishing community members, synergic management, time schedules, reforestation and protection of the water basins and river banks against erosion. A local resource management plan has been elaborated (Cabinet Golfe-Expertises, 2008; interviews 2009–2010), but not yet implemented.

Learning from previous and even ongoing peer interventions' experiences seems absent. It appears to happen and to be translated only into words or theories espoused, without being followed by corresponding actions in practice. For instance, participatory and synergic management, demand-driven intervention, a value-chain perspective in the promotion of income-generating activities, are all espoused intervention theories that, according to the evaluations, are wishful thinking, but never put into practice.

Figure 2.3 presents a synthesis of the intervention processes and outcomes.

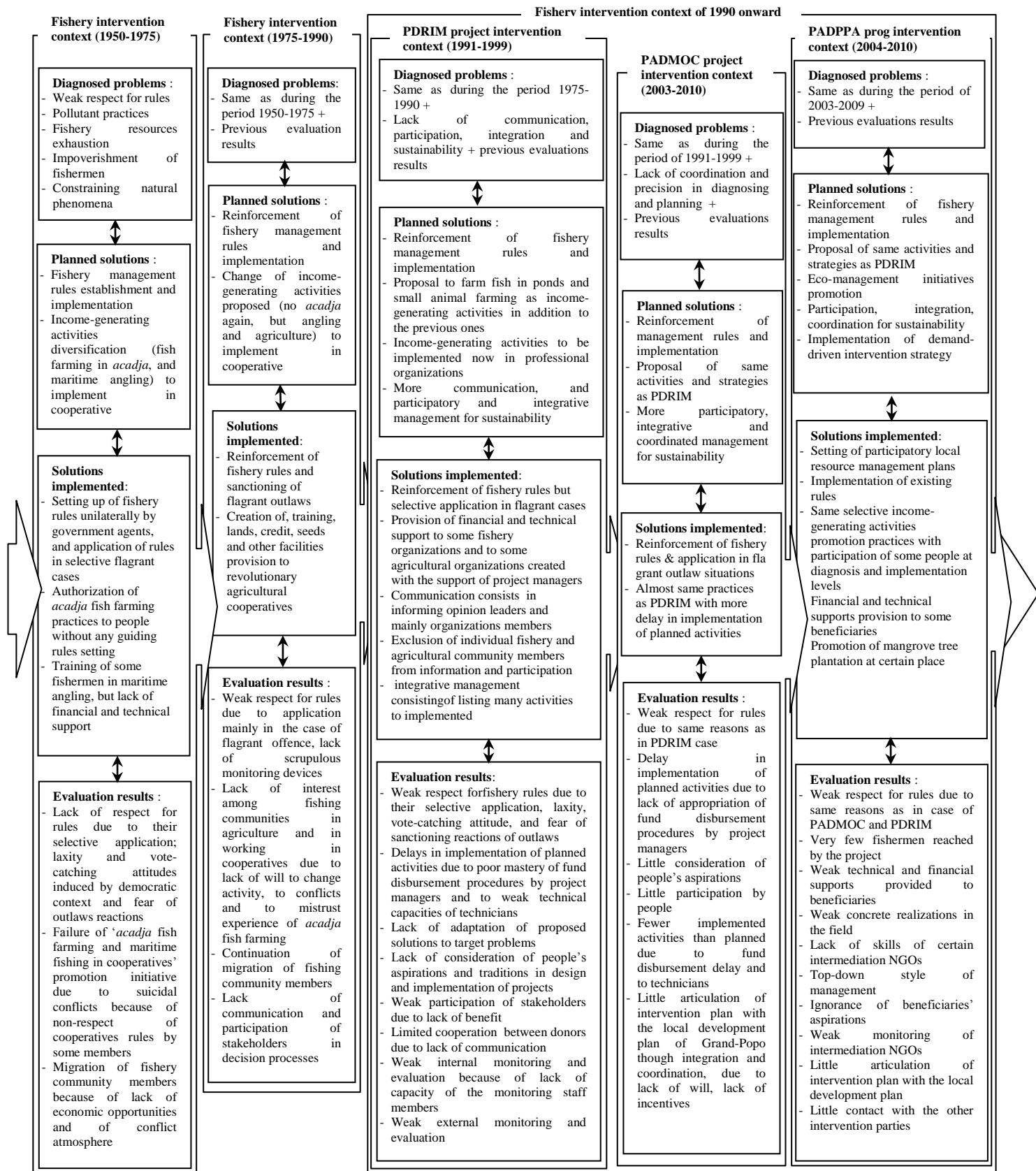


Figure 2.3: Evolution of fishery problems, management plans and practices, evaluation results and discrepancies

2.5 Analysis and discussion

2.5.1 *Present state of fishery problems*

Investigation in the field revealed that exhaustion of fish stocks and fishing communities' livelihood problems still exist in Grand-Popo, and are relatively more intense (Cabinet Golfe-Expertises, 2008; FAO, 2008; interviews and observations 2008–2010). The livelihoods of fishing communities have continued to deteriorate to such an extent that, in order to survive, fishermen continue violating established rules and degrading the fishery ecosystem. Other remaining problems include siltation, overfishing, pollution by agricultural chemicals and other waste from households and fishery activity, and floods, and these are still not solved. Furthermore, natural ecological phenomena such as seasonal and geographic distribution of fish stocks between the water–sea system also remain. Why have these problems persisted, despite generations of interventions?

2.5.2 *Occurrence of intergenerational learning*

The lack of effectiveness of earlier interventions compelled the interventionists to learn to some extent, given the diagnoses of the problems in the studies underlying the intervention plans. Over the generations, the espoused theories of the interventionists on why and how to intervene in fishery management became more and more comprehensive, including natural constraints, institutional aspects and infrastructures, livelihood improvement, client participation in design and implementation, etc., building on the evaluations of earlier interventions. The discrepancy with the theories in-use, however, became larger instead of smaller over the years. In the earlier generations, the espoused theories matched quite well with the theories in-use on the level of *how* to intervene. In all three projects of the last generation, there are discrepancies on the question of how to intervene efficiently. We thus see double-loop learning in the espoused theories, whereas the theories in-use hardly changed at all. This lack of double-loop learning in the theories in-use explains the persistent lack of effectiveness of the interventions.

We conclude that only the ineffectiveness of the interventions seems to have stimulated learning and not the feedback on the mismatch between the theories on why to intervene in the first two generations. Therefore, we now turn to the question of what conditions for learning relating to feedback seem to have hampered double-

loop learning and the bridging of the gap between the espoused theories and the theories in-use.

2.5.3 Weak sharing of intervention details among intervention parties

Interviews with interventionists and fishing community members showed that most of fishermen lack information about projects and programmes targeted at them. This is the case in the PADPPA and PADMOC projects for instance. It is only people that are close to the project implementers that are partially informed, mainly about what interests them, such as credit and technical support opportunities. The remaining target beneficiaries are unaware of their entitlement to the opportunities offered by the projects, and do not succeed in becoming informed about such projects. Therefore, only those who are privileged and informed participate in interventions and benefit from the opportunities presented by projects and programmes. In a vicious circle, it is mainly the privileged beneficiaries who participate in evaluations, and this allows bias in evaluation results and continuation of the discrepancy between espoused and in-use intervention theories. The window of opportunity for the continuing lack of effectiveness resides also in the vagueness of intervention plans.

2.5.4 Vagueness of intervention plans

All the interventionists interviewed acknowledged that most of the intervention plans lack for instance specific details about the number and name of target people, and about the geographic position of the targeted beneficiaries (who, where and when). This vagueness leaves room for all kinds of exploits in practice, and also allows bias in evaluation results, since the evaluation criteria in plans lack precision. Therefore, interventionists allow themselves to approach plans in practice in whatever way they can, justifying their choice to evaluators in terms of limitations in financial and technical resources seldom transparently communicated to the target beneficiaries. This is the case for example in the PADPPA and PADMOC projects, which satisfied very few of the thousands of potential beneficiaries. The vagueness of the intervention plans as well as the information asymmetry allows the intervention parties to secretly protect diverging and hidden interests.

2.5.5 Diverging and hidden interests protected by responsibility shifting discourses

Due to the vagueness of the intervention plans, intervention implementers feel free to work in whatever way they can, where they can and with whom they can, given the

resources available. In general, resources given to field workers are more or less poor. There is for instance no boat available for fishery intervention agents who should monitor compliance with fishery rules as well as support the fishing communities technically. Therefore, it is easy for the fishery intervention agents to justify their weak monitoring as resulting from insufficiency of resources, although in certain cases the fishery agents themselves acknowledged that they did not like sailing because of their poor swimming skills. The most important interest of the field agents is, thus, to secure their salary and their life expectancy. Aware of the poor resources given to their agents, the field agents' superiors are not very rigorous about the monitoring of field work or the sanctioning of field agents, and make do with periodical reports whatever their quality, so long as there is no compromising news in them. Finally, security of job and salary is the most important interest protected by the interventionists and militating against effectiveness, in spite of their being aware of the intensity of problems faced by the target clients.

Another reason for the persisting fishery problems is the non-respect of fishery rules by fishing communities, although interventionists are aware that alternative income generating activities suggested to fishermen reach very few of the thousands of target beneficiaries. It is only while examining more in depth the reasons for the continuing lack of effectiveness that the interventionists recognise their own responsibility in the persistence of the fishery problems and also that of policymakers who do not give priority to most of the fishery problems faced by fishing communities in Grand-Popo. One example that demonstrates the failure of policymakers to take responsibility is the non-release of the 32 million F CFA needed to purchase equipment to monitor sea fishing by boats since 2009. However, this shipping monitoring device is recognised as contributing to the reduction in illegal industrial sea fishing in Grand-Popo, and to encourage artisanal sea fishing, an alternative for fishery groups. Some people argue that the policymakers have little interest in monitoring illegal maritime fishing because they are involved. The livelihood conditions of the fishing communities of Grand-Popo are therefore enmeshed in the diverging and hidden interests of the interventionists, who are to date more powerful.

2.5.6 Absence of incentives for improvement in effectiveness

Nowhere in the interventions plans are there stated sanctions and incentives to stimulate improved effectiveness. In practice, it is also rare to see the hierarchical

authorities sanction inefficient interventionists and encourage more effective ones. It is only in cases where financial partners or intervention beneficiaries demand effectiveness that the policymakers and the interventionists feel obliged to shoulder their responsibilities and improve in practice. This was the case, for instance, when financial partners successfully urged the Benin government and local authorities to stop sea-sand exploitation because it was causing coastal erosion in 2009. In the same line, it was only when fishing communities' demands were broadcast that the government and local authorities listened to them and helped them financially to open the Grand-Popo delta in order to reduce flooding up-stream and improve access to salt and fish stocks. Solutions to the persistence of the fishery problems in Grand-Popo seem therefore to lie in the feedback provided by the financial partners and the interventions' beneficiaries to the other intervention partners. This is one of the conclusion at which most interviewees arrived. However, most fishing communities are still unaware of their ability to make demands, and need to learn about that and to improve their responsibility taking.

2.6 Conclusion

Fishing is one of the traditional income-generating activities of people living in the municipality of Grand-Popo in South-Western Benin. This activity has been experiencing several problems due to natural and man-made causes that are at the origin of the exhaustion of fish stocks and of the impoverishment of fishing communities. Attempts to improve management practices towards sustainability and improvement of livelihoods of fishing communities have been failing to date, so we wondered what had been going wrong and if there could be any window of opportunity for effective improvement. Following the theoretical suggestions of intervention and organisational learning theorists Argyris and Schön (1976) and learning and innovation theorists Leeuwis (2004), Van Mierlo and Arkesteijn (2009), Van Mierlo et al. (2009), Ison et al. (2007), Blackmore (2005, 2010), etc., we investigated reasons for the repetitive failure of fishery interventions. We analysed generations of fishery interventions of one organisation, the Ministry of Agriculture and Fisheries of Benin, and its regional directorate, departments, projects and programmes.

The analysis revealed that the repetitive failure of interventions is due to the lack of intergenerational double-loop learning with regard to the theories in-use of the

interventionists and repetitive discrepancies between espoused theories and theories in-use.

Reasons for the absence of double-loop learning reside in the quality of the processes and the quality of the feedback from intervention parties. In the case studies, many of the theories in-use by interventionists are different from the theories espoused. So it is plausible that the effectiveness sought by the intervention implementers differs from the one they are supposed to seek, given the intervention goals. This is possibly because of the absence of incentives, as reflected in feedback, to commit to the desired effectiveness. For that, fishermen need to be empowered in order to participate more efficiently in intervention processes, through access to intervention information and double-loop learning feedback provision for all concerned interventionists, from implementers to designers and financial partners. We feel that research can play a role in the actual improvement of learning processes. This can be done not only through the provision of feedback from outside, but also by engaging in forms of action research that are geared to facilitating stakeholders' access to information and that encourage double-loop learning interaction among stakeholders. We will explore and test such research strategies in future research.

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CHAPTER 3

The design of a contextualised responsive evaluation framework for fishery management in Benin²

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Abstract

The main question addressed by this article is how to adapt the responsive evaluation (RE) approach to an intervention context characterized by repetition of ineffective interventions, ambiguous intervention action theories among stakeholders, and high complexity. The context is Grand-Popo, a fishing municipality located on Benin's southwest Atlantic coast. The fishery management interventionists and the fishing communities in the municipality all espoused concern for the sustainable improvement of fishing actors' livelihood conditions, but differed about the reasons for this livelihood impairment, and about what should be done, when, where, and by whom. Given this ambiguity, we identified RE as a promising action research approach to facilitate dialogue and mutual learning, and consequently to improve stakeholders' ability to resolve problems. However, this approach seems to have some shortcomings in the Grand-Popo context, regarding the repetitive ineffectiveness of interventions, high complexity, and uncertainty. Therefore, based on our empirical study, we add three dimensions to the existing RE framework: historical analysis to deal with routine interventions, exploration and discussion of incongruities of action theories to trigger double-loop learning, and system analysis to deal with complexity and uncertainty. This article does not intend to address the implications or impact of this adapted RE framework. Instead, we suggest some criteria and indicators for evaluating whether the proposed amended RE approach has assisted in resolving the fishery problems in Grand-Popo after the approach has been applied.

Keywords: Fishery management; ambiguity; repetitive ineffectiveness; complexity; historical analysis; systemic analysis; action theory; double-loop learning; responsive evaluation (RE)

Abbreviations: RE: Responsive evaluation

3.1 Introduction

Grand-Popo is a fishing municipality and a Ramsar site (Ramsar site 1017, i.e. a wetland of international importance) on the coast of south-western Benin (Ramsar, 2007; See Figure 3.1). Since about the 1950s, fishing communities in this area have been experiencing fish stock depletion and degradation of their livelihoods, without being able to benefit from relevant interventions (Kouévi et al., 2011). Indeed, most of these communities live on islands and depend mainly on fishing for their income and food security. Others live beside rivers, marshlands, and the sea, and have alternative income-generating opportunities – often threatened, however, by floods, erosion, and limitations in trade opportunities (Appretectra, 1995; Dagnon-Prince, Pinto, Gnimadi-Dogbe, Hountondji, Edou, & Djidonou, 2004).

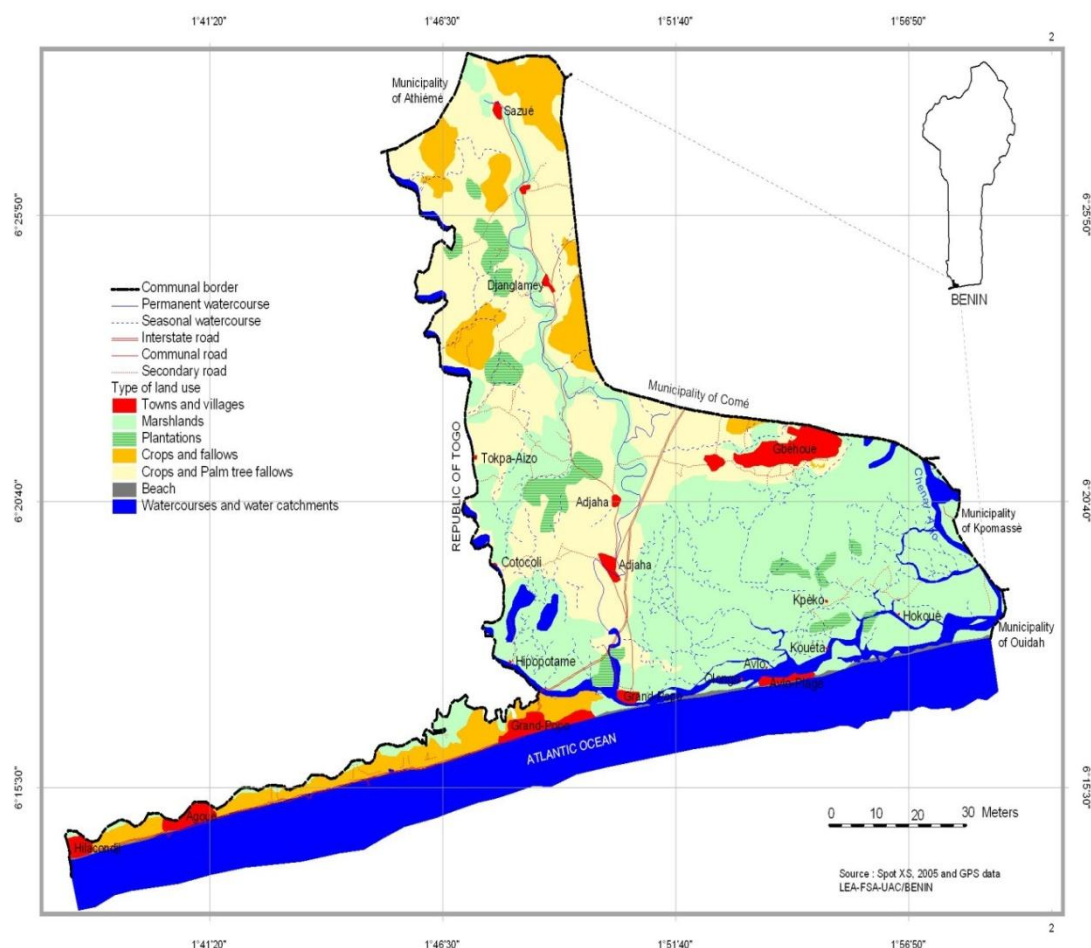


Figure 3.1: Map of Grand-Popo

Before the 1950s, these fishing communities had better fishing, trading, and living conditions because of the better respected fishing rules and because of a wharf dating back to colonial times that facilitated international trade from Benin (Interviews 2007–2011; Association Nonvitcha, 1987; Pliya, 1980). Due to coastal erosion (before 1950), coastal erosion threats (to date), the relocation of the wharf and port activities to Cotonou (85 km from Grand-Popo) in the 1960s, the decolonization process, and the absence of strong institutions to make fishing rules respected, fishing activities started declining in Grand-Popo (Interviews, 2007–2011; Pliya, 1980). This decline in livelihood conditions has been exacerbated by unsustainable management practices like deforestation, pollution, and overfishing as well as the construction of the hydroelectric dam *Nangbéto* upstream in Togo, that have jointly been damaging the fishery ecosystem in Grand-Popo (Association Nonvitcha, 1987; Dagnon-Prince et al., 2004; Interviews, 2007–2011; MEHU, 2001; Ouali, 1995; Tomety et al., 2001). The water system is more and more silted up (with mud and sand) because of pollution and erosion, and consequently the living and reproduction shelters of fish stocks are more and more restricted (Interviews & observations, 2007–2011). The diversity of fishery resources has been severely depleted. This diversity had previously been self-regulated by the continuum river–lagoon–sea (see Figure 3.1) and is currently disturbed by siltation and floods (Association Nonvitcha, 1987; Interviews and observations, 2007–2011; Pliya, 1980). Indeed, because of the dam and the siltation of the river, the lagoon, and the delta, there is less and less salt in the lagoon, and brackish aquatic resources, for instance, have become rare (Interviews & observations, 2007–2011). In the words of one fisherman:

...There are two kinds of 'éhoué³': the one in the sky [i.e. the sun], and the one down below [i.e. the fishes]. Both should not see each other. As the water is silted, the fishes are getting more and more in contact with the sun, and therefore disappearing for other destinations...

...While talking of fish, not all fish reproduce in water. There are some fish that reproduce in sea and migrate in water via the delta, like the 'Owétin' [mullet]. Fish that reproduce in water are 'Akpavi' [tilapia] and 'Edinhoué' [catfish]...

To emphasize the importance of the brackish water for the existence of the fishing communities, one woman fish wholesaler and salt producer said:

... There is nothing in sweet water... It's 'Djessin' [brackish water] that sweetens our life...

³*Ehoué* means both fish and sun in the local language Popo or *Xwla*

Interventions to reverse this fishery resource degradation and livelihood impairment have since the 1950s consisted mainly of the design and implementation of intervention policies for diversification of income sources and for sustainable fishery management practices (Interviews, 2007–2011; MPDEAP, MEF & MAEP, 2007; PADMOC, 2001; PADPPA, 2004; PAMR, 1989; PDRIM, 1990). Earlier research has shown that these interventions have repeatedly had very little effect because of their failure to address the core causes of the fishery problems (Kouévi et al., 2011). Those causes relate, among other things, to the lack of respect of fishing and sustainable management rules and to a lack of alternative income sources for all fishery dependents. Kouévi et al. (2011) attributed the reasons for the repetition of the ineffective interventions to the repeated discrepancy between interventionists' espoused and in-use action theories despite generations of interventions, and to the absence of double-loop learning interactions among the fishery management stakeholders. Double-loop learning seems to be required to increase the match between espoused and in-use action theories because of the mental awkwardness and feeling of need for change from which it derives (Argyris & Schön, 1976, 1996) and thus to increase the effectiveness of interventions. Such learning among the fishery management stakeholders of the study area may help them feel the urgency and the relevance of the need for improvement of the fishery interventions.

The present article focuses on the question of how to deal with this absence of double-loop learning interactions among fishery management stakeholders (i.e. interventionists and fishing community members) in Grand-Popo. It builds on empirical investigations on the learning conditions prevailing in the study context. The research was conducted for the purpose of seeking ways out of the vicious cycle of the failing fishery management interventions. To this end, we have turned to responsive evaluation (RE) approach which needed some refinements to adapt to the study context. RE is, indeed, a qualitative and participatory method concerned with the facilitation of dialogue, learning, and improvement in practice among stakeholders in intervention contexts characterized by ambiguity and power differences, (Abma, 2005a,b; Stake, 1975), like the context of Grand-Popo, as we will see later in the section 3.3. Thus, this article is essentially a study with methodological implications in which we consider RE critically in the light of the empirical understanding generated about the study context. The major outcome of this study are methodological refinements to make RE better suited to the study context, but which at this stage are not yet field tested.

The following section 3.2 presents the research background and methods, followed by a presentation of the main characteristics of the fishery management context (section 3.3). Then

responsive evaluation and its relevance for the case are introduced (section 3.4), after which its limitations for the Grand-Popo intervention context are explored. This leads to suggestions about adapting RE. We propose the main criteria and indicators to be used to assess the performance of the adapted RE (section 3.5), and end with some concluding remarks (section 3.6).

3.2 Background and research design

3.2.1 Objectives and justification

In this article, we aim to investigate the extent to which conditions for learning prevailing in the Grand-Popo study context are relevant to the implementation of an RE approach, and the adaptations needed to suit the case study. Our concern with these objectives stems from the ideas according to which evaluation as well as learning facilitation approaches should respond to contexts (Leeuwis, 2004; Samuels & Ryan, 2011; Stufflebeam, 2001; Taylor, 2003). According to authors defending these ideas, different people could have different learning preferences (Leeuwis, 2004; Taylor, 2003) and different cultures could require different approaches to evaluation (Samuels & Ryan, 2011). Evaluators as well as interventionists need to pay attention to specificities if they are concerned with utility and responsiveness. Thus, building on this idea of the need to contextualize evaluation approaches, we investigate the characteristics of the evaluation context of fishery resource management in Grand-Popo and thus the evaluation requirements, and then suggest an evaluation design to deal with that context. Before presenting the research findings and describing the adapted RE approach, we discuss in the following sections why we consider learning, and especially double-loop learning by the fishery stakeholders, as central to the improvement of the interventions in practice. Afterwards, we present the conditions for learning that were investigated and how we did so.

3.2.2 Importance of double-loop learning for improvement in practice

Building on the variety of existing literature, we define learning as an active process of exposure to learning conditions; selection and integration/reintegration of new factual, causal, contextual, methodological, theoretical, or epistemic knowledge, skills and/or attitudes to one's existing knowledge, skills, and attitude stocks (Argyris & Schön, 1976; Blackmore, 2005, 2010; Leeuwis & Pyburn, 2002; Taylor, 2003; etc.). In interactional settings such as formal schools or daily life, humans are challenged to learn in order to reach a given goal. The learning interactions could relate humans to humans or humans to objects or phenomena.

In (learning) interactions, learners select information deliberately or intuitively and integrate it into their knowledge, skills, and/or attitude stocks (Argyris & Schön, 1976, pp. 18–19; Taylor, 2003). The desirable information selected by the learners can concern the record of facts/phenomena (what and/or who?), the reasons behind the facts/phenomena (why? – causes and consequences), the strategies engaged in the facts/phenomena (how?) and the conditions in which the facts/phenomena are observed (when? where? – constraints and opportunities). When the selected information focuses on strategies for realizing pre-existing goals, and does not call into question underlying assumptions and phenomena, the learning is qualified as single-loop, conducive to superficial and strategic changes. When the integrated information leads to changes in underlying assumptions, theories, and goals, the learning is qualified as double-loop, conducive to deep or fundamental change (Argyris & Schön, 1976, 1996). Single and double-loop learning are desirable for the effectiveness of initiatives/interventions. However, double-loop learning is often more desirable in complex situations such as the Grand-Popo fishery context because it is conducive to effective, deep, and sustainable changes (Argyris & Schön, 1976; Jiggins, Röling, & Van Slobbe, 2007). For double-loop learning to occur, several conditions are required, as discussed below.

3.2.3 *Congruent and complementary action theories as condition for, or effect of, learning*

The first learning conditions investigated in Grand-Popo are the congruity within the action theories of the stakeholders and the complementarity between the stakeholders' action theories. Action theories allude to mental schemes, models, or assumptions to which actors refer, to explain, to understand, to predict, and/or to control facts and events and to take action (Argyris, 1970; Argyris & Schön, 1976, p. 5, 1996). An action theory is congruent if the action theory *espoused* (assumptions articulated to others) does not conflict with action theories *in-use* (the assumptions underlying practices) (Argyris & Schön, 1976, pp. 23–24). Any action theory is supposed to consist of about four micro-theories or micro-assumptions (Argyris & Schön, 1976), providing information about what, why, how, when, and where or under which conditions, both in theory and in practice.

The detection of discrepancy between action theories espoused and in-use is an opportunity for learning and improvement in practice (Argyris, 1970; Argyris & Schön, 1976, 1996). Changes noticed in a person's action theories reveal whether learning happened and what kind of learning took place (Argyris & Schön, 1976, 1996; Leeuwis, 2004). We regard the development of congruent action theories (espoused and in use) as a condition for effective

interventions (Argyris & Schön, 1976, 1996; Checkland, Forbes, & Martin, 1990; Crawford & Bryce, 2003).

In addition, similarities and differences in problem definitions, perceptions of problem causes, and potential solutions to problems between the two stakeholder categories were investigated. These aspects of people's action theories are vital in collaborative learning interactions of interdependent actors (Leeuwis, 2004; Röling, 2002; Stacey, 2003). The facilitation of learning interactions among interdependent stakeholders is easier if action theories are shared, overlapping, or complementary because they allow for empathy or willingness to sympathize and collaborate or interact (Pratt et al., 2009; Stankey, Clark, & Bormann, 2005; Wals, 2010; Widdershoven, 2001). However, complementary action theories may also arise during a learning process.

3.2.4 Importance of interaction for learning

As mentioned in the section 3.2.2, interactions among humans, between humans and other beings, and between humans and events or phenomena may be conducive to changes in humans' action theories or learning. However, as addressed by many authors, learning from interactions is an active process facilitated by empathy or willingness to sympathize and collaborate or interact, and to select and use the desired action theories or micro-theories (Leeuwis, 2004; Pratt et al., 2009; Stankey et al., 2005; Taylor, 2003; Wals, 2010; Widdershoven, 2001). According to Widdershoven (2001) and Pratt et al. (2009), concern or empathy for an interaction opens up the attention of interactants to the process and enhances the chances for learning by those interactants. Therefore, for learning interaction facilitation, facilitators are advised to build their intervention around shared or overlapping issues or concerns of the people involved (Widdershoven, 2001), even if ambiguous issues relating to the overlapping and complementary action theories are to be addressed later in the interaction process.

Any interaction is conducive to learning so long as the interactants feel involved in the interaction process. However, the level of learning depends on the quality of the interaction and the quality of feedback or information exchanged by the interactants (Leeuwis, 2004). Thus, single-loop learning occurs when interactants capture feedback that stimulates them to change action strategies while keeping the goals, values, and reasons underlying their actions/practices more or less constant. Single-loop learning feedback does not challenge the learner to feel the need to change the fundamental reasons behind his/her actual

actions/practices. Double-loop learning occurs when interactants capture feedback that urges them to reflect on the goals and reasons underlying their actions and their action strategies. With such feedback, the learner experiences mental or relations tensions that cannot be dealt with by coping strategies (Argyris & Schön, 1976, 1996; Engeström, 1999; Loeber, van Mierlo, Grin, & Leeuwis, 2007, pp. 86–87; van Mierlo, Leeuwis, Smits, & Woolthuis, 2009). Given the mental tensions that accompany the double-loop learning desirable for the study context of Grand-Popo, such learning is not easy to reach, especially when power is at play in the interaction (Leeuwis, 2004).

3.2.5 Influence of power on learning

According to some responsive evaluation scholars, for example, Abma (2005a,b, 2006), Baur, Abma, and Widdershoven (2010), and Baur, Elterern, Nierse, and Abma (2010), ambiguity or incongruity can only be mitigated if there are few power differences among stakeholders or if they are reduced in the interaction context. In this article, we use the concept of power to refer to the resources that one actor or a group of actors or stakeholders can mobilize to control his/her/its actual level of resources and/or to access more resources. Power resources can relate to economic, social, cultural, psychological, political, and protective capabilities (Luttrell and Quiroz, 2009), which can all influence learning in one way or another. The control or accumulation of resources can be visible or formal, hidden or invisible, or internalized depending on the resource use arenas (closed, invited, or claimed) and places (global, national, or local) (Gaventa, 2003).

Learning – being an active process facilitated by empathy and willingness to interact, capture, and use feedback – may be hindered when interactants have different power positions (Abma, 2005a,b, 2006; Argyris, 1976, 1991, 2003; Baur, Abma et al., 2010; Leeuwis, 2004). This is especially true when the changes pursued are not desired by the most powerful actors on whose willingness interactions depend. If powerful people do not feel concerned with fundamental change, they can avoid engaging in interactions that can create the mental and relational tensions that accompany double-loop learning or agree to participate in such interactions with strategies to avoid confrontational feedback exchanges (Leeuwis, 2004; Gaventa, 2003; Luttrell & Quiroz, 2009; Abma, 2006; Baur, Elteren et al., 2010; etc.). Therefore, power differences need to be addressed when one is concerned with interactive learning facilitation. To this end, one needs to build mainly on overlapping issues which create space for empathy and for willingness to interact (Widdershoven, 2001).

3.2.6 Research design

Given the importance of action theories, interaction, and power differences in the understanding and the facilitation of learning, we investigated first the action theories of the fishery stakeholders. Next, we investigated the extent to which there was congruence within, and complementarity between, the action theories of the fishery stakeholders. In addition, we studied the extent to which there were power differences and interactions for learning among the stakeholders.

For the unfolding of information about the stakeholders' action theories and their power and interactions, the study builds upon intervention plan and the review of evaluation documents, participant observations, and individual and group interviews with 160 fishing community members and 50 interventionists. The fishing actors, who came from 20 fishing villages targeted for fishery project interventions in Grand-Popo, were selected purposively and with snowball sampling depending on their experiences with fishing problems and interventions. The interventionists interviewed came from:

1. the fisheries directorate,
2. the Grand-Popo agriculture promotion centre
3. the Grand-Popo municipal council,
4. key NGOs , and,
5. three large programmes

All those organizations were concerned with fishery interventions in Grand-Popo.

We carried out semi-structured interviews in formal and informal settings. We engaged in participant observations of action theories in-use for triangulation of information sources. Most of the interviews were tape-recorded and transcribed or summarized by the main researcher who was familiar with the local language spoken by the fishing people. The contents of the information gathered were analysed to identify the general patterns of action theories per stakeholder category. Those patterns of action theories have been validated through member-check and cross-check (check of views/action theories of others) by groups of stakeholders in order to make sure that the views were properly interpreted by the researchers. The congruency and ambiguity existing between the stakeholders' action theories have been inferred from the comparison of the identified patterns of action theories.

To study the power differences between the stakeholders, we addressed the differences between the stakeholders in their ability to access relevant intervention knowledge or

backgrounds, because of the importance of knowledge in power shaping and use (Gaventa, 2003; Leeuwis, 2004; Ulrich & Reynolds, 2010). We did so by observing and interviewing the stakeholders about the extent to which intervention knowledge such as diagnostic studies, intervention plans, intervention means, evaluation studies, experiences in the field, etc., were known by them and the extent to which the owned knowledge was integrated in the plans and studies.

3.3 Learning conditions in Grand-Popo

The data collected served two functions. They formed the first steps in the responsive evaluation of fishery management in Grand-Popo itself, but were also essential to the development of the responsive evaluation approach that will be adapted to the Grand-Popo intervention context. This article reports on the data related to the conditions prevailing in the study context which justify the design of an adapted RE, and on the process of, and the design of the RE approach. A later article reports on the process and outcomes of this RE approach. As presented below, the study revealed a repetitive discrepancy between the interventionists' espoused and in-use action theories, a high ambiguity between the action theories of interventionists and fishing actors, large power differences, and an absence of learning interactions between the fishery stakeholders.

3.3.1 Discrepancy in interventionists' action theories

As mentioned in section 3.1, in an earlier study (Kouévi et al., 2011) it was revealed that the action theories espoused and in-use by the fishery interventionists had been discrepant since the 1950s, and this discrepancy even increased over time. This earlier study built on previous interventions' plans and evaluation results and on observations and interviews. It revealed for example that the interventionists often established fishing rules without being able to monitor compliance with them or make the fishing community members respect them, although they had planned to do so. The interventionists also often planned the promotion of alternative income-generating activities but never seriously did so. Thus, the design and implementation of activities planned by interventionists in relation to fishing rules and income-source diversification to solve the fishery problems were not put into practice.

3.3.2 Ambiguity of intervention action theories among fishery stakeholders

This section presents the ambiguity in intervention action theories of the Grand-Popo fishery stakeholders. We first present the action theories of each of the stakeholder categories and then compare them.

➤ *Action theories of Grand-Popo fishing actors*

The problems defined by fishing actors interviewed relate to the impairment of their livelihood conditions. According to the interviewees, their livelihood impairment is mostly due to fish stock scarcity, the absence of income-generating opportunities, floods, and the absence of socio-economic development infrastructures. For most of them, fish stock scarcity is mainly due to the siltation and changes in the water quality caused by the hydroelectric dam *Nangbéto* constructed upstream in 1988 (Association Nonvitcha, 1987; Interviews and observations 2007–2011; Ouali, 1995). The main changes they referred to related to the sweetening of the previously brackish water of the lagoon downstream due to flooding and to the siltation and blockage of the Grand-Popo Delta; greater prevalence of hippopotamuses threatening fishing and the fish trade; and the proliferation of aquatic plants. The cause of these fishery problems has been expressed in terms of:

... The water bed is totally silted and doesn't allow reproduction of fishery resources. The water bed is so silted that nowadays it's possible to stand at places previously very deep ... (an interviewee from Avlo-Houta village, 2009, 2010).

The fishing communities of *Kouèta*, *Hokouè*, *Avlo-Houta*, and *Avlo* villages (greatly affected by the delta) pointed to the frequent opening of the obstructed delta and coastal erosion as causes of the destruction of their houses, their villages, and of fishing downstream.

The relocation of the wharf and port activities from Grand-Popo to Cotonou (economic capital of Benin) between 1959 and 1965 has been indicated by fishing communities as reducing their income-generating opportunities. According to them, the economic prosperity of Grand-Popo was previously mainly facilitated by the presence of the wharf and port activities. Indeed, because of the port facilities in Grand-Popo, most nationwide export-import transactions took place via this town with economic benefits for the local population in terms of trade opportunities (mainly because there were enough clients for a viable trade enterprise) (Cornevin, 1962; Pognon, 1955). This is no longer the case since the government relocated this economic infrastructure from Grand-Popo to Cotonou. The interviewees also consider the absence of development infrastructures such as roads fit-for-purpose, bridges, clean water, hospitals, electricity, schools, leisure and important business centres as an impediment to their livelihood opportunities. For them, the absence of such infrastructure prevents their having easy access to basic needs, and therefore to well-being. For instance, one interviewee from Avlo, supported by his fellows said:

... Mainly roads, water, electricity, hospital, market, and schools open up eyes of [i.e. develop] villages... No other village in the country is still in the development state we are in the Arrondissement of Avlo...

This view concurs with views expressed by interviewees from the Arrondissements of Sazué, Djanglanmey, and Adjaha, like:

... It's light and roads which open eyes for localities...

On the basis of the above diagnosis of the problems they face, fishing communities want the causes of these problems to be removed by interventionists, policymakers, and other powerful community members (intellectuals and other decision makers), whom they perceive to be indifferent to their problems. They especially want the flood effects of the dam to be halted or controlled. They want income-source diversification according to the needs and specificities of each community. Some people suggested, for instance, the promotion of pig farming instead of the rabbit farming promoted by the PADPPA project. Communities living close to the sea and threatened by siltation, coastal erosion, difficulty crossing tidal waves, and the migration of fish stocks towards the sea after the opening of the delta, want the delta to be protected, using stones or rocks to stabilize the delta and its banks. All the fishing communities want the rivers and lagoons to be dredged for flood control and the restoration of fish reproduction shelters. They also want socio-economic development infrastructures to be constructed in their communities by interventionists and policymakers in order to allow their villages and their children to “open eyes.” The following utterances from a fisherman from Hokouè-Village illustrate some of the solutions suggested by the fishing communities:

... We who are riparians rely only on things related to the water. However, the water is continuously silted, so that we see the danger coming towards us. Therefore, we will not refrain from asking for the dredging of the water... We insist on the dredging of the water because it's very important for us. The delta is also eroding us and making whole villages disappear. And we are asking the government to come and enrock the delta to stabilize it to stop the erosion of our villages. However, to enrock the delta, the rocks should be transported through the water. Since there is no road on the water because of siltation, the dredging is therefore the most important solution for us...

These suggested solutions have often been expressed by the fishing communities to interventionists and policymakers. They have never led to effective interventions, especially with regard to dredging, income-source diversification, flood control, and delta revetment

with stones to stabilize the banks. According to most interviewees, interventionists as well as policymakers have always cheated them by consulting them about their problems and proposing solutions and giving them hope that is never fulfilled. In their own terms, most of them said, equating the interviewer to an interventionist:

...That is what you always do... When the time comes [election or an intervention], you come and ask us to tell you our problems, and we cooperate. Once you achieve your goals [data collection or election], you don't come back. We are tired of always telling our problems to you without getting satisfied... Even most of us do not wish to cooperate again with you... (utterances portraying views of interviewees in all 20 interviewed villages).

This quotation shows how much the trust between interventionists and the fishing communities has deteriorated. However, because of their vulnerability and quest for solutions, the fishing communities continue cooperating, somehow, with interventionists, hoping that someone will listen to them one day and take relevant initiatives for their well-being.

➤ *Interventionists' current action theories*

The problems espoused by the interventionists do not differ fundamentally from those previously espoused by them (Kouévi et al., 2011). The major fishery problems articulated still relate to fish stock depletion and to the impairment of fishing communities' livelihoods (all interviewees). They were stated by an interventionist from the agriculture promotion centre (CeCPA) as follows:

... The fishing people of Grand-Popo suffer from the loss of fish biodiversity, financial vulnerability, and absence of alternative employment opportunities...

The interviewees attributed the causes of these problems to the lack of respect of sustainable fisheries management and fishing rules by fishing actors. Furthermore, technicians and field agents blame the government for the limited resources given to the fishery development sector, thereby facilitating very limited effectiveness in practice. These reasons for the fishery problems were stated as follows by the head of a fishery programme:

... The problems should be attacked from their root-causes (fishing and sustainable fishing water management rules' respect, strategic dredging, real fishing police establishment, etc.). However, there should be effective political will and adequate working means (radar for monitoring of practices, police, etc.)...

Therefore, to solve the problems, interventionists would like the government to provide them with relevant intervention resources (money, control) and deterrent and sanctioning resources (radar, motorboats, police) in order to allow them to promote income-source diversification and to foster sustainable fishery resources management and fishing communities' respect for fishing rules. With relevant resources (not precisely specified), they expect to raise fishing communities' awareness about the necessity to respect fishing rules, and to monitor and sanction offenders effectively. As far as the interventionists are concerned, the government, the municipal council, NGOs, and the projects cannot solve all the problems of the fishing communities. The fishing communities also have to act on their own initiative in relation to such issues as income-source diversification and respect for fishing rules instead of waiting for everything from interventionists and policymakers. The deputy head of the fisheries directorate, for instance, said:

...The government and projects cannot solve all their problems, because they have limited means... Fishermen also have to take their own initiative...

➤ *Ambiguity among the fishery stakeholders' intervention action theories*

Comparison of the action theories espoused by the Grand-Popo fishery stakeholders shows some overlaps between problem definitions and some solutions. The fishery stakeholders share general problem definitions relating to the impairment of fishing communities' livelihoods and fish stock and habitat depletion. Income-source diversification is also viewed by intervention stakeholders as an alternative for livelihood improvement. However, the stakeholders present different perceptions about the causes of the fishery problems. Whereas fishing communities attribute the causes of the problems to the absence of socio-economic infrastructures, to the hydroelectric dam constructed upstream, and to the presumed indifference of interventionists, policymakers, and powerful community members, interventionists see the problems as being caused by the non-respect of sustainable fishery resource management rules by fishing communities themselves and the limited intervention resources available.

Thus, interventionists and fishing communities differ on what solutions to prioritize. Fishing communities want opportunities for the satisfaction of economic and basic needs to be opened up for them. They want problems caused downstream by the dam (siltation, floods, sweetening of brackish water) to be stopped. They also want the silted water to be dredged mechanically in order to allow easy fluvial transportation and the restoration of the fish stock

reproduction system. Meanwhile, the main concerns of interventionists relate to income-source diversification for fishing groups and fishing communities' respect for sustainable fishery resource management. The stakeholders differ also in their views on who is responsible for the problems and who should solve them. Whereas fishing community members blamed interventionists for the fishery problems, the latter blamed the fishing communities and policymakers for the same problems.

In summary, we can conclude that there is ambiguity among the action theories of the fishery intervention stakeholders in Grand-Popo, mainly about the causes of the fishery problems and the potential solutions.

3.3.3 Double-loop learning interactions among stakeholders

The fishery intervention stakeholders in Grand-Popo have hardly interacted at all. Interventionists tend to interact with a few representatives of the fishing communities in towns, mostly at a distance from the places where the problems are being experienced. These restrictive or selective interactions mostly address diagnoses and proposals for solutions, and sometimes evaluations. As evidence of this selective interaction: most of the fishing interventionists interviewed acknowledged that they rarely go to villages on the island of Avlo (located about 12 km from the centre of Grand-Popo where most meetings take place), although the people from these villages seem more exposed to fishery problems. The representatives are supposed to account to their peers, but they seldom do so, and the interventionists also seldom monitor the practices of those representatives (Interviews, 2007-2011). When intervention plans are being developed, it sometimes happens that some interventionists go and meet the people in some of the villages, mostly those villages that are easy to access (close to town for instance). Even then, they seldom go back to the communities to account for how they have incorporated the villagers' views into their plans or concrete activities (Interviews, 2007-2011). Therefore, most fishing community members have lost trust in interventionists and policymakers, and are reluctant to participate in problems and solutions definition meetings when given such an opportunity. Those who continue participating in such – relatively rare – community-level meetings with interventionists sometimes try to express their worries about interventionists taking effective action. These kinds of interactions and feedback exchanges between the fishing community members and the interventionists, i.e. boycotting meetings and expressing concerns when given the opportunity by interventionists, do not yet bring these latter to learn. The

interactions are still insufficient to induce the interventionists to be more effective in practice. This may be caused by power differences in this interaction process.

3.3.4 Power differences among the stakeholders

In Grand-Popo, interventionists have scientific and empirical backgrounds about intervention processes because of their professional training and contact with scientists, policymakers, financial partners, the field, and the fishing communities. Indeed, the professional training of interventionists and their interactions with various stakeholders and events expose them to varied social learning opportunities that they use in relationships with the fishing communities, who hardly have such learning opportunities. This easy knowledge and experience exchange position makes the interventionists rich in terms of intervention knowledge, and consequently in terms of intervention power. Therefore, interventionists know relatively more about the fishing field, the fishing communities, the policymakers, and the financial partners than the fishery communities, and can easily use such knowledge to their own advantage in interventions.

On the other hand, apart from some better-informed representatives, the intervention knowledge of the fishing communities is experiential and is relatively narrower than that of the interventionists. Generally, fishing communities know very little about the interventionists, whom they see as policymakers. This can be noticed in the perception of fishing communities who attributed the cause of the persistence of the fishery problems to interventionists and policymakers in general, without being able to name the main people responsible.

With such differences in intervention knowledge and hence power, we wonder to what extent the fishing communities can interact with interventionists towards double-loop learning. Given these imperfect conditions for learning prevailing in Grand-Popo, we explore to what extent and how responsive evaluation can be used for learning and improvement of the effectiveness of interventions.

3.4 The relevance and limitations of responsive evaluation for Grand-Popo

Given the continuing ineffectiveness of the interventions and the apparently shared or overlapping interest in solving the fishery problems expressed by the fishery stakeholders, we perceived the need to design and implement an action research approach in order to halt, and if possible reverse, fishery resource depletion and the impairment of fishing communities' livelihoods by stimulating double-loop learning interaction among stakeholders. We build on

the basics of the responsive evaluation (RE) approach, because this action research approach deals with ambiguity and power differences among stakeholders, as was evident in Grand-Popo. Furthermore, it seeks to improve the effectiveness of interventions in practice via a collective process and thus may provide a way out of the deadlock in Grand-Popo.

RE is a participatory method of process evaluation that generates feedback on the value and meaning of intervention programmes for the stakeholders concerned (Abma, 2005a,b; Abma & Stake, 2001; Stake, 2006). This section discusses first its basics and then its limitations in the light of the characteristics of the Grand-Popo fishery management context in order to suggest adaptations for this specific case.

3.4.1 The basics of responsive evaluation

RE was developed around the 1970s by Stake and some of his education evaluation colleagues (Stake, 1975) in order to respond to the need for evaluation to serve all stakeholders' utility goals instead of just testing the attainment of interventionists' preconceived intervention goals. Testing goals is perceived by responsive evaluators as weakly conducive to improvement of interventions in the context of high ambiguity, where goals and values of intervention programmes are not shared by the stakeholders who are supposed to contribute to the success of, and to benefit from, the programmes (Abma, 2005a,b; Abma & Stake, 2001; Stake, 1975, 2006). Contexts of high ambiguity are characterized by contradictory interpretations about what needs to, what can, and what should, be done, when, and where (Abma, 2005a, p. 391). This ambiguity can occur in contexts of complexity, uncertainty, and diverging values of stakeholders (Abma, 2005a; Abma & Noordgraaf, 2003). Such contexts are those of non-routine and collaborative interventions and absence of consensus (Abma, 2005a, p. 391). In contrast, in routine contexts, stakeholders can easily learn to reduce the degree of ambiguity. A way to make evaluations useful and emancipatory for all stakeholders in highly ambiguous contexts is to explore and integrate issues of all concerned stakeholders into evaluation criteria, in such a way as to allow programmes to be readjusted and to extend their utility to marginalized stakeholders (Abma, 2005a).

In order to reach this utility-oriented evaluation goal, responsive evaluators suggest the promotion of naturalistic or holistic communication among programme stakeholders (Abma & Stake, 2001; Stake, 1975). This communication approach aims to explore all kinds of information of importance for stakeholders by allowing them to express their personal,

exhaustive impressions about issues at stake, and to facilitate their exchange and discussion. In this way, each dialogue participant can learn about their partners' issues, marginalized issues can be included, and practice can often be improved. The suggested strategy is to organize friendly discussions around controversial issues among stakeholders (Stake, 1975). Since stakeholders hold different power positions from which they do not like to derogate, the negotiation of safe participation for stakeholders in discussions is a requirement of responsive evaluation (Abma, 2005a,b; Guba & Lincoln, 1989; Stake, 1975). The naturalistic (natural/open) nature of discussions needs to be adapted to contexts. That is why Stake (1975) and Abma and Stake (2001) qualify responsive evaluation as context-bounded or situation-bounded. Methods and strategies to promote naturalistic communication and to adapt to contexts range from portrayals, narratives, maps, graphs, exhibits, taped conversations, photographs, video-projection, audience role play, etc., depending on the learning preferences of the audiences (Stake, 1975; Stufflebeam, 2001, pp. 63–71). All these media are supposed to build around ambiguity to trigger learning.

Potential outcomes expected from responsive evaluation processes are social inclusion of marginalized stakeholders, naturalistic communication, mutual understanding, popular learning, adaptation of programmes to stakeholders' issues, and shared actions (Abma, 2005a,b; Abma & Stake, 2001; Stake, 1975). Popular learning is seen as the learning occurring in a natural communication setting in which every stakeholder can access all kinds of information important for them and from which they can learn. This kind of learning assumes that exposing people to intervention information can allow them to learn and benefit from interventions. Consensus building could be an issue, but it is not a necessary output requirement of this approach. The most important aspect is that it promotes popular learning that could lead to the empowerment of victims or less-voiced stakeholders if they are all informed about the interventions and their consequences.

3.4.2 The evaluation process and the responsive evaluator's tasks

A process of responsive evaluation encompasses about five tasks and related roles for the evaluator. It consists of research/exploration of issues/controversies, interpretation or endowment of meaning to findings, creation of conditions for dialogue facilitation between stakeholders, education, and Socratic guidance (Abma, 2005a,b). The research or exploration of issues happens through conversation with varied stakeholders, especially victims and silenced voices, and leads to the elaboration of an illustrated report without conclusion or recommendation. Conclusions and recommendations are to be avoided in order not to block

dialogue and to stimulate reflection. Conversations can be taped and if possible video recorded, and transcripts are used to build the narrative report illustrated with verbatim quotations, storytelling, narration of vicarious experiences, portrayals, pictures ... (Stake, 1975; Stufflebeam, 2001). Issues discovered lead to the selection of evaluation criteria to be discussed within, and if possible among, groups of stakeholders later. As a hermeneutic being, the researcher reflects on findings and gives meaning to issues (role of interpreter); but the evaluator's interpretations should be submitted to member-check and to triangulation of sources and methods for validation before being transcribed in the final report for discussion during the following dialogical process.

Once important issues (i.e. aspirations or values) are explored, interpreted, and member-checked, the evaluator may create conditions for stakeholder dialogue by convincing them about the need for collaboration and participation towards shared vision and action, and by arranging open dialogue and mutual respect. The success of the evaluator in the creation of such dialogical conditions depends on how trustworthy s/he is to the stakeholders and on the historical collaboration context (Abma, 2005a). If past experiences have lessened the trust among stakeholders, then the evaluator can start with almost homogenous groups of stakeholders (Abma, 2005a, 2006; Baur, Elteren et al., 2010). In the context of sensitive issues and strategic responses from stakeholders, triangulation methods and dialogue conditions can help to facilitate open discussions (Abma, 2006).

The role played by the evaluator consists of sharing findings or issues with the stakeholders and bringing participants to reflect on one another's concerns. During the dialogical session, the evaluator makes participants respect the agreed participation rules and encourages people to be as explicit as possible during their discourses. As already mentioned, the dialogue can be tape and/or video recorded, and transcribed for the following report writing. Also, the facilitator may observe all on-going interactions and keep a reflexive logbook or journal.

During the dialogical sessions, the evaluator is also supposed to play a role of provocateur of understanding, or image provider, or educator (Abma & Stake, 2001). Such a role consists of assisting participants in the explanation of various experiences by using didactic or knowledge delivery, i.e. information provision, or discovery learning/self-direction approaches, i.e. learning by doing or information provision upon the demand of stakeholders in given conditions (Abma & Stake, 2001; Stake, 1975). At the end of the dialogical process, the evaluator may probe into taken-for-granted ideas based on discussions, shared truths, and

certainties, and bring in new meanings and interpretations. Such an evaluator role is called Socratic guide.

All in all, this RE process can lead to social inclusion of marginalized stakeholders, mutual learning and understanding by all stakeholders, adaptation of intervention programmes to issues of less powerful stakeholders, and shared and improved actions. All outcomes are tracked through the monitoring and the documentation of the responsive evaluation processes (Stake, 1975). The written report is supposed to give as much detail as possible about the process and the context to readers so that they can decide about the usability or generalizability of the findings in their context (Abma, 2005a,b; Abma & Stake, 2001; Stufflebeam, 2001). Figure 3.2 visualizes the original RE process.

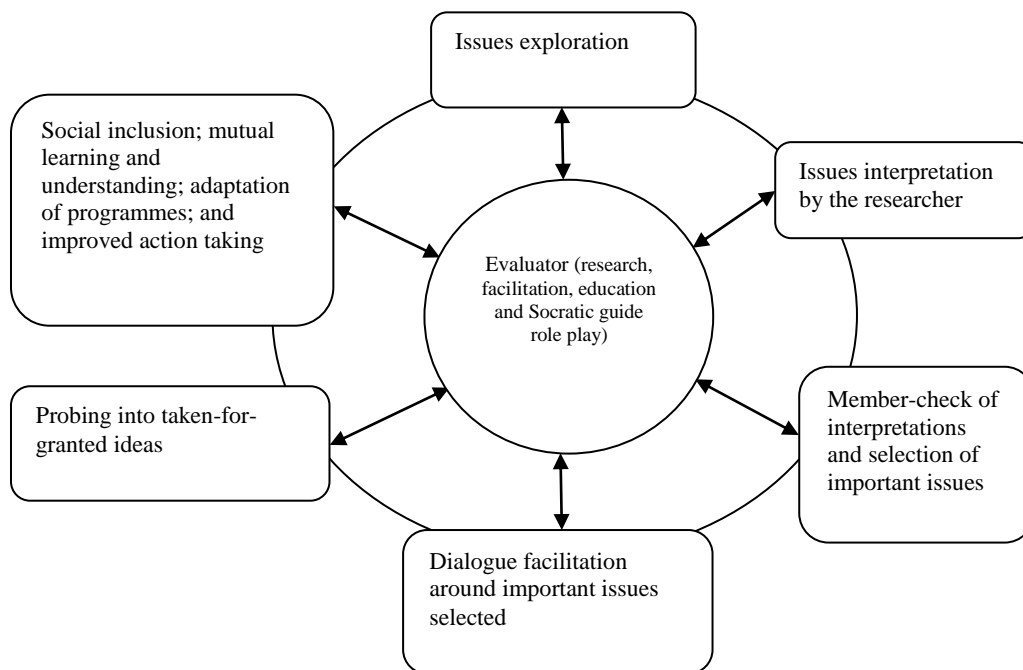


Figure 3.2: Framework of a general responsive evaluation [RE] process

3.4.3 Some critiques of responsive evaluation

To date, responsive evaluation has been used mostly to evaluate intervention programmes in healthcare and school settings (Abma, 2003, 2005a,b; Baur, Abma et al., 2010; Baur, Elteren et al., 2010; Abma & Stake, 2001; Stake, 1975). These settings have often been considered and treated by responsive evaluators as bounded (Stufflebeam, 2001). This means that responsive evaluators hardly pay attention to cases or other settings interacting with, and influencing processes in, their case studies. According to authors critical of RE, this may misinform the evaluation processes and outcomes in the sense that principal causes of evaluated problems cannot be tackled (Stronach, 2001; Stufflebeam, 2001; Widdershoven,

2001). These and other authors assume that no case is bounded and suggest going beyond case studies if necessary (Engwall, 2003; Morell, 2005). This critical stance is especially relevant in natural resource management contexts where management realities are so multiple and interconnected that considering case studies as bounded may mislead the problem-solving facilitation process. This is why authors on natural resource management suggest taking a multi-level or systemic analysis perspective to deal with complexity and uncertainty (Blackmore, 2010; Giller et al., 2008; Ison, Blackmore et al., 2007; Smith, 2010; Ulrich & Reynolds, 2010; Williams & Imam, 2006).

Another critique of the responsive evaluation approach relates to power issues. Authors of this critique claim that by aiming at reducing power gaps between stakeholders, RE processes are exposed to bias because power issues are political and thus incompatible with scientific norms of neutrality and objectivity (Stronach, 2001; Stufflebeam, 2001). This critique may be relevant from some perspectives. However, every human activity is indeed political in the sense that each human, including scientists and evaluators, is an intentional sense maker and actor, who can hardly avoid influencing, consciously and unconsciously, processes in which s/he engages (Baur, Abma et al., 2010; Blackmore, 2005; Leeuwis, 2004; Mertens, 1999, 2009). Mertens (1999), in her transformative evaluation theory, perceives that openly stating their own concerns in the evaluation processes is a way for evaluators to acknowledge and deal with biases in such a context. We agree with this stance.

On the basis of the description of the basics and critiques of the responsive evaluation approach, we now turn to the discussion of the extent to which RE suits the learning conditions in the Grand-Popo fishery context, and the adaptations it needs.

3.4.4 Limitations of RE for the Grand-Popo context

With respect to the existence of power differences and ambiguity among the action theories of the fishery stakeholders, we see RE as well suited to the Grand-Popo case study. However, in line with the critiques in subsection 3.4.3 and in our view, the contexts in which RE has been applied thus far differ fundamentally from the Grand-Popo context in three dimensions: type of intervention, level of interaction between interventionists and beneficiaries, and level of complexity. In the following sections we discuss these contextual differences and suggest adaptations to the RE approach.

➤ *Type of intervention: Need for historical analysis of interventions and experiences to deal with routine*

The responsive evaluation approach is commonly applied for unique and non-routine intervention programmes because learning for ambiguity reduction and improvement in practice is supposed to occur easily from experiences (Stake, 1975; Abma & Stake, 2001). Such learning and ambiguity reduction as a consequence of information from interventions does not take place in Grand-Popo; we know this because there have already been generations of ineffective interventions. The intervention context therefore is routine.

Monitoring and evaluation studies have generated information about these intervention programmes but have hardly been discussed among intervention stakeholders (Kouévi et al., 2011). The improvement provoked by this monitoring and evaluation information happened mainly at the level of action theories espoused by interventionists, i.e. in new diagnostic documents and plans. The fishing communities do not seem to have learned from their intervention experiences about how to improve intervention outcomes. Improvements in practice are therefore limited (Kouévi et al., 2011). In this routine intervention context, learning and ambiguity reduction may require some extra conditions, such as access to, processing of, and selection of relevant information. These conditions seem to be lacking in the fishery intervention context in Grand-Popo.

The information to which the interventionists have had access is not the same as that accessed by the fishing communities because of the absence of information sharing interactions, so that ambiguity has persisted. In such a context, there is, therefore, a need not only to gather information about previous intervention experiences, but also to introduce such historical information into stakeholders' discussions in such a way as to facilitate learning, ambiguity reduction, and improvement in practice. This historical inquiry and discussion with stakeholders may then contribute to what responsive evaluators call holistic communication facilitation. Thus, we propose to add historical inquiry and discussion among stakeholders on earlier experiences with interventions in order to stimulate holistic communication around ambiguity in the routine intervention context in Grand-Popo. Such a discussion of experiences with failing interventions (like income diversification projects) among the stakeholders has not taken place thus far. Such a concern for the history of interventions has also been addressed by several authors (Crawford & Bryce, 2003; Engwall, 2003; Ison, Bawden, McKenzie, Packham, Sriskandarajah, & Armson, 2007; Morell, 2005; Samuel & Ryan, 2011; Ulrich & Reynolds, 2010).

➤ *Learning interactions: Need to explicate theories in-use*

In responsive evaluation theory, learning is perceived by RE authors as an implicit outcome of friendly holistic communication and discussion around ambiguous issues among stakeholders (Abma, 2005a,b, 2006; Abma & Stake, 2001; Stake, 1975). Of course, after discussion of the issues, some learning could occur at the level of each stakeholder participant. However, experiences in Grand-Popo have shown repetitive discrepancy between espoused and in-use action theories, so that it may not be useful to build only on action theories espoused by interventionists after discussion.

Conditions must be created to facilitate more consistency within, and more congruence between, interventionists' espoused and in-use action theories (Argyris, 1976; Argyris & Schön, 1976, 1996; Blackmore, 2010; Kouévi et al., 2011; Leeuwis, 2004). The current RE framework does not explicitly address this issue of inconsistency in action theories. That is why we aim at the facilitation of more interaction between interventionists and fishery communities in order to stimulate double-loop learning. The suggested strategies to facilitate this kind of learning consist in uncovering participants' action theories espoused and mapping their action theories in-use, and in inducing all stakeholders to perceive and reflect on incongruities and inconsistencies between core reasons for action in both theories. The mental tensions or cognitive dissonances resulting from this critical or reflective process are said to be conducive to double-loop learning (Argyris, 1970; Argyris & Schön, 1976; Bawden, 2010; Engeström, 1999; Ison, Blackmore et al., 2007; Leeuwis, 2004; Mertens, 1999, 2009; Ulrich & Reynolds, 2010).

In the Grand-Popo fishery context, in order to facilitate double-loop learning, the responsive evaluation process should uncover not only ambiguity, but also incongruities in stakeholders' action theories espoused and in-use and introduce into the discussion core reasons for stakeholders' actions. Understanding the interconnectedness of the interdependent fishery stakeholders may play an important role in these learning facilitation processes (Baland & Platteau, 1996; McLain & Lee, 1996; Stacey, 2003; Stankey et al., 2005; Walters, 1997; Ulrich & Reynolds, 2010).

➤ *Level of complexity: Need for systemic analysis to deal with complexity and uncertainty*

The Grand-Popo fishery intervention context is relatively complex. It is characterized by multiple interconnected loci of control of intervention processes and outcomes, multiple fishery management stakeholders, differences in power positions, and highly diverging and

competing interests. Indeed, the fishery problems have interconnected natural causes (silts, mineral and water gradients in the water system, etc.) and anthropogenic causes (deforestation, dam construction, non-relevant management policy design and implementation, etc.) (Interviews, 2007–2011; Pliya, 1980). The fishery stakeholders are composed of fishing communities, intervention managers, designers, monitors and evaluators, policymakers, and technical and financial partners. Each group of stakeholders has its intervention competences (knowledge, skills, attitudes, and aptitudes), roles, stakes, and dynamics (Baland & Platteau, 1996; Crawford & Bryce, 2003; Holling, 1978; Ison, Bawden, McKenzie, Packham, Sriskandarajah, and Armson, 2007). Even each stakeholder has its own characteristics. The fishery resources also have their own characteristics and dynamics to be known and dealt with by all stakeholders (Baland & Platteau, 1996; Botsford, Castilla, & Peterson, 1997; Jentoft & McCay, 1995).

Furthermore, the fishery resources are common goods, i.e. resources of interest for several stakeholders and characterized by subtractability, excludability, and rivalry (Baland & Platteau, 1996; Oström, 2005). Subtractability means that the resources diminish after use by some people. Excludability means that people who access the resource first prevent others from having access to it. Rivalry refers to competition among stakeholders to limit exclusion from access to the resource at stake. This common-good nature of the fishery resources makes them the object of competition among fishing communities (Baland & Platteau, 1996; Hardin, 1968; Oström, 2005). Even the fishery management programmes are the object of competition among interventionists because of their common-good nature and of their contributions to interventionists' livelihoods.

This number of interconnected fishery management factors is complex to deal with for fishery intervention professionals as well as for fishing communities, even in developed countries (Stankey et al., 2005; Botsford et al., 1997; Jentoft & McCay, 1995). As the degree of complexity of a problem is known to influence the level of uncertainty and initiative taking to solve the problem (Pratt et al., 2009; Stankey et al., 2005), the more a problem is perceived as complex by an actor, the more uncertainty s/he feels about solving the problem, and the less s/he will spontaneously take the initiative to solve it (Halbert, 1993; Pratt et al., 2009; Stankey et al., 2005). These complexity and uncertainty perceptions seem to apply to the fishery intervention stakeholders in Grand-Popo, who expressed the desire to raise their level of understanding of the fishery management situation in order to reduce the degree of

uncertainty and improve fishery problem solving (Dagnon-Prince et al., 2004; Interviews 2007–2011; MEHU, 2001; Tomety et al., 2001).

In order to deal with these perceptions, complexity awareness raising, uncertainty reduction, and facilitation of effective action may help. All such actions may benefit from the systemic analysis of the reasons for the repetitive lack of effectiveness (Argyris, 1970; Bawden, 2010; Blackmore, 2010; Holling, 1978; Ison, Bawden et al., 2007; Ison, Blackmore et al. 2007; Smith, 2010; Stankey et al., 2005; Ulrich & Reynolds, 2010; van Mierlo & Arkesteijn, 2009; van Mierlo et al., 2009). Systemic analysis reduces complexity through representations or models simplifying complex realities for stimulation of system thinking, and easier understanding and handling of complex realities by people (Smith, 2010; Williams & Imam, 2006). With the objective of acknowledging and dealing with complex situations, systemic analysis aims at facilitating the engagement of interdependent stakeholders in joint learning about complex problems or issues for joint design, implementation, monitoring, and/or evaluation of solutions to the problems or issues (Bawden, 2010; Ison, Bawden et al., 2007; Ison, Blackmore et al. 2007; van Mierlo & Arkesteijn, 2009; van Mierlo et al., 2009).

From this systemic analysis perspective, we can say that the RE approach is already maximizing its effect by suggesting the engagement of interdependent stakeholders with different power positions in discussion around controversial issues. However, since the initial RE knowledge body did not explicitly address this perspective that commits to more structured ways of approaching complexity, we suggest adding systemic analysis to RE to deal with the complexity of fishery management facilitation in Grand-Popo. This would mean coming to a common understanding of the fishery problem-solving structures interacting functionally in and with the Grand-Popo fishery context (Holling, 1978; Smith, 2010; Ulrich & Reynolds, 2010; van Mierlo et al., 2009; Williams & Imam, 2006). Such an understanding may facilitate learning by the fishery stakeholders, especially the fishing communities (Pratt et al., 2009).

The extension of information gathering from issues to action theories is also part of the systemic analysis (Argyris, 1970). The systematic integration of this perspective in RE processes will, among other things, commit the evaluators to invest more time in literature reviews, interviews, and observations about the expected evaluation processes and outcomes. Knowing about these evaluation processes and outcomes may help participants, for instance, to invest more time in identifying and discussing inconsistencies and incongruities in intrapersonal, intra-group, and intra-community action theories, thus leading to effective

improvement in practice. Hence, we suggest adding a systemic analysis perspective to the existing RE framework (see Table 3.1 and Figure 3.3). Table 3.1 below gives an overview of the adaptations suggested for the RE framework in the study context.

Table 3.1: Comparative presentation of the regular RE context and the Grand-Popo fishery context and the suggestions for RE adaptation

Current contexts of applied RE		Grand-Popo context	Suggestions for RE adaptation
Single, interventions	non-routine	Repetitive interventions	Analysis of history of intervention processes to generate enough information about intervention action theories
Espoused action theories (conclusions of RE process) and improvement in practice (theories in-use) seen as systematically linked		Action theories espoused are repetitively different from those in-use	Uncovering and discussing incongruities and inconsistencies in theories in-use and espoused theories towards double-loop learning and improvement in practice
High ambiguity in the context of education and healthcare		Highly complex and ambiguous context of common goods	Systemic analysis to raise understanding of complexity, reduce uncertainties, and facilitate learning

3.4.5 The design of an adapted RE framework to fit the Grand-Popo fishery context

Figure 3.3 presents the RE framework adapted to the Grand-Popo fishery context. It builds on the basics of RE and on the suggestions about adapting RE to the study context. In the centre of the figure, the idea of commitment to effectiveness is added to the role definition of the evaluator, as suggested by double-loop learning authors Argyris (1970), Argyris and Schön (1976, 1996), Fulmer and Keys (1998), Putman (1993). This implies that, in the evaluation process, the evaluator does his/her best to find out the central causes of the intervention problems, and to identify and deploy relevant strategies to facilitate learning towards the mitigation of the identified problem causes, in collaboration with the evaluation partners (stakeholders). The idea of commitment is included because it is considered that, like interventionists, without self-commitment to effectiveness, evaluators will hardly be able to facilitate double-loop learning, or to join in this learning process (Argyris, 1976). In Grand-Popo, this may consist in learning about the effectiveness of fishery intervention and about its facilitation strategies; identifying the relevant categories of stakeholders; gathering information from all categories of stakeholders; triangulating information for more validity,

transparency, and equity; and putting the gathered information into collective discussions where all stakeholders are represented and given free and respectful reflection and talk opportunities.

Because of the shortcomings identified in the current RE framework for the Grand-Popo fishery context, some other dimensions have been added to the existing RE framework in such a way that some of the RE activities are reframed and others added. The reframing concerns activities linked to exploration, interpretation, member-check, dialogues, and process outcomes, which initially were aimed at addressing issues important to stakeholders, but now are aimed at addressing the full action theories of stakeholders. Furthermore, the notion of action theory is added to all the activities relating to exploration, interpretation, and discussion, because of its value for understanding practices (Argyris & Schön, 1976). The new activities added to the RE framework relate to historical and systemic analyses (see stakeholder analysis and historical and systemic analysis activities in Figure 3.3). The new activities and concepts are in bold to clarify the differences from the regular RE framework (see Figure 3.3). Finally, the expected outcomes of the RE approach have also been reframed, as explained in more detail in section 3.5.

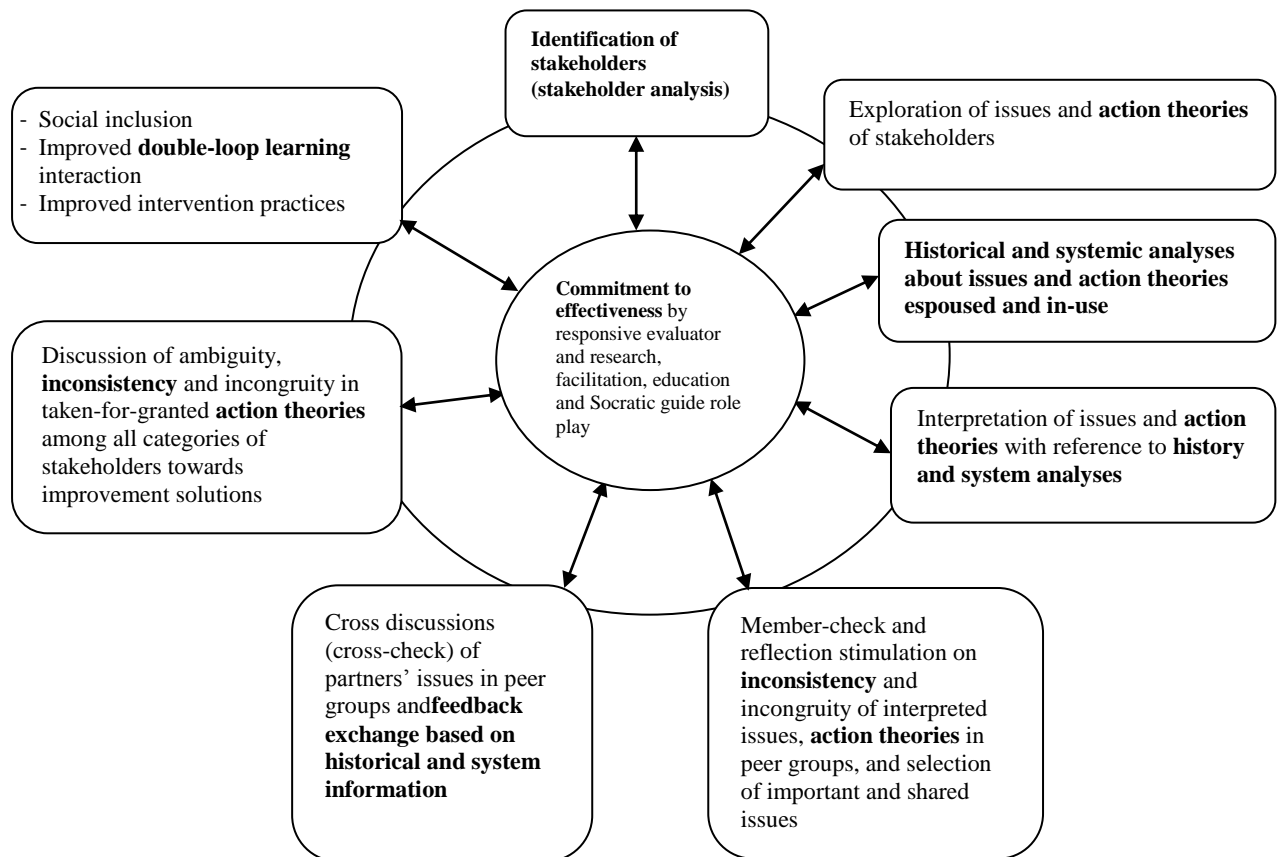


Figure 3.3: The RE framework for the Grand-Popo case study

Source: Adapted from Abma (2005 a, 2005b)

3.5 Criteria to assess the performance of the adapted RE

The results of carrying out the adapted responsive evaluation approach in Grand-Popo could be evaluated in the following dimensions: the social inclusion of marginalized stakeholders; improvement in stakeholders' interaction that may stimulate double-loop learning; and improvement in intervention practices. In this section, we explain each of them and include relevant related indicators that can be used to assess the performance of this RE approach.

3.5.1 Social inclusion of marginalized stakeholders

The concept of social inclusion of people perceived as excluded or marginalized may refer to several aspects ranging from their access to resources (such as education, housing, income, food, etc.) to their involvement or integration in social processes (such as policy design and implementation, etc.) (Frazer, Marlier, & Nicaise, 2010; Koster, Nakken, Pijl, & van Houten, 2009; Labonte, 2004; Veland, Midthassel, & Idsoe, 2009). From an RE perspective, marginalized stakeholders are less-voiced, excluded, and less powerful compared to powerful stakeholders in intervention programmes (Abma, 2005a,b; Baur, Abma et al., 2010). Thus, we consider social inclusion of marginalized stakeholders to happen through the participation of the socially excluded people in dialogues with more powerful actors, and the integration of issues of the marginalized into intervention programmes (Abma, 2005a,b; Abma & Stake, 2001; Baur, Abma et al., 2010). This requires a good facilitation and process design (Leeuwis, 2004; Leeuwis & Pyburn, 2002).

The assessment of the criterion of social inclusion of marginalized stakeholders in RE may consist in documenting how much these latter participate in discussions with powerful stakeholders (interventionists and others); the extent to which they have been given the opportunity to talk freely; and how seriously their issues are taken and integrated into further intervention programmes. The number of joint discussions among stakeholders from different power levels (group discussions); the number of previously ignored issues discussed with and among stakeholders; and the new taken-for-granted issues of the marginalized can help in appreciating this criterion. The participation of fishing community members in interviews, peer/homogenous group discussions for member-check and cross-check of issues and action theories, and heterogeneous group discussions may help in the assessment of the level of inclusion of the marginalized fishing people. Social inclusion of marginalized stakeholders may have implications for learning by all the stakeholders.

3.5.2 Learning by stakeholders

We consider learning as both a process and an outcome. In terms of process, learning is endless, occurring during all reflective interactions with self, peers, partners, phenomena, and events (Kouévi et al., 2011). These reflective interactions lead to feedback exchange and capture (Leeuwis, 2004). In terms of outcome, this process can lead to awareness raising, interest mobilization, active experiential or social learning, and/or adapted practices and adoption of routines (Leeuwis, 2004, p. 161; Ringsing & Leeuwis, 2008).

We consider the assessment of learning as the appreciation of changes that occur in action theories of interacting stakeholders. Any change that occurs is already a kind of learning. However, we expect three kind of learning to occur: single-loop learning, double-loop learning and social learning, though double-loop learning is the most desired for the study context as explained above. We expect single-loop learning (learning mainly at the level of strategy) to occur – although we are seeking double-loop learning – because of the possible learning limitations of the stakeholders (in terms of commitment, understanding capacity, etc.) and the possible imperfections of the facilitation process (in terms of addressing issues and strategies capable of catching the attention and commitment of participants) (Pratt et al., 2009; Stake, 1975, 2006; Widdershoven, 2001). We expect also social learning to occur because of the discursive interaction between the stakeholders around overlapping issues (Maarleveld & Dangbégnon, 2002; Röling, 2002; van Mierlo et al., 2009). To assess these kinds of learning, we suggest a before–after approach (Green, 1979; Smith, Orvos, & Cairns, 1993). This approach consists of monitoring and taking notes of stakeholders’ action theories before and after the learning interventions (or discursive interactions facilitated) of the RE process on the same issues. The learning that has occurred may be deduced from changes observed from the comparison of the stakeholders’ action theories noted before and after the RE learning facilitation interventions. The learning facilitation activities of the RE process may relate to the discussions of ambiguity among, and incongruities in action theories of, the stakeholders in homogenous groups during member-check and cross-check of issues and action theories, and in heterogeneous groups (see Figure 3.3).

3.5.3 Changes in intervention practices

If learning takes place, changes in practices could follow if the fishing actors and interventionists convert new ideas into action and practices. These changes can take a longer or a shorter time before they can be evaluated depending on the conditions necessary for the relevant changes. A change in fishery biodiversity conservation practices may for instance

take a long time because of the biological, ecological, institutional, and financial conditions necessary for its realization. If most of the required conditions exist already, the time horizon for performance assessment can be relatively short.

The changes that we seek in a relatively short term relate mainly to the integration of fishing communities' issues into intervention programmes and practices, and to the development of consistent, congruent, and sustainable fishery management practices by all stakeholders. The meaning of sustainability will be determined by the overlapping perceptions of the stakeholders. A before–after approach (Green, 1979; Smith, Orvos, & Cairns, 1993) may help assess this criterion. This means that the tangible changes that have occurred and have been observed after the implementation of the RE approach may serve as indicators for the assessment of this criterion. The tangible changes we expect relate to the improvement in the match between the espoused and the in-use action theories of the stakeholders (Argyris & Schön, 1976, 1996; Crawford & Bryce, 2003).

3.6 Conclusion and suggestions

Fishery management in Grand-Popo suffers from generations of ineffective interventions. This repetitive lack of effectiveness is mainly due to the absence of double-loop learning interactions among intervention stakeholders. Given the high degree of ambiguity and power differences, responsive evaluation has been identified as a promising action research approach to facilitate a reduction in the prevailing ambiguity and thereby trigger double-loop learning and improvement in practice. However, as noted, the general RE approach has some shortcomings in the Grand-Popo context, which is characterized by repetitive interventions, repetitive discrepancy between espoused and in-use action theories, and a high degree of complexity and uncertainty. Therefore, the RE approach has been revisited for adaptation to the study context. Action theory, historical and systemic analyses, and discussion of the results, as well as the goal of double-loop learning, have been added to the original RE framework. A RE framework adapted to the Grand-Popo context has thus been designed, and some criteria and indicators for assessing performance have been proposed. The findings and analysis in this paper suggest that evaluators may diagnose evaluation contexts in such a way as to design approaches that allow for responsiveness to the specificities of individual evaluation cases. The results of the implementation of this adapted RE will provide us with more evidence about the relevance of this suggested design.

The adoption of this contextualised responsive evaluation approach will have implications for evaluators, evaluated people, as well as for evaluation commissioners. For instance, concerned evaluators have to spend time and budget for the additional work required by the adapted RE approach to their actual evaluation practices. For the contents of their work it means they need to develop the skills to uncover and analyse action theories, to conduct history and system analyses, to deal with power differences and to facilitate and monitor double-loop learning. Evaluated stakeholders have to open up for interaction with the assistance of the evaluators. Evaluation commissioners need to provide the evaluators and the evaluated people with the conditions, such as an enabling institutional environment and technical and financial means for a fruitful dialogue.

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CHAPTER 4

Learning about fishery management: Evaluation of a contextualised responsive evaluation approach⁴

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Abstract

This article discusses the extent to which a responsive evaluation (RE) approach contributed to learning by stakeholders in a case of high complexity. Fishery management in Grand-Popo, Benin is characterized by ambiguity, that is contrasting views among fishery stakeholders about what should be done, why, how, where, and when to resolve fishery problems like the depletion of fish-stock and absence of income alternatives. It was also characterized by great gaps (mismatches) between interventionists' plans and actions, despite generations of interventions and evaluations of their effectiveness. The RE approach aimed at facilitating interactions between interventionists and fishing people to stimulate learning and hence reduce the ambiguity and mismatches. In this article, we take distance and evaluate the results of this action research approach. We found that in the interaction some learning indeed occurred. The fishing people learned among others that intervention resources are limited and that they should organize themselves to lobby for and monitor interventions to solve their problems. Interventionists learned that they could share knowledge about their roles and limited resources with fishing people so that the latter could lobby for more resources. Fishing people however, did not learn to adopt more sustainable fishing practices. Also, interventionists did not learn to influence politicians and financial partners themselves for sufficient resources. Both categories of stakeholders developed ideas for how to collaborate to improve fishery management. We conclude that although some single-loop, double-loop and social learning occurred, the learning was limited and reflect on the related challenges for RE in natural resource management.

Keywords: Fishery problem solving; action theory; ambiguity; mismatch; responsive evaluation; learning; Benin

Abbreviations: NRM: Natural resource management; RE: Responsive evaluation

4.1 Introduction

Facilitating sustainable natural resource management (NRM) in developing countries remains a challenge (OECD, 2002; United Nations, 2002, 2012; UNEP, 2011; WCED, 1987). It is a challenge not because of a lack of initiatives, but because of the questionability of the initiatives that are undertaken to solve the diagnosed problems and a lack of knowledge about the mechanisms that explain the persistency of problems. Among the diagnosed causes of unsustainable NRM interventions are the lack of participation of resource dependants in intervention processes and the linear planning presuming clear intervention-effect relationships (Baland & Platteau, 1996; Dangbégnon, 1998; Holling, 1978; Stankey, Clark, & Bormann, 2005). These diagnoses led scientists and practitioners to suggest integrative and adaptive management approaches to NRM. Cap-net, GWP, & UNDP (2005) for instance suggest integrated water resource management – a process designed to promote the co-ordinated development and management of water, land, and related resources in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. Holling (1978) proposes adaptive environmental management; an interactive process engaging managers, scientists, resource users, and other concerned stakeholders which makes use of techniques to reduce, and benefit from environmental changes in order to develop more resilient policies. Put more simply, adaptive management is an approach in which management experiences are considered as sources of learning by managers and scientists, as well as other management stakeholders, which should lead to adaptations in the management approach (Halbert, 1993; Stankey et al., 2005; Walters, 1997). Some evidence suggests that integrated and adaptive management has contributed to the design and enforcement of fishing rules (Jentoff & McCay, 1995; Lee, 1998; McLain & Lee, 1996). This is the case for instance in Norway, Denmark, and Spain, where fishermen's organizations and the government cooperate in the design and enforcement of fishing quotas and other rules (Jentoff & McCay, 1995). In the United States and Australia, Ladson and Argent (2002) and Mapstone (2003) report on various degrees of success in the application of the adaptive management approach to rivers and fisheries management. However, they also note many problems with the adaptive management approach, such as a failure to understand the resource system, non-relevant problem definitions, lack of participation of important stakeholders, a complex web of values, and institutional complexity. In general, complexity and uncertainty in NRM are perceived as the diversity, interconnections, and dynamics of and among factors and actors connected to NRM (Baland

& Platteau, 1996; Giller et al., 2008; Williams & Imam, 2006). In conclusion, the effective implementation of integrative and adaptive management approaches could generate successes, but faces challenges due to complexity and uncertainty (Lee, 1998).

In our view, gaps between what interventionists and the target groups of interventions say they (will) do and what they actually do contributes to complexity and uncertainty of NRM, among others because espoused theories in the form of plans may trigger high expectations among the beneficiaries that are not necessarily fulfilled. Effective NRM hence may well be dependent on explicit attention to match between action theories espoused and in-use (see section 4.4.1 for an explanation of these concepts). To date, very few studies address this issue of (a lack of) congruency in action theories, that are the assumptions underlying actions of NRM stakeholders. This article aims at filling this gap by evaluating an action research approach that was especially designed to foster correspondence in action theories by stimulating learning in the context of NRM.

The study reported in this article is one of the first about the use and results of responsive evaluation (RE) approach in the field of NRM. Hence, it provides insight into the potential and the challenges of RE to stimulate learning in complex contexts. Such accounts of the outcomes of an evaluation approach are rare in evaluation practices (Miller, 2010).

In the following, the action research approach will be presented shortly in relation to the specific case that is at the core of this article: fishery management in Grand-Popo (section 4.2). Next, the RE approach used in the case to stimulate learning is presented (section 4.3). The methodology to assess whether learning has taken place is described in section 4.4. Section 4.5 reports the action theories espoused and in-use of the fishery stakeholders before the RE process in order to define the main mismatches. The changes occurring in the RE process with regard to these mismatches are discussed in the section 4.6. Section 4.7 analyses the changes in terms of learning after which possibilities to improve RE are suggested in line with plausible reasons for the limitations in learning are discussed in section 4.8.

4.2 Fishery management problems in Grand-Popo

Grand-Popo is a municipality in South-Western Benin, next to the Atlantic Ocean. It is a Ramsar site, i.e., a wetland of international importance composed of rivers (*Mono* and *Sazué*), the coastal area, lagoons (*Grand-Popo* and *Gbagan*), a channel (*Chenal Aho*), a delta (*Bouches du Roy*), some marshlands, and some plateaus (see Figure 4.1).

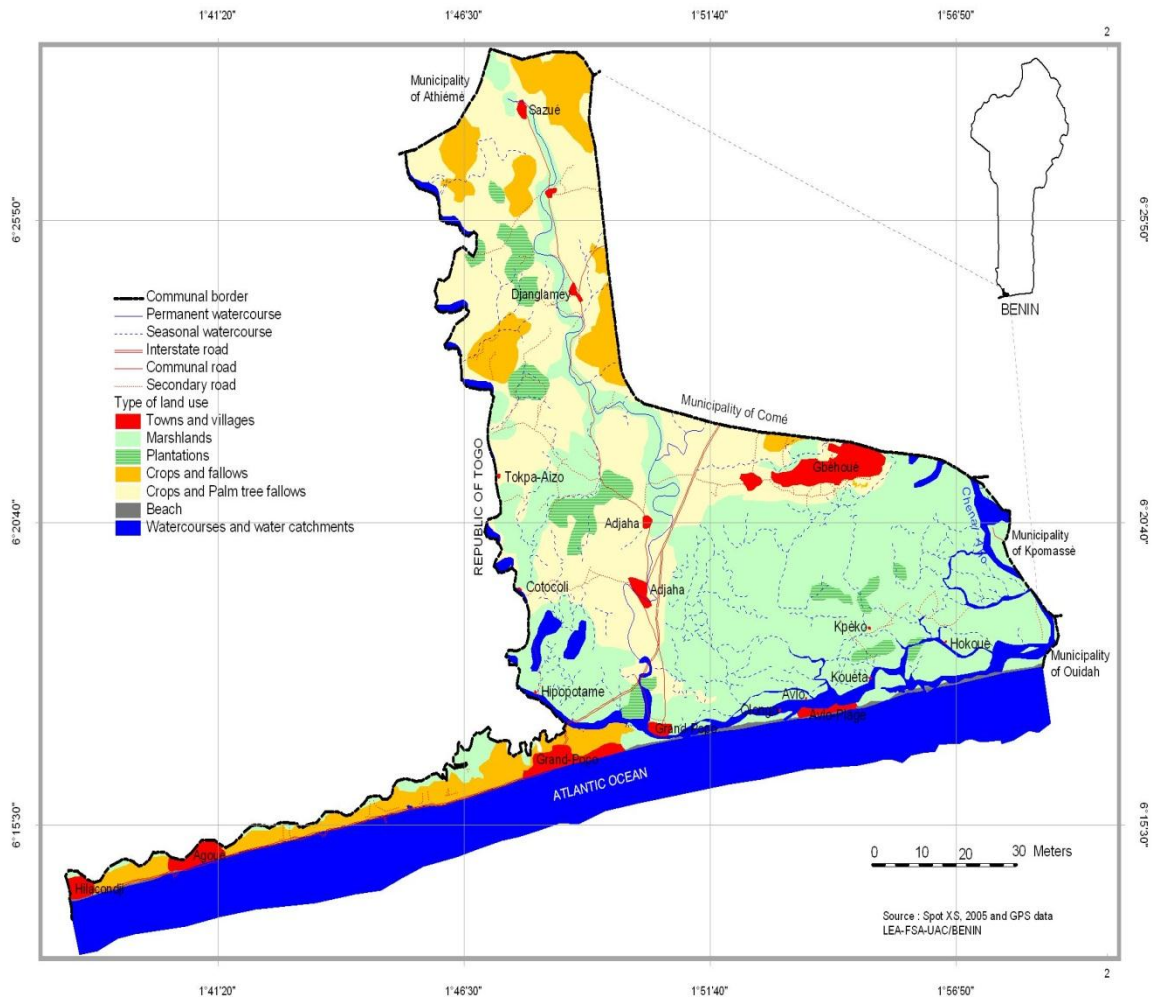


Figure 4.1: Map of Grand-Popo

This municipality has more than forty thousand inhabitants living predominantly from fishing, supplemented with small-scale agriculture, animal husbandry, crafts, collection of diverse natural products like crab and raffia, and trade. In the lower valley of the Mono-River floods and river erosion impair the livelihoods of many inhabitants (more than 50%) (Appretectra, 1995; Dagnon-Prince et al., 2004; Jul-Larsen, 1994). The flooding dates back to the seventeenth century (Pliya, 1980) but has been worsened by the *Nangbeto* hydroelectricity dam built up-stream in Togo Republic in 1988 (Interviews & observations, 2007–2011; Ouali, 1995). Indeed, the dam retains an amount of water up-stream for its functioning. In wet seasons, excess of water is released causing excess of water and flood downstream. These floods erode both coastal and continental lands; destroy crops, other income sources and houses, causing displacement of hundreds of people each year, people drowning, and an increase in water-related diseases like malaria and cholera. Other consequences include road degradation, the sweetening of the brackish water in the lagoons, the proliferation of aquatic

weeds like the water hyacinth, the proliferation of hippopotamuses, the siltation of the delta, and a reduction in fish species' diversity (Gnélé, 1991; Interviews & observations 2007–2011; Tomety et al., 2001). Fish species' diminution is further exacerbated by the fishing communities' overfishing practices (Kouévi et al., 2013; Gnélé, 1991; Interviews & observations, 2007–2011; Pliya, 1980; Tomety et al., 2001). All these inter-linked problems have lasted for several generations.

Interventions to deal with and solve the problems thus far have consisted predominantly of income-source diversification by husbandry of rabbits or 'grasscutters', horticulture, fish farming; (re)defining regulation to prohibit fishing techniques and other practices destructive for the fishery ecosystem; and providing temporary housing, drugs, mosquito-nets, and food supports to flood victims. Research revealed that these interventions have not been very effective due to the repetitive mismatch between interventionists' espoused and in-use action theories (Kouévi et al., 2011). For example, fishing rules improved to some extent from generation to generation, but the interventionists never maintained them. Also, intervention plans became more and more integrative, but in practice, interventionists remained specific in their actions.

Additional research established that ambiguity, i.e. diverging and contrasting perspectives of the interventionists and fishing people on the causes of and the solutions to the problems also contributed to the limited effectiveness of the interventions (Kouévi et al., 2013). One of the main contrasts concerned the fact that interventionists and fishing people attributed the absence of solutions to one another.

For these reasons, we concluded that more effective interventions require learning among both categories of stakeholders, and designed an action research approach perceived suitable for the specific context. The current article reflects on the experiences and assesses whether the chosen methodology of responsive evaluation contributed to the explication of action theories, reflection on the mismatches, and changes in the action theories, that is learning.

4.3 Stimulating learning with responsive evaluation

Responsive evaluation (RE) is a methodology that stimulates discursive interactions and learning by and among stakeholders of an intervention in case of ambiguity about what should be done, why, how, where, when, and by whom in front of a problem (Abma, 2005a,b; Abma & Stake, 2001; Baur et al., 2010; Stake, 1983, 2006). It is an approach that acknowledges power differences and recommends, dialogue facilitation and Socratic guidance for reflection.

Its proposed advantages are increased inclusion of marginalized people, mutual learning, mutual understanding, and improvement in effectiveness of interventions. The performance of RE in ambiguity reduction and improvement facilitation is reported in non-routine healthcare and educational interventions around the world.

Because of the ambiguity in fishery management in Grand-Popo, RE seemed a good approach to stimulate learning. However, in our view it also needed to be adapted to some specific characteristics of the context. To start with, fishery management in Grand-Popo was characterised by many generations of intervention programmes, instead of a single interventions. Secondly, NRM is known to be complex and uncertain due to the elusive dynamics characterising natural resources (Baland and Platteau, 1996; Giller et al., 2008; Williams & Imam, 2006). These differences led us to design a contextualised responsive evaluation, which has been described in Kouévi et al. (2013). We added three dimensions to the existing RE framework. The first is a historical analysis to reflect on the (lack of) progress in generations of interventions, whereas RE usually deals with unique interventions. Second, the quality of learning pursued and/or reached is added for the specification of the RE goal and activities. The third dimension relates to a systemic analysis of interventions to explore the complexity and uncertainty.

The most relevant addition to the general RE methodology with regard to the evaluative aim of this article is the exploration and discussion of action theories to trigger double-loop learning as suggested by organizational learning scholars (Argyris, 1976, 1991, 2003; Argyris and Schön, 1976, 1996). In RE theory, learning is perceived as an outcome of friendly communication about ambiguous issues among stakeholders (Abma, 2005a, 2005b, 2006; Abma & Stake, 2001; Stake, 1983). In fishery management in Grand-Popo it had become obvious that not just ambiguity in the issues of different stakeholders needed to be addressed, but also the increasing gap between espoused and in-use action theories of the same stakeholder. Hence, we assumed that by explicating the stakeholder's action theories and putting them up for discussion, the stakeholders would reflect on them and hence come to double-loop learning. This is understood to take place when people change the values and goals implied in their action (Argyris, 1976, 1991; Argyris and Schön, 1976, 1996), or when they redefine their roles and relationships (van Mierlo et al., 2009), rather than single-loop learning in which goals and values remain the same and people only change the way they try to achieve their goals. In box 4.1 readers find a description of the final design of RE approach as it was carried out in the period between December 2007 and February 2011.

Major activities in the RE process to stimulate learning were interviews with many actors, meetings with fishing people and interventionists separately (homogeneous group discussions) and a final meeting with both stakeholders categories (heterogeneous group meeting). In the meetings, the evaluator reported on his interpretations of the stakeholders' actions theories. In several homogeneous group meetings with fishing people, they were asked to validate these interpretations of their action theories, and to reflect in small groups on contrasts between their main issues and action theories and those of interventionists, the implications of such contrasts for effectiveness of interventions, and on how to diminish contrasts and mismatches. The same kind of meetings took place with the interventionists. In the heterogeneous group meeting the interventionists and the fishing people met to discuss important issues, ambiguity and mismatches with one another.

The evaluator's activities of asking the stakeholders to explicate their action theories and discussing them in the meetings, and giving feedback were expected to stimulate reflection on the action theories and hence stimulate learning.

Box 4.1: Description of RE activities (see Figure 4.2 below)

- Exploration of issues and action theories of stakeholders: With this activity the responsive evaluator (REvaluator) was expected to go beyond issues or concerns expressed by stakeholders to generate understanding about the action theories espoused as well as those in-use.
- Historical and systemic analyses about issues and action theories espoused and in-use by stakeholders: With this activity the REvaluator deepened the understanding of issues and action theories by extending investigations to the past and to the whole context from which they (may have) emerge(d).
- Interpretation of issues and action theories with reference to history and system analyses: Here, the REvaluator generated meaning about identified issues and action theories.
- Homogeneous group meetings:
 - The REvaluator organized peer groups' meetings to let the stakeholders check his interpretations (member-check), to stimulate reflection on mismatches and to select important and shared issues to be discussed during heterogeneous group meeting.
 - These peer groups' meetings aimed also to stimulate the cross discussions (cross-check) of the issues and action theories of the other stakeholder group. The idea of the cross-check is that information hidden by one stakeholder group may be provided by the other group.
- Heterogeneous group meeting: The REvaluator facilitated the discussion on ambiguity and mismatches in taken-for-granted issues and action theories among stakeholders to support them to define solutions. The intent here was to promote dialogue or discursive interaction among stakeholders, such as to stimulate them to share knowledge and to learn about one another's issues and action theories. This interaction was expected to stimulate stakeholders to arrive at more coordinated and effective actions.
- Assessment of impacts: The REvaluator analyzed whether the contextualised RE process led to desired impacts such as social inclusion, interactions, double-loop learning, and improved intervention practices.

4.4 Evaluating learning among the fishery stakeholders

Since a major validation criterion of action research is its relevance and impact in a concrete context, the aim of this article is to critically reflect on whether learning indeed has taken place. In this section we explain how we assessed whether learning among the fishery stakeholders in Grand-Popo occurred and how these changes can be attributed to the RE approach. We make clear how action theories were first unfolded and then compared to identify mismatches. Changes in the sense of a diminishing of mismatches are considered as signs of learning.

4.4.1 Unfolding action theories of stakeholders

Before and during the RE process, the first author of this article who was also the evaluator unfolded the action theories of the two main stakeholder categories, i.e. interventionists and

fishing people. Action theories are the assumptions underlying people's actions. Argyris & Schön (1976) make a distinction between two kinds of action theories: theories espoused, i.e. assumptions presented to others, and theories in-use, i.e. assumptions underlying actual practices. Since ignoring the divergence of the two inhibits learning, we paid attention to both theories for the sake of detecting mismatches (Argyris, 1991; Argyris & Schön, 1976, 1996).

All the RE activities contributed to unfolding the action theories of the stakeholders: The individual interviews and the homogeneous and heterogeneous meetings (see Figure 4.2).

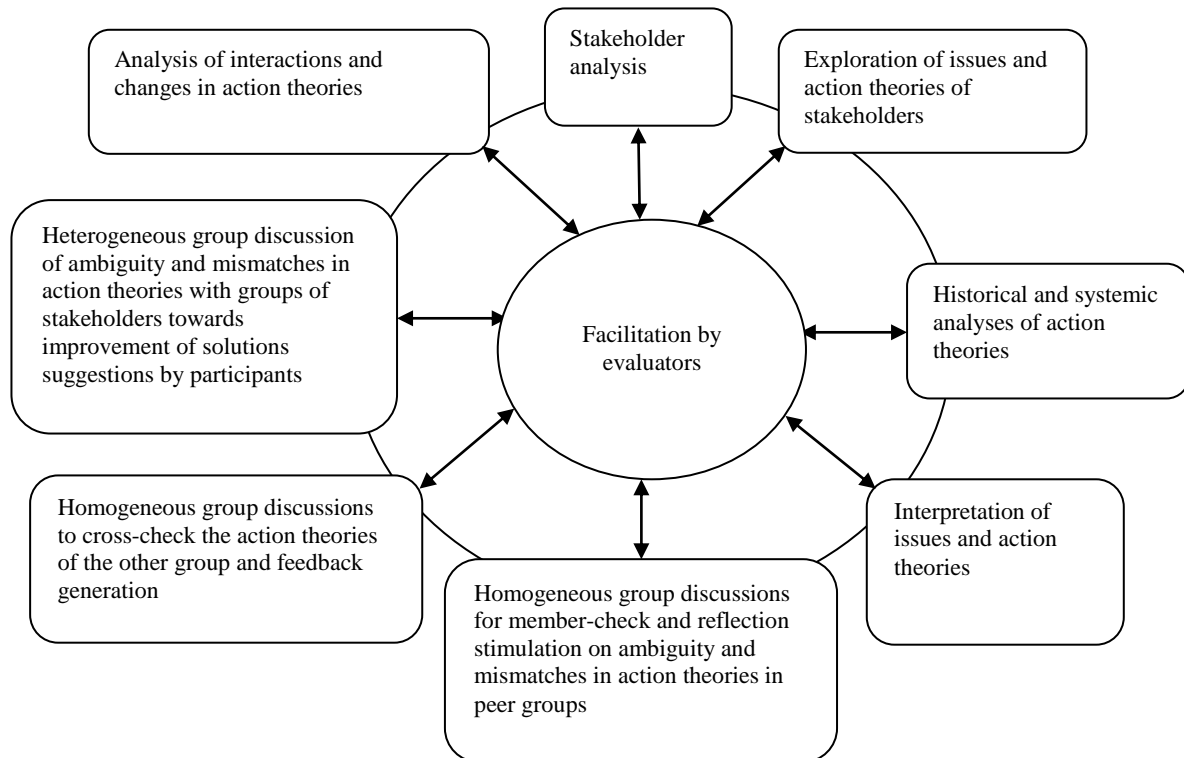


Figure 4.2: Responsive evaluation framework for the Grand-Popo fishery context

Source: Adapted from Kouévi et al. (2013)

The action theories espoused were collected with interviews and via the review of documents (designs of intervention projects and programmes, and evaluations' reports of organizations). The 160 fishing people (women and men) interviewed are members of local development associations; village councils; endogenous authorities' groups; fishing groups; fishery products processing groups; and salt production and trading groups. All these people live in the surroundings of the coastal Lagoon and of the Atlantic Ocean of Grand-Popo from which their livelihoods depend mainly. They are from six landlocked areas (islands) and marginalized fishing villages (*Avlo*, *Avlo-Houta*, *Ollongo*, *Kpèko*, *Hokouè*, and *Kouèta*). The 50 interventionists interviewed were from 17 different intervention organizations (projects,

NGOs, fishery directorate, municipality, technical and financial organizations) concerned with fishery management in Grand-Popo.

The action theories in-use were generated with the help of observations, evaluation reports, and cross-checks. For several years, the practices of the interventionists and the fishing people have been studied via direct observations in the field. In addition TV and radio news, newspapers, and interventions' reports were studied with regard to concrete actions and practices. Moreover, since it is hard to uncover people's theories in-use if they do not match the espoused theories we interviewed the stakeholders about the actions and practices of the other group.

Both types of action theories were unfolded by analysing the four micro-theories that Argyris (1970) distinguishes:

1. assumptions about what is done, what is being done, what to do, or what will be done generate the action taken or espoused;
2. assumptions about the reasons behind the action and its consequences; assumptions about how to carry out the action for its intended goal,
3. assumptions under what conditions (constraints and opportunities) the action will lead to the desired outcome.

The action theories of the stakeholders are grouped in two main categories because of the dissimilar roles fishing people and interventionists play in the problems and interventions, due to their main concerns and the resources available. The action theories reported in this article represent the general patterns derived from the analysis of the action theories.

4.4.2 Uncovering mismatches in action theories and assessing learning

Mismatches relate to a lack of congruence between the action theories espoused and in-use. These differences were detected by comparing the general patterns of the espoused and in-use action theories of fishing people and interventionists. The match between the action theories was first appreciated by the main researcher, and afterwards validated by the stakeholders themselves (member-check).

The data to assess the learning stimulated by the RE approach were collected during the RE activities. They consisted mainly of the reports of each RE activity: tape and video records and transcripts and notes of interviews and meetings. Data generated during the exploration of stakeholders' action theories served as a basis for determining the changes that occurred after the dialogical interactions during the homogenous and heterogeneous group discussions. The

learning was analysed by comparing the stakeholders' action theories during the individual interviews, with those during the homogeneous and heterogeneous group discussions. After uncovering the changes in action theories, they were characterised as single or double loop learning by the researcher. For the sake of member-checking, at the end of each meeting the fishing people and interventionists were asked whether they had acquired any new knowledge or developed new ideas in the meeting. This way of member-checking the learning during the meetings also helped to study how the RE approach contributed to learning.

4.5 Action theories and mismatches before RE

In this section, we present the action theories of the fishery stakeholders as they were at the start of the RE process. Also, the main mismatches in the action theories of the fishery stakeholders are defined, since they are the main frame of reference to assess whether learning has taken place. We start by presenting the fishing people's action theories and then continue with those of the fishery interventionists.

4.5.1 Espoused theories of the fishing people

The problems pointed out by the fishing people concerned mainly the impairment of their livelihoods, which they attributed principally to fish-stock depletion. Other reasons mentioned were the absence of income-generating opportunities, floods, erosion, and the absence of socio-economic development infrastructures. In their view, fish-stock scarcity was mainly due to the siltation of rivers and lagoons and changes in the salinity of the water caused by the hydroelectric dam *Nangbéto* constructed upstream in Togo Republic in 1988. According to the fishing people, because of the dam, the previously brackish water of the lagoons downstream had been sweetened due to flooding, siltation, and the blockage of the *Bouches-du-Roy* (Grand-Popo Delta). Indeed, some fish species living in the lagoons grow in brackish waters and migrate to the sea or die when the salinity level of their living waters decreases. Fishing people also attributed the problems to the greater prevalence of hippopotamuses threatening for fishing and fish trade, the proliferation of aquatic plants in the rivers and the lagoons of Grand-Popo, and the sweetening of the water-system because of the dam. Hippopotamuses locally called "*Tomingni (water cows)*" are so much feared by fishing people that they refrain from shipping, fishing, and fish and salt trades in the sweet water areas where the *Tomingni* are active.

Another cause persistently and generally stressed by the fishing people related to the perceived indifference of interventionists, politicians, and powerful community members

(mainly intellectuals) to their quests for solutions. Fishing people expected the causes of their problems to be removed by these powerful actors because they were perceived to have the means and capacities needed. The fishing people perceived themselves as unable to help themselves. This feeling was expressed by one of the fishermen of *Avlo-Houta Village* as follows:

We [fishing people], here, we have no capacity to contribute to any change.... We have no power. We are in the darkness.... Whom can we go and see at Kpogandji [meaning Grand-Popo center where the municipal offices are located], Cotonou [economic capital of Benin] or Porto-Novo [political or administrative capital of Benin] for our problems to be solved. We don't have this action capacity. It's for powerful intellectuals, decision makers and politicians to help us if they really want us to succeed solving the problems.

Relevant activities and strategies to solve the problems should consist in the halting or control of the flood effects of the dam. In the fishing people's view, alternative income sources should be provided to all fishing actors according to the needs and specificities of each community. Some people from the *Arrondissement of Avlo* suggested, for instance, the promotion of pig farming instead of the rabbit farming promoted by one of the projects because of their historical familiarity with pig farming.

People who live close to the sea and who are threatened by siltation, coastal erosion and the migration of fish stocks towards the sea after the opening of the delta, and having difficulty crossing tidal waves, wanted the delta to be revetted with rocks to stabilize it. Most of the fishing people wanted the rulers and interventionists to dredge the rivers and lagoons mechanically for flood control, the restoration of fish reproduction shelters, and easy sailing. They also wanted socio-economic development infrastructures to be constructed in their area by interventionists and politicians in order to allow their villages and their children to “open eyes”, an expression for development.

4.5.2 Theories-in-use of fishing people

The fishing people used to wait for consultation opportunities created by interventionists and politicians to narrate their problems and propose solutions to them (see Kouévi et al., 2011; Kouévi et al., 2013). Since there were few consultation opportunities, the fishing people used to ruminate on their problems.

Due to fish scarcity, the fishermen used to spend a lot of time, sometimes more than eight hours per day catching few fish of low economic value (Interviews & observations, 2007–

2011). Some, who were mobile, mainly young fishermen, migrated for more attractive fishing, and other jobs or income-generating activities to elsewhere in Benin or other African countries like Lomé, Cote d'Ivoire and Gabon (Association Nonvitcha, 1987; Dagnon-Prince et al., 2004; Interviews & observations, 2007–2011; Jul-Larsen, 1994).

The other residents, like old people, women, children, and the remaining young people rarely took the initiative to tell interventionists and politicians about their problems and ideas about solutions thereto. Furthermore, they seldom initiated community-based management projects to solve their problems. Instead, they expected the interventionists to do so. Since they assumed that the interventionists had sufficient resources, the fishing people perceived the interventionists and politicians as indifferent to their problems and as liars who did not stick to their 'promises'. However, most fishing community members suggest solutions to interventionists and politicians when given the opportunity in political or diagnosis meetings, especially with regard to dredging, income-source diversification, flood control, socio-economic infrastructures, and delta revetment.

In this process of waiting for the problems to be solved one day, most of the fishing community members violated the fishing rules and persisted in practices that increased the problems such as destroying banks and mangroves. Meanwhile, banks' destruction or erosion contributes to the siltation of the water and of the delta, and hence to flooding and sweetening of the lagoons. Mangroves are also well-known to serve as source of food, and as shelter for the development and the reproduction of fishery resources. The fishing people said they continued these unsustainable management practices because of the absence of survival or income alternatives and the absence of control and punishment of fishing rules' offenders. In their view, the offenders of rules are protected on the basis of their personal relationships which is how fishing people justify their reliance on interventionists to control the fishing rules rather than do it themselves.

4.5.3 Mismatches in fishing people's action theories

We discovered three main mismatches in the fishing people's action theories: 1) ill-founded trust in interventionists' capacities, 2) passive response to indifference of interventionists, and 3) sticking to practices known to be unsustainable.

Despite experiencing the ineffectiveness of their strategy to get interventionists to solve the fishery problems, the fishing people continued narrating their problem definitions to interventionists and politicians when given the opportunity and continued seeing this practice

as the relevant strategy to get their problems solved. They attributed the repeated ineffectiveness of the strategy to their own helplessness and kept on trusting the interventionists' capacities to solve the problems.

A second mismatch is that the fishing people continued expecting interventionists to take the initiative, although they also regarded them as being indifferent to their problems and liars. The fishing people continued relying on the interventionists to take action and solve their problems, but they did not take any initiative themselves although that would have been more congruent with their belief in the indifference of the interventionists.

The third mismatch relates to the fact that, although aware of the potential threat posed by their fishery management practices to their livelihoods, the fishing people stuck to unsustainable fishing practices. They explained the continuation of those compromising fishing and water resource management practices by their need to survive in the absence of alternative income sources. As a fisherman from *Hokouè-village* formulated it:

We, since we were born, we have been in contact only with fishing. We know nothing about any other activity. Without an alternative, what can we do to eat?

Dredging is widely perceived by the fishing people to be the primary solution for the fishery problems instead of changing their own practices. In their view, fishery resources find relevant development and reproduction conditions in deep water, while silted water reduces these development and reproduction spaces.

4.5.4 Espoused theories of interventionists

The main fishery problem pointed out by the interventionists related to the impairment of fishing people's livelihoods. According to them, the causes of this central problem were that fishing people did not respect sustainable management and fishing rules, and that they themselves had limited intervention resources available to tackle these demanding problems and their underlying natural causes.

To solve this problem, interventionists expected solutions to come from the government, financial and technical partners, and from fishing people. The government and the financial and technical partners should provide them with relevant intervention resources (money for monitoring) and deterrent and sanctioning resources (radar, motorboats, police) in order to allow them promoting income-source diversification and enforcing fishing rules. With relevant resources, the interventionists expected to be able to raise fishing people's awareness

about the necessity to respect fishing rules, and to monitor and sanction offenders effectively. In their view, the government, the municipal council, NGOs, and the projects could not solve all the problems of the fishing people. They expected the fishing people to act on their own initiative by proposing concrete solutions about income-source diversification and the promotion of sustainable practices instead of waiting for proposals from interventionists.

4.5.5 Theories in-use of interventionists

In practice, interventionists did try to raise the means they perceived necessary to solve the problems. The designers and technicians of the fishery directorate for instance had often expressed their need for resources from the budgets of the ministry and of projects to solve the fishery problems.

When provided with – in their view insufficient – means, the interventionists did not use them efficiently. They stuck to similar activities of providing support for income-source diversification to a limited amount of fishing people and supporting reforestation at a few river banks, and not undertaking any initiative to monitor fishing practices or sanction rules' offenders. As a result, very few fishermen benefited from the programmes. For instance, out of more than 10,000 fishery dependants, just about 400 people received credit for alternative income from two large projects (Interviews with CeCPA⁵ & others, 2007–2011).

The interventionists hardly consulted the fishing people about possible solutions and their role therein, or on the intervention results and the reasons for the limited success. If they did, fishing people who were close to the interventionists in terms of relationship or geographically, were contacted. Those 'representatives' were expected to inform their peers, which was seldom the case according to the fishing people. The interventionists seldom checked whether the other people were indeed informed. In conclusion, interventions consisted in practice of doing what interventionists perceived possible according to the limited means available, and of satisfying the demands of very few people.

4.5.6 Mismatches of interventionists

We inferred two main mismatches in the action theories of the interventionists: 1) ignoring self-diagnosed causes, and 2) tolerating resources known to be insufficient.

The first mismatch relates to the fact that although interventionists were aware of the natural causes of the fishery problems like siltation, floods as a consequence of the dam, obstruction

⁵Centre communal pour la promotion agricole, i.e. communal centre for agriculture promotion

of the distribution of fishery-related resources (foods and species) along the river–lagoon–sea system at the delta level due to siltation among others, they tackled only a small part of these natural problems. The diagnosed anthropogenic causes of the fishery problems such as the effects of the dam, overfishing practices, banks and mangroves degradations, partial involvement of fishing people in intervention processes, were also only partially addressed. Interventionists justified this mismatch by stating that they had no means to work on these issues for which they held the government, politicians, and powerful community members responsible.

The second mismatch is that they kept on using the limited means with which they could reach only a few fishing people knowing that it would be ineffective because of that.

4.6 Changes in stakeholders' action theories

As explained above, to assess whether learning took place during the RE process, we looked at changes in the stakeholders' action theories or more specifically whether the mismatches diminished or persisted. These changes were expected to be stimulated and become apparent during the homogeneous and heterogeneous group discussions.

4.6.1 From reliance on interventionists to trust in their own capacities

The first reactions of the fishing people to the feedback of the evaluator in the homogeneous group discussion consisted of confirming the evaluator's interpretations of their own action theories by referring to the same stories. About the action theories of interventionists, the fishing people showed to be aware of some aspects, like selective promotion of income generating activities, but unaware of other aspects of the interventionists' action theories like the preference of manual dredging over mechanical, and limitations of intervention resources. To recall, manual dredging by fishing people themselves was a major solution proposed by interventionists, while dredging with dredge machines operated by contract workers and financed by intervention programmes was proposed by the fishing people. With this example the evaluator addressed the first mismatch in fishing people's action theories; that is the unrealistic high expectations of interventionists' means and capacities to solve the fishery problems. A fisherman from Avlo-Houta village stated:

It seems that we are not learning from the fact that our solutions demand strategies have been failing for a long time.

The fishing people suggested that they could create village-level platforms in order to lobby for effective interventions to occur. To this end, some fishing people suggested documenting their problems and solution proposals, and diffusing this information via the internet (framed as “*ègbèmin noukpin*”, i.e. literally “*the world’s mirror*” or “*nowadays’ mirror to communicate with the world*”), and radio and television. Others proposed having at least a five-minute radio programme per week or month about their problems and suggested solutions in order to be better heard by the powerful interventionists. Such new ideas emerging during the heterogeneous discussion show the RE process had generated confidence among the fishing people in their own capacities.

4.6.2 From passive towards active responses to perceived indifference of interventionists

As can be inferred from the analysis above, the solutions that the fishing people proposed are actions to be taken by themselves, ranging from platform creation to documentation of problems and solutions and lobbying. One can therefore deduce that the fishing people started regarding their own passivity as an important cause of the persistence of the problems. The following quote from a fisherman from *Avlo-Houta Village* during a homogeneous group meeting illustrates well this understanding in the fishing people:

Even when you send your own child somewhere and s/he does not come back on time, at least you manage to track his/her itinerary and to check why s/he is not coming back soon. We [fishing community], in the case of projects, after expressing our needs to interventionists, we just keep on expecting them to come back to solve the problems without trying to monitor and check what has been happening to them.... Somewhere it’s also our fault if we are not getting solutions to our problems.... Therefore, I think that we should start monitoring the processing of our needs by interventionists.

The fishing people thus expressed that they wanted to play a more active role. To this end, the interventionists and the evaluators provided them and the interventionists with more supportive knowledge during the heterogeneous group discussion. The first knowledge shared with them related to the limitations and hence selectivity of the intervention resources. The second related to the important role of politicians and financial partners in determining intervention choices and allocating resources. These views of interventionists supported the fishing people's desire for platform creation and for the diversification of the potential intervention partners through diffusion of the problems and quests for solutions via the internet, radio, and TV, as expressed above (see section 4.5.1).

Fishing community participants took advantage of the heterogeneous group discussion to express to some extent their concern to the interventionists. They were also informed by the interventionists about their entitlement and roles in the interventions of NGOs and projects. The fishing people's new roles included making sure that (potential) interventionists are informed about their problems and discussing collaborative solutions with them.

4.6.3 Continuance of unsustainable practices although priorities redefined

After the heterogeneous group discussion, the fishing people favoured dredging the rivers and the lagoons and revetting the delta to preserve and regenerate resources, and to improve fishing people's livelihoods. They presented the view that the dredging should be done first in order to re-establish the habitat for the reproduction of fishery resources and for the transportation of stones for the revetment of the delta. If the dredging was going to take time, they suggested the construction of the *Gbèkon–Avlo-Houta* road for the revetment of the Grand-Popo Delta. The fishing people saw these two interventions as entry points for solving remaining problems such as lack of alternative income generation, flood, sweetening of the lagoon's brackish water, transport over the water and the proliferation of hippopotamuses. They also expected these two solutions to stimulate them to respect rules more and adopt sustainable management practices because their overfishing practices originated mainly from fish scarcity and the absence of alternative income sources. As one participant (from *Avlo-Village*) in the heterogeneous group discussion said:

If there are limitations in resources to solve the problems, then dredge the water and put stones in the delta for us. That's all. We don't want anything more. The remaining will come. Isn't it so my colleagues?

This conclusion was supported by fishing community members during the heterogeneous meeting. When the fishing community participants heard about the limited resources available for the interventions, they started discussing less and less costly alternatives to all the solutions that they initially requested. However, the interventionists did not respond explicitly about how they could satisfy the requests of the fishing people that had become more restricted.

4.6.4 Sticking to ignoring diagnosed problems

In the homogeneous and heterogeneous group discussions the interventionists were asked to respond to questions of the evaluator about why they were not protecting the banks, working to reduce negative effects of the dam, providing income alternatives for fishing people,

making fishing rules respected, dredging manually and selectively, and stabilizing the delta as they acknowledged them to be relevant solutions to the problems of the fishing people. Despite the reflection, the interventionists did not mention any possibility by which they themselves could bring the politicians and the financial partners to provide them with the resources necessary to deal with the natural and anthropogenic causes of the fishery problems. The interventionists continued to present themselves as dependent on the politicians who appoint them to execute their policy. This quote of an actor from the fishery directorate is illustrative of the experienced dependency:

“We know that the means available may not suffice to intervene effectively. However, we cannot be inactive. We should justify our existence/job.”

Questions from the evaluator about planning competence and roles, designed to trigger interventionists to detect mismatches, led most of them to suggest solutions to which they themselves could contribute, like providing people and politicians with suggestions to improve fishery management.

Thus, all kinds of diagnosed problems, such as destruction of the banks and the negative effects of the *Nangbéto* dam, remained unaddressed by the interventionists.

4.6.5 From tolerating insufficient means to seeking collaboration to persuade the politicians

After being exposed to critical reflection questions in the homogeneous and heterogeneous meetings about how to sincerely improve in effectiveness of interventions, some of the interventionists – backed later by all interventionists – suggested that there was a need for mutual “engagement” or “commitment”. The interventionists mentioned that politicians should also prioritize relevant problems to solve and provide sufficient resources to interventionists; interventionists should deploy strategies towards effective problem solving; and fishing people should engage more effectively in intervention processes. To confirm this necessity for mutual commitment, all participants in the heterogeneous group discussion stated that they believed in the resolution of the problems mainly under this condition of mutual commitment.

To acquire the relevant means, the interventionists mentioned the fishing people as the ones who could put pressure on the politicians if they were empowered by interventionists and well informed about intervention processes and the roles they could play. In a similar way, the financial partners could be addressed. Most interventionists suggested organizing or helping the fishing people to organize themselves for the sake of lobbying for more resources. Two of

the interventionists suggested that the financial partners should intervene directly at fishing community level without the intermediation of the politicians, who were perceived as a major cause of the failure of interventions because of their administrative delays and the misappropriation of funds for political reasons, like vote catching.

The interventionists also suggested training for themselves to increase their competences in planning and management. This suggestion came mainly from the municipality staff.

In all, during the heterogeneous group discussion, the interventionists involved in the RE process showed concern about exchanging knowledge and ideas with the fishing people and the local politicians about intervention processes in NGOs and projects and the roles the fishing people should play.

4.7 Analyses of learning

In this section, we discuss the changes in action theories that occurred during the RE process in terms of learning. From the analysis of the findings, one can deduce three types of learning: single-loop, double-loop, and social learning. In addition, we discuss how the RE approach contributed to the learning that occurred, and what challenges it faced.

The participating fishing people reduced the number of their priorities, which would cost less. This seems to be a strategy to get faster solutions to their problems. We qualify this learning as single-loop level because it does not involve a change of values underlying the fishing practices. The fishing people continued to violate the fishing and sustainable management rules, although they themselves regarded these unsustainable practices as one of the main reasons for the fishery problems.

Single-loop learning among the interventionists concerned the new idea to stimulate people to lobby the politicians and financing actors for more resources. This learning also does not involve the fundamental reasons for the actions of the interventionists themselves, because they do not address how they themselves could stimulate the politicians and financial partners to provide them with the necessary means to solve the problems.

In addition, we saw some *double-loop learning*. Before the group discussions, the fishing people regarded themselves as ignorant and less powerful and capable to deal with fishery problems than the interventionists and politicians. They learned that their trust in the capacities of interventionists was ill-founded, and that their passivity contrasted with their real concern to achieve effective solutions. These new insights have brought the fishing people to

redefine the interventionists' capacities as limited and conditioned by available resources and lobbying. Subsequently, they gained trust in their own capacities and redefined their own roles as more active to show concern for solving their problems, to diversify their intervention partners, and to lobby for solutions.

The suggestion of empowering the fishing people to lobby with politicians and financial partners in collaboration with interventionists about their problems may also be seen as double-loop learning by the interventionists. Such collaboration would mean that they would have to change their intervention practices fundamentally.

In addition, we noticed an emergent congruence in the action theories of the two stakeholder categories with regard to the need for mutual commitment to the effective solving of the fishery problems. The fishing people developed the idea to create local platforms to participate actively in intervention processes and make interventionists and politicians realize the urgency of their needs. The interventionists learned that they could contribute to the empowerment of the fishing people by sharing knowledge about entitlement and intervention processes, and by facilitating the creation of platforms to commit politicians and subsequently interventionists and financial partners to problem solving. We refer to this match in the views of the participants as *social learning*, because it resulted from the interaction among the fishery stakeholders (Blackmore, 2010; Jiggins, Röling, & Van Slobbe, 2007; Maarleveld & Dangbégnon, 2002). So, in addition to single-loop and double-loop learning in the RE approach, social learning among interventionists and fishing people occurred.

Notwithstanding the learning that took place, not all mismatches were reduced or altered. The persisting mismatches were the neglect of some natural and anthropogenic causes of diagnosed fishery problems and the continuance of fishing practices that are known to be unsustainable. To tackle these causes of the fishery problems, the interventionists continued to regard themselves as dependent on the will of the politicians and the financial partners for the necessary resources. They testified that they could not challenge directly the politicians who appointed them, because of their need to preserve their job and salary. They suggested to take action indirectly by sharing information with the fishing people, whom they expected to be better able to influence the politicians' decisions. The fishing people did not change their fishing practices, although they seemed aware of the threat that these practices represent for their livelihood.

In all, we can conclude that the contextualised RE contributed to stimulate single loop, double loop, and social learning among the fishing people and interventionists, but also has limitations with regard to stimulating learning.

4.8 Discussion

The RE approach did contribute to some relevant changes in the action theories of the stakeholders. This illustrates that RE may be a relevant approach to stimulate interaction and learning among stakeholders. However, the changes were related to espoused theories mainly. While this partly can be attributed to the moment of evaluation which was right after the RE process when changes in practices could not be expected yet, the limitations seem more fundamental because they hardly involved double-loop learning. The limitations in the learning suggest that RE in the context of NRM needs further improvement.

Several factors may explain these limitations. Among others, one can mention the scale of the problems compared to the available intervention capacity and means; the total despair among fishing people and loss of confidence that the problems could ever be solved. Uncertainty and absence of trust are all well known to hinder learning (Leeuwis, 2004; Pratt et al., 2009; Williams & Imam, 2006). The more complex and uncertain a situation appears for people, the less they are motivated to deploy the necessary effort to learn about it. This could have been the situation in the context of Grand-Popo. The lack of learning about how to convert to more sustainable fishing practices, may well relate to the threats anticipated by the fishing people. Sustainable fishing practices would involve the reduction of fishing frequencies, fishing areas, fish quantity captured per unit of time via quota, and finally income, at least in the short term and for the powerful and more active fishermen. Aversion to such sacrifices seems to have hindered learning by these fishermen. The RE approach may have led to better learning if more concrete alternative solutions would have been proposed and discussed. The evaluator could have provided alternatives with examples of how other interventionists overcome the limitations of means elsewhere. However, we cannot assume that the discussion of such alternatives leads to changes in short term, because of the systemic characteristic of the problems and the many other interdependent constraints for fishery management. Hence, it seems that much more time needs to be devoted to exploring, designing and developing solutions that are feasible as well as desirable for the fishing people.

Secondly, the expectations of both stakeholder categories about the goals and results of the RE interventions may have influenced the reflections and learning. Indeed, both the

interventionists and fishing people seem to have engaged in the RE process with the expectation that it would lead to concrete solutions or to the design of a new project from which they could take advantage. The interventionists perceived their own influence and intervention means to be limited and hence expected the problems to be solved in the RE process, rather than to have to reflect on ambiguity and mismatches among their action theories. The same accounts for the fishing people who expected to get more help from the interventionists and other powerful local people while the evaluator tried to stimulate the fishing people to become more active. Even though the evaluator told them about the actual goals of exchange and learning, they could have regarded this as a researcher hiding the true cause. The fishing people may have been hesitant to mention ideas because of fear that the interventionists would misuse these ideas. The attribution of the limited effectiveness of interventions to shortage of financial means can be considered as an illustration of this concern. Also, the complaints of the fishing people about the unfulfilment of their expectations with regard to the interventions could be a strategy to trigger the benevolence of the evaluator and other people with access to the report of the researcher. Further RE interventions may take into account such strategic behaviours.

Finally, during the final interaction in the heterogeneous meeting there seems to have been a lack of willingness to open up to one another, which is essential for learning among different kinds of actors. This shows in the fact that both stakeholder categories brought up some issues during the interviews and in the homogeneous group meetings that they no longer addressed in the heterogeneous meeting, such as corruption and the prevalence of material interests of stakeholders over those of effective interventions. Thus, they may have been afraid that discussing these issues openly would lead to severe sanctions (Aarts et al., 2011; Potter, 1996). Hence, RE evaluators need to be aware that a heterogeneous dialogue should not be planned too early and that more than one heterogeneous group meeting may be necessary to stimulate open feedback exchange among stakeholders.

4.9 Conclusion

For a long time, fishing people in Grand-Popo have been facing fishery resource scarcity and livelihood impairment. Generations of interventions remained ineffective although the interventionists articulated a willingness to solve these problems. After unravelling the ambiguity between, and mismatches in, the action theories of the fishing people and the interventionists, we designed and conducted a responsive evaluation (RE) approach to

stimulate double-loop learning among the stakeholders (Kouévi et al., 2013). This article discusses the contribution of this action research approach to learning by the stakeholders.

We showed that the contextualised RE approach contributed to stimulate single loop, double loop and social learning among interventionists and fishing people of Grand-Popo. Thus, the RE process helped to empower the fishing people and diminished the ambiguity and mismatches among action theories to some extent. However, we also discovered limitations in the learning, and concluded that it is hard to stimulate learning in NRM with RE. Hence, we provided suggestions to enhance RE in the context of NRM.

The main contribution of this work for the fields of NRM and evaluation is the operationalization of the concept of learning in terms of changes in espoused action theories and theories in use. We put emphasis on the reasons and strategies underlying NRM actions. The field of NRM usually emphasizes social learning, which is globally considered as learning resulting from social interactions among people (Muro & Jeffrey, 2008). In contrast, our operationalization of learning allows a systematic analysis and comparison before and after an intervention, by studying changes in action theories. In this way, we were able to draw on empirical evidence to show how and to what extent the contextualised RE did contribute to learning among NRM stakeholders.

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CHAPTER 5

Sensitive issues and discursive strategies of stakeholders in a responsive evaluation context: Case-study of fishery management in Grand-Popo, Benin⁶

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Abstract

In the natural resource management facilitation literature, little attention is paid to the sensitive issues in multi-stakeholder interaction and learning. This article aims to fill this gap. It discusses the variety of discursive strategies used by stakeholders to address sensitive issues with regard to fishery management in Grand-Popo, Benin, in three different settings: individual interviews, homogeneous group discussions, and a heterogeneous group meeting. The issues that proved sensitive were discussed openly in the interviews or homogeneous discussions, but not at all or only indirectly in the heterogeneous group meeting. The indirect discursive strategies deployed by the stakeholders were responsibility shifting, detailed description of practices without conclusion, normative discourses, stake attribution, etc. We conclude that such discursive strategies contributed to limitations in learning and in the improvement of problem solving, and suggest that facilitators of interaction and learning processes should detect and build upon sensitive issues and the ways stakeholders discuss them strategically in different settings.

Keywords: Fishery management; sensitive issues; interactive deliberation; discursive strategies; learning

5.1 Introduction

In many countries of the world, we witness efforts to stimulate sustainable management of natural resources as part of broader policies aimed at stimulating rural development and alleviating poverty. It is realized nowadays that rural settings are complex environments characterized by considerable uncertainty and the presence of numerous interdependent stakeholders that are likely to have diverging perspectives, interests and power resources (Blackmore 2005, Ison *et al.* 2007a, Ulrich and Reynolds 2010). Hence, development interventions are likely to proceed with ambiguity, tension and conflict (Long and van der Ploeg 1989, Leeuwis 2000, 2004, Giller *et al.* 2008). In order to deal with such complexity, development interventions increasingly rely on multi-stakeholder approaches in which interventionists aim to facilitate constructive interaction among stakeholders (Mehta *et al.* 1999, Ison *et al.* 2007b, Loeber *et al.* 2007, Giller *et al.* 2008, Leeuwis and Aarts 2011). Within such approaches, a lot of attention tends to be paid to stimulating social learning, deliberation and dialogue to overcome differences and conflict, as a condition for creating concerted action in favour of sustainable development (Röling 2002, Leeuwis 2004, Blackmore 2005). In philosophical terms, such approaches are often inspired by Habermas' (1981) notion of communicative action, which assumes that it is possible to have an open process of argumentation in which claims about reality, norms and values are subject to critical reflection (see e.g. Bawden 1994, Röling 1996, FalsBorda 1998, Maarleveld and Dangbégnon 2002). However, the feasibility of creating what Habermas called 'an ideal speech situation' has been called into question on theoretical and practical grounds (see e.g. Leeuwis 2004: 256ff).

In this article, we do not want to re-iterate this philosophical debate, but rather investigate the implications of acknowledging that open communication and dialogue are unlikely to always happen. This interest originates from an experience of using an approach aimed at fostering open dialogue in the context of fisheries management in Benin in order to stimulate learning. Notwithstanding the intensity of the approach used (a variant of responsive evaluation [RE]; see Abma 2005a,b, Kouévi *et al.* 2013), learning among the fishing communities and interventionists was limited. In the process, it became increasingly clear that a number of issues that seemed to remain hidden and/or un-explicated may account for this limited learning. This prompted the idea of thinking about these in terms of 'sensitive issues' that stakeholders do not talk about openly, but which from the perspective of the main facilitator seemed to play an important role in the interaction. This article reports on the deeper

investigation thereby set in motion. It aims to uncover what the sensitive issues were, and how stakeholders made them tangible in the various interaction settings offered by the responsive evaluation process. In addition, we are interested in reflecting on whether these sensitive issues had any consequences in terms of learning or action, and what this might imply for the facilitation of approaches aimed at fostering dialogue and learning.

The article starts with a conceptual reflection on the nature of sensitive issues and how they may be talked about and recognized in communication settings (section 5.2). Subsequently, we describe the context of the case-study (section 5.3) and discuss our empirical data collection and analysis in the context of the responsive evaluation process in Grand-Popo (section 5.4). We then proceed to discern the sensitive issues by analysing how the stakeholders talked about them in three communication settings (section 5.5). Finally, we discuss the findings and patterns observed, including the possible impact of the way in which sensitive issues surfaced within the RE process (section 5.6). In this same section 5.6, we highlight the main conclusions and implications of our investigation.

5.2 Conceptual exploration: talking about sensitive issues

5.2.1 Sensitive issues

An exploration of the literature reveals that no clear definition exists of what precisely constitutes a sensitive issue. The term sensitive has different connotations to people in different contexts (Elam and Fenton 2003, Edwards *et al.* 2005). With reference to bio-physical phenomena, the term sensitive refers to something that responds quickly and/or strongly to a stimulus. When talked about in relation to personal characteristics (a sensitive person), the term usually refers to someone whose emotions are easily evoked, in terms of positive emotions but often also connected to more negative responses such as feeling hurt, offended or upset. When connected to issues, the term sensitive also points to topics that have the potential to hurt people or damage social relationships, and hence need to be avoided or treated with care in interactions. In relation to this, there is always a connotation of risk of negative social consequences. In the context of deliberative processes, sensitive issues have been associated with fear of negative consequences, sanctions and threats to social identities (Potter 1996, 2003, Abma 2006, Warren 2006). Such identity threats may relate to bio-physical well-being and consequences (injury, health, pain, etc.) or to psychological and social relational consequences (social isolation, stigmatization, loss of face or influence, damaged relationships, power threat, etc.). In the event of such threats, people tend to conceal

the issues that are important to them (Potter 1996, Abma 2006). The facilitator's role in responsive evaluation then is to help stakeholders to discuss them openly in order to have useful deliberations. Combining these aspects for the purpose of this study, we can describe sensitive issues as topics and themes that people are hesitant to discuss openly, since they fear that they will evoke negative consequences and sanctions in areas that they find important and that threaten social identities and relationships.

5.2.2 *Communicating about sensitive issues*

Several insights regarding communication may be helpful in understanding whether and how people talk about sensitive issues. Several authors have emphasized that communication serves not only to exchange information or create shared meanings, but also to achieve social ends and to manage social relationships (Potter 1996, Potter and Edwards 2001, Lamericks *et al.* 2009). By using specific selections or rhetoric constructions, people may, for example, attempt to enhance their credibility and authority, avoid responsibility or build coalitions (see Potter 1996, te Molder 1999, Leeuwis 2004, Aarts *et al.* 2011, Dewulf *et al.* 2011). Such strategies are often rather implicit and indirect (Edwards and Potter 1992, Potter 1996). For our study, this means that, even if people may not openly address sensitive issues, they do not necessarily have to resort to the strategy of complete silence. Instead, they may raise sensitive issues in a more indirect manner that allows them to avoid or minimize the kinds of risks involved with them. Discursive social psychologists have identified several communication strategies that people deploy when they risk being blamed for being prejudiced, lazy, unkind, and the like. Several of these may be relevant as coping strategies in the context of sensitive issues. See Table 5.1 for some examples.

Table 5.1: Indirect discursive strategies that may be used to discuss sensitive issues indirectly

Name of discursive strategy	Brief description (and literature source)
Shifting responsibility	In their utterances, people blame the problems on stakeholders or facts that are not present in the conversation, to reduce sensitivity (Serpell 1986, te Velde <i>et al.</i> 2002).
Explicit/detailed description of facts without conclusion	In their utterances, people narrate concrete cases or examples without necessarily indicating the conclusion explicitly to their listeners/hearers (Edwards and Potter 1992, Potter 1996).
Footing shifting	In their talk, people use general descriptions, collective or third party pronouns (we, they, it, etc.) or quote others in order to play neutrality (or avoid taking responsibility for their talk) and prevent negative consequences in the case of contentious descriptions (Goffman 1981, Potter 1996).
Use of soft wordings	In their utterances, people use metaphors or non-hurting synonyms to replace insults or words that their listeners/hearers might not like (Potter 1996).
Normal/normative discourses	In their utterances, people refer to norms to indicate to their interlocutors what they want them to do in order not to be charged with responsibility for their talk (Potter 1996, Warren 2006).
Stake inoculation	In their discourses, people formulate end questions such as to make them validated by their interlocutors for whom the discussed issue can be sensitive (Edwards and Potter 1992, Potter 1996).
Stake attribution	In their utterances, people build on stories or perceptions, derived from interactions or not, to suspect others of having a particular stake. This is often at the origin of dilemmas of stake defined as related to mutual stake attribution that affect discourses, interpretations, actions and relationships. This often renders interactive deliberation difficult (Edwards and Potter 1992, Potter 1996).
Category entitlement	In their utterances, people refer explicitly or implicitly to social, cultural or professional categories that their interlocutors can easily acknowledge (e.g. doctors, community leaders, friends, director, normal people, etc.) for the sake of reaching a given communication goal (understanding sharing, credibility, undermining of potential conflict, etc.) (Potter 1996).

Another important insight from communication science is that communication is a contextual and relational affair, and hence that people may talk differently about the same issue in different interaction settings (Goodwin and Heritage 1990, Fairclough 2003, Aarts *et al.* 2011, Idrissou *et al.* 2011). For example, people may talk differently about a sensitive issue when they are in a ‘we group’ (e.g. among fishermen) than when they are in a meeting with multiple stakeholders (Lamericks *et al.* 2009, Aarts *et al.* 2011, Idrissou *et al.* 2011). Relevant contextual differences that may influence the way people talk about something include, for example, whether people have shared or opposing interests, whether backgrounds are similar or diverse, whether or not they know one another, whether people have or do not have a solution to the relevant problem, and whether relationships are characterized by trust or

distrust (Edwards and Potter 1992, Potter 1996, te Velde *et al.* 2002, Abma 2006, Leeuwis 2004, Idrissou *et al.* 2011, Dewulf *et al.* 2011).

As elaborated in the methodology section, our case-study offered various communication settings in which sensitive issues could be addressed. These included individual interviews, homogeneous group settings and a heterogeneous setting. One would expect sensitive issues to be discussed more openly and explicitly in homogeneous settings or individual interviews (assuming that the researcher was trusted) and more indirectly in heterogeneous settings.

5.2.3 Research questions

As previously indicated, we are interested in uncovering the issues that the fishery management stakeholders in Grand-Popo, Benin, find sensitive (see section 5 for details). Our theoretical exploration revealed that we might identify some of these issues by focusing on the use of indirect discursive strategies by stakeholders. Since the use of indirect discursive strategies is part and parcel of everyday communication and relationship management, it is important to acknowledge that not all such strategies found are likely to relate to sensitive issues as described above. We are especially interested in those issues that pose identity threats. This leads to the following research questions:

1. What are the main sensitive issues of the fishing communities and interventionists with regard to fishery management in Grand-Popo?
2. What discursive strategies did the stakeholders use in the different communication contexts of the responsive evaluation process: interviews with researcher, homogeneous group meetings and a heterogeneous group meeting?
3. What identity threats (social-psychological and bio-physical) did the stakeholders fear in connection to each sensitive issue?
4. How do the sensitive issues and the way they were strategically dealt with (open, indirect, silence) seem to have influenced the learning outcomes of the RE process?

In the following section, we present the research context that could have influenced the discursive strategies used by the fishery stakeholders.

5.3 Research context

Grand-Popo is a coastal municipality in Benin Republic, a democratic developing country in which many people have to deal with bio-physical and monetary vulnerabilities. Because of

natural conditions and poverty, most Beninese people feel uncertainty and vulnerability (Ministère d'Etat Chargé de la Coordination de l'Action Gouvernementale, du Plan, du Développement et de la Promotion de l'Emploi, and Programme des Nations Unies pour le Développement 2000, Interviews 2007–2011). By natural conditions, we mean tropical conditions characterized by multiple diseases and mortality risks because these conditions are favourable for the development of bugs, parasites and infections. By poverty, we mean monetary and non-monetary deficiencies affecting about 40% of the Benin population (Honlonkou and Ogoudele 2010). About 33% of the active population are affected by unemployment; 80% of employment is informal; and the minimum guaranteed salary is 31,625 CFA/month whereas more than 50,000CFAs per month are needed to live relatively decently (Direction des Études Démographiques 2004, Honlonkou and Ogoudele 2010, Keke and Biaou 2010). These uncertainties and feelings of vulnerability are exacerbated by the absence of a supportive social care system (health insurance, housing, etc.).

In order to reduce people's vulnerability, the government and NGOs turn to external financial and technical supports provided via intervention projects and programmes. Thus, to date, several development projects have been designed and implemented in different sectors (crop production, livestock breeding, fisheries, industry, infrastructure construction, etc.) in Benin. Depending on the design and management practices adopted by the projects' management stakeholders, the results achieved vary from project to project and from place to place. Thus, several projects have experienced limited effectiveness (MPDEAP *et al.* 2007), including also fishery intervention projects in Benin (see Pliya 1980; MEHU 2001, MPDEAP *et al.* 2007, Interviews 2007–2011, Kouévi *et al.* 2011). Among the reasons diagnosed for the limited effectiveness of the interventions in the fishery sector in Benin, especially in Grand-Popo by Kouévi *et al.* (2011), is the lack of learning interaction among interventionists and fishing people.

To facilitate learning interaction among fishery stakeholders, Kouévi *et al.* (2013) suggested the implementation of a responsive evaluation (RE) approach adapted to the Grand-Popo context. This action research approach assumes that, by facilitating open discussion of stakeholder issues among themselves, learning can occur about the effectiveness and improvement of intervention projects (Stake 1983, Abma 2005a,b). They (Kouévi *et al.*) implemented a contextualised RE approach with the expectation that learning would occur among the fishery stakeholders in Grand-Popo.

Indeed, in Grand-Popo, fishery is an important income and protein (food security) source for the population (Dagnon-Prince *et al.* 2004, FAO 2011). However, because of natural constraints and for anthropogenic reasons, this asset is threatened with severe degradation in the near future if relevant action is not urgently taken (Interviews and observations 2007–2011). By natural constraints, we mean siltation, erosion, interaction of fresh and salt water, seasonal and cyclical changes in the sea and the water, etc. By anthropogenic reasons, we mean mismanagement practices of fishery stakeholders, such as non-respect of fishing rules, non-sustainable management of riverbanks, etc. These constraints and mismanagement practices create livelihood consequences for the population of Grand-Popo and surroundings. The following section discusses the methodology used to detect and appreciate the sensitivity of the issues.

5.4 Methodology

In order to investigate sensitive issues in fishery management in Grand-Popo, we monitored how they emerged and how they were addressed by the fishery stakeholders in the different discussion settings. Using a responsive evaluation process designed specifically for a study in the Grand-Popo area (see Kouévi *et al.* 2013), we offered three discussion settings to the Grand-Popo fishery stakeholders: individual (formal and informal interviews), homogeneous groups and heterogeneous group. The homogeneous groups composed either of fishing people or of interventionists, were designed to check interpretations of stakeholders' perspectives generated during individual interviews, stimulate reflection about practices –among which sensitive issues– and prepare the stakeholders for safe heterogeneous group dialogue. The heterogeneous group encompassed fishing people and interventionists and aimed to have a safe and valuable dialogue with them and collectively deliberate on ambiguous issues. The discourses of the fishery stakeholders were monitored in about 210 individual interviews, nine homogeneous group discussions, and one heterogeneous group discussion, held in and outside Grand-Popo, the outside discussions being with fishery management stakeholders residing elsewhere. We looked for those issues addressed with different discursive strategies (open, indirect or silence) in the diverse discussion settings. Each of these issues was explored for how it could threaten the speaker's identity if discussed openly, with reference to explanations given by the stakeholders and to the researchers' field experience.

The discursive strategies investigated in the discourses and interactions of the stakeholders related to the use of silence and of descriptive words; the manipulation of identities/pronouns and of stakes/issues; and the discourse styles used by the stakeholders in discussions.

Concerning the manipulation of identities, we paid attention to the open or indirect use of pronouns and nouns. To detect how stakes or issues were addressed, we checked whether they were attributed or inoculated to others. The investigation of the descriptive words used paid attention to the extent to which the stakeholders went into detail in their discourses. To detect discourse style, we focused on the extent to which stakeholders referred to specific means such as rules or norms to deal with issues. In order to illustrate the discursive strategies and hold in the scope of this article, we selected extracts from the discourses of both fishery stakeholder categories that are illustrative of the general strategy used in each of the discussion settings. The extracts were derived from transcripts of tape recordings and from notes. With the help of categories distinguished by discursive social psychologists and interactional framing authors as presented in Table 5.1, we interpreted the kind of indirect discursive strategies used to address sensitive issues. In the following section, we present and discuss these issues.

5.5 Sensitive issues in fishery management in Grand-Popo

In this section, we discuss the issues discovered as sensitive in the Grand-Popo fishery context. For each issue, we present examples of the utterances of the interventionists and the fishing people in different discussion settings, deduce the discursive strategies and discuss the sensitivity of the issue for the fishery stakeholders.

5.5.1 Fishing people's expectations unfulfilled by interventionists

An important issue for the Grand-Popo fishing people was that interventionists failed to fulfil people's expectations that the interventionists would solve their fishery problems. For the interventionists, this was a sensitive issue. All the fishing people pointed to it as a major cause of their fishery problems and wanted interventionists to become more consistent with the expectations raised during diagnosis meetings. The fishing people articulated this issue explicitly in individual and homogeneous group discussions. The following utterance from a fisherwoman from Avlo-Houta village during a homogeneous group discussion illustrates how the fishing people feel let down by interventionists:

Extract 1: *We are suffocating under our problems... Once the day comes [election or intervention], they come and talk with us and we reveal all down to our viscera [secrets] with the hope of getting satisfaction, but nothing follows...*

This same impression was conveyed during a homogeneous group discussion by a fisherman from Kouèta village in terms of tiredness:

Extract 2: *We are tired of things... We have been expecting a solution to our problems for too long without a favourable follow-up.*

The fishing communities talked about this issue in all the discussion settings rather openly, sometimes with the use of metaphors. For example, in the heterogeneous group discussion with interventionists and local politicians, some fishing people explicitly articulated the interventionists' failure to meet expectations:

Extract 3: *May the discussion on the construction of classrooms that you [DHPD] are having with our authorities be sincere instead of sweet mouthed [unfulfilled expectations or lies] as it usually is...* (Fisherman, Kouèta village)

The interventionists expressed themselves in terms of their concern for consistency with their job responsibility despite the insufficient resources provided to them, as follows:

Extract 4: *We know that the [intervention] resources available may not suffice to intervene effectively. However, we cannot be inactive. We should justify our existence/job.* (Interventionist, individual setting)

As we can see, during individual as well as homogeneous group discussions, this interventionist and his peers indirectly acknowledged that the interventions are not effective and attributed this to the insufficiency of the intervention resources. In the heterogeneous group meeting also, when the fishing people and facilitators accused them of failing to meet expectations, the interventionists never said explicitly that this failure had anything to do with them. Instead, they again blamed the lack of resources, as evidenced in the following extract collected from the interventionist DHPD from the fishery directorate when he addressed the fishing people:

Extract 5: *For example, the community development fund [fund for fishing communities] is money, a lot of money. If I give the whole amount now, you will all cheer. However, if we divide that over all Benin, that's not a lot. It's approximately 2 billion F CFA. And they [superiors and partners] said we [interventionists] should use that to construct schools, hospitals, to repair roads, or help the population to dig wells, to provide potable drinking water and so on. However, before using such money for your places, it would be good that you [fishing people] also adopt good manners or behave kindly according to rules in the management of the water from which you fish...*

In extract 5, the interventionist shifts responsibility to superiors, the numerous demands to be satisfied by interventions, the limited intervention money available, and fishing communities' unsustainable fishery management practices. Therefore, in no discussion setting did the interventionists acknowledge that they were in any way responsible for the failure to meet fishing communities' expectations, even when they were asked explicitly.

Thus, the unfulfilling of expectations was not a sensitive issue for the fishing people because they talked about it openly in all discussion settings. However, this issue was sensitive for the interventionists because they avoided talking openly about it by deploying various discursive strategies. We could refer to these discursive strategies in terms of shifting responsibility to others and to resources, and the use of normative discourses.

While trying to understand this discursive attitude of the interventionists, we realized that admitting to the fishing people that they voluntarily chose not to fulfil the expectations raised during their visits to the communities could threaten their social relationships with the fishing people and their own interests from several perspectives. Indeed, interventionists seemed aware that the fishing people were not happy about being consulted at the beginning of intervention projects (or during political meetings) but then not experiencing expected advantages. Interventionists explained in the interviews that discussing unfulfilled expectations with the fishing people could entail difficulties if they had to consult the communities again. Besides, as we shall see later in sections 5.3, 5.5 and 5.6, the interventionists' concern also arose for electoral reasons and because of their fear of possible physical and occult aggression. For these reasons, the interventionists seem to have avoided confirming openly to their interlocutors that they voluntarily chose not to fulfil fishing people's expectations.

5.5.2 Primacy of interventionists and fishing people's material interests

A second issue identified as sensitive is that both fishing communities and interventionists accuse each other of letting their own material interests (mainly money and food) prevail over concerns for effective interventions. In Benin (Grand-Popo included), fishery interventions are in general carried out under projects or programmes of the government, NGOs or international cooperation organizations. Such projects/programmes are generally short term (2 to 5–7 years). They are funded by the government or external technical and financial partners, and they are often less resourced than required by the formulated goals. Those projects and programmes provide material advantages to both interventionists and target beneficiaries,

such as incomes and jobs for interventionists, and perdiems and money to invest in income-generating activities or food for the fishing people.

The fishing people, in individual and homogeneous group discussions, openly expressed the importance of the material advantages of interventions, as per extracts 6 to 8. The utterance in extract 6 comes from a fisherman from Hokouè Village in a homogeneous group setting. It confirms the importance of the material advantages of interventions for both fishing communities and interventionists.

Extract 6: *When they [NGOs and projects actors] come to discuss with us, we tell them what we think and they go back. But, later, we don't hear anything about the follow up. If they get any money or eating opportunity because of what we told them, they forget that we here, we should also eat... That's what we are saying. It's always the 'Gbadétchédjinnabi' [i.e. only my maize should cook or all advantages for me, nothing for the others] which is hindering our country.*

In an individual discussion, one interventionist mentioned the primacy of a concern for cash over interventions processes by talking about his peers. Extract 7 exemplifies this:

Extract 7: *Listen! One month or three weeks ago, there was a project evaluation mission... It was composed of external and local people as usual... They phoned me and told me:... This is this project evaluation mission... Once home, I told them: me, I will tell you one thing: This project is zero. If it is still in existence in 10 years, it will still be zero. They asked: Why? I said, which result can they show? It's a project for communities. Which community, which results? They told me: MCGF: euh, thank you! We come from the North, and there, we received the same complaints. The logic of the project is to make do. The NGOs that they recruited to do the things, all of them, they are friends, they are friends to whom they give to eat... When I started developing my arguments for why I said it's zero, my friend from the mission who made me agree to discuss with the delegation, he said (after 30 minutes of discussion): euh, let's go for a break. We went out, and he said: ... By the way, do you know Mr Y [the national head of the project]? ... He is the one who provided me with this evaluation opportunity. I can't write those things you are telling! It will look like he provided me with food to eat and I threw it away [smile from Mr MCGF]. Do you [researcher] see how we function? ... Him [Mr X], he will maybe be paid 5,000 per day, the mission could last 20 days, he will earn maybe 500,000 in one month and the evaluation report will be delivered on the basis that the project did a good job...*

In the heterogeneous setting, the fishing people no longer talked at all about the interventionists' material interests. The interventionists themselves also avoided discussing the primacy of their peers' interests in the material advantages of intervention processes.

In the individual and homogeneous setting, the interventionists talked openly about the material interests of the fishing people. An interventionist from an NGO for example said:

Extract 8: *For the population, being associated with an intervention process equates to accessing money...We should demystify projects, which are not cash cows as the population thinks.*

In the heterogeneous group discussion also it was discussed openly. The interventionists gave concrete examples to demonstrate to the fishing people that they let their material advantages prevail over finding solutions to their problems. An interventionist said to the fishing people:

Extract 9: *When your representatives come to meetings, they hardly open their mouth to say what you need. What is important for them is to attend meetings, to sleep, to eat, to sleep. When they want to leave, take their perdiem [money] and go. When they come back, do they answer to you?*

To this stake inoculation question from the interventionist, the fishing people participating in the heterogeneous group meeting responded collectively with no, to confirm that their representatives do not answer to them about why they attend meetings:

Extract 10: *Oooo [Noooo]!*

Another way for the interventionists to talk about the material interests of the fishing people consisted of inviting them to increasingly care really for development issues instead of focusing on opportunities to satisfy immediate interests. The following was articulated by a local policymaker during the heterogeneous group discussion:

Extract 11: *May our interest no longer be mobilized for attending only popular event meetings such as funeral ceremonies, drumming for Zangbéto [local religion group], political meetings, 'agoo' [popular feasts]... Let's think more and more about participating massively in development meetings and less about our immediate interest in money...*

The fishing people themselves also talked openly during the heterogeneous meeting about their own food concerns in terms of hunger. However, they did not discuss their interest in money at all.

The ways the fishery stakeholders dealt in the discussion settings with this issue of the primacy of interest in cash and food in intervention processes suggest that it is a sensitive issue for them, with some differences. Whereas the fishing people explicitly stated their own concern for money and food in individual and homogeneous discussion settings, they mentioned only their concern for food in the heterogeneous group discussion. The first thus seems to be a sensitive issue for them. Even the interventionists' narration about their experiences with the fishing community representatives' concern for money did not bring the latter to discuss it further. Neither did the fishing people say anything about the interventionists' concern for money to the detriment of solving problems as they did in the homogeneous group and individual discussion settings. Thus, this is a second sensitive issue for the fishing people.

For the interventionists, the primacy of their own material interests in their intervention practices seems to be a sensitive issue, since they discussed it little and, when they did so in interviews, it was in terms of shifting responsibility to their peers, and it was not at all discussed in the heterogeneous setting. In contrast, the material interests of the fishing people were discussed openly with examples in the heterogeneous setting, thus showing that accusing fishing people of the primacy of their material interest is not a sensitive issue for the interventionists.

As we can see, silence, more convincing wording (hunger instead of food and money), and stake inoculation (see extracts 9 and 10) and attribution with detailed description of concrete experiences were the main discursive strategies used by the fishery stakeholders to deal with this sensitive issue. The interventionists kept silent about their own concern for money but explicitly inoculated and attributed this concern to the fishing communities in all discussion settings. The fishing people talked openly about their own concern for all intervention advantages (money and food included), and attributed such concern to the interventionists in the individual and homogeneous discussion settings. Both categories of stakeholder remained silent or non-explicit about their own concern for money in intervention processes in the heterogeneous group discussion, although an interventionist brought the fishing people to indirectly confirm their concern for money (see extracts 9 and 10).

While analysing these different discursive strategies, one can wonder why each category of stakeholders did not mention the primacy of their own concern for material advantages (especially money) in intervention processes in front of the others and why, in the heterogeneous group discussion, the fishing people no longer mentioned the interventionists'

material interests. The reasons for hiding these issues may be related to the intervention goals. These interventions are designed to address fishery problems, and not specifically cash and food needs. By openly talking about these concerns, which are not specifically part of the intervention goals, the stakeholders could be seen and treated as non-serious by their interlocutors. This could threaten their mutual relationship. Moreover, openly expressing these issues as their main concerns could generate conflict among the stakeholders because the fishing people would then have a reason to protest (possibly violently) against the interventionists and the politicians. Thus, interventionists who talked openly about their material interests could be fired by their superiors. In a similar vein, if fishing people openly mentioned their general concerns for cash and food, it would be clear that they could not be dealt with by the interventions.

Besides, in the heterogeneous group meeting, the fishing people seemed to avoid accusing the interventionists of favouring their own material interests over intervention issues because of a shortage of arguments as convincing as those made by the interventionists. Therefore, to save face (by avoiding mentioning something for which they had little evidence), and maintain a friendly relationship and a chance to benefit from interventions, the fishing people preferred to keep silent about their accusation in front of the interventionists. This discursive situation supports the idea of power differences discussed by Kouévi *et al.* (2013). Indeed, by fearing to openly accuse the interventionists of the primacy of their material interests because of lack of evidence, the fishing people show the extent to which they have access to information relating to interventions. This may be to the advantage of the interventionists who can therefore continue with their ineffective practices.

5.5.3 Compliance of interventionists with politicians' electoral concerns

Compliance with politicians' electoral concerns in intervention processes was a sensitive issue for interventionists.

Both categories of stakeholder mentioned the politicization of intervention processes and electoral concerns in individual and homogeneous group discussions (see extracts 12 and 13). The utterances in extract 12 came from an individual discussion with the interventionist TPA from the Grand-Popo agriculture promotion centre. In this extract, TPA describes briefly how political relationships influence interventions for income-source diversification:

Extract 12: *Politics plays a role in the effectiveness of income-generating activities [among which crop production] of diversification interventions as follows: "Ah! It's you [a political*

friend] who is there, eh! Me [fisherman] I should get this advantage". However, you [the fisherman] know very well that your land is not suitable for that crop.

Another illustrative utterance about the compliance of interventionists with politicians' electoral concerns comes from the interventionist HCLA from the agriculture promotion centre in a homogeneous group discussion. HCLA explains how the interventionists' indulging the electoral concerns of their authorities make them refrain from advising relevant but sensitive fishery development reforms (land reform for income-source diversification facilitation for fishing people):

Extract 13: Indeed; you know; the State [government] doesn't have resources, and even less the municipalities. What they [government and municipality politicians] try to do is the 'lotissement' [allotment for urbanization]... Because they have election mandates, that doesn't allow them to take certain decisions. So if you a technician, you propose land reform to them, they will immediately tell you no... Thus, they protect their electors... It's that. Already at their own level, they will be in a situation of ambivalence [about land reform]...

Indeed, this interventionist grounded his argument on the fact that in Grand-Popo, as well as in other places in Benin, private people are landowners, and, most of the time, people settle before any kind of town planning or land reform activities. Therefore, town planning and other land reform activities destabilize the status quo and cause financial and social-psychological damage often disliked and resisted (sometimes violently) by settled people and other landowners. Thus, to avoid frustrating settled people and landowners who are potential electors, the politicians are said to delay land reform as much as possible, even if they are aware of its necessity.

During the heterogeneous group discussion with fishing people and local/municipal politicians, the interventionists mentioned indirectly their compliance with the concerns of their political and administrative authorities in terms of their compliance with their role and their incapacity to go against decisions and wills of their hierarchical superiors as follow:

Extract 14: Somebody talked about the industrial maritime fishermen who destroy the fishnets of the artisanal fishermen in the artisanal fishing zone. The project doesn't have... euh, we are not sworn officers. So we don't succeed in talking about those, the bad boats that pick up people's fishnets in the sea... We can't talk about that. The only thing we can do is that we inform the fishery directorate about those kinds of practices. Eeh! Some of the boats that do these kinds of things come from our country. And we [politicians] are ourselves those who

rekindle this fire. So, we, we [project interventionists], things concerning politicians, we can't... that's why we don't like putting our hands in those things. At the fishery directorate, they all know... Chalue-boeuf [a maritime fishing device], everybody knows its origin. Isn't there somebody who authorized its users to use such engine? (DHPD).

As we can see, the interventionists talked about the politicization of intervention processes in the individual, homogeneous and heterogeneous group discussions rather openly. However, the interventionists did not mention explicitly their compliance with politicians' electoral concerns in any discussion setting. They indirectly described how politicization practices interfere with their interventions and how they comply with such interference. Thus, we see that it is a sensitive issue for the interventionists, who used responsibility shifting and detailed narrations of experiences to speak about their compliance with political and administrative authorities. As if they were ignorant about how politicized the interventions processes were, the fishing people did not say anything to address this process at the heterogeneous meeting.

One can wonder how it would threaten their identity if the interventionists were direct or open about their compliance with the political/electoral concerns of their superiors. An explanation for this discursive strategy can be found in the fact that intervention processes are formally supposed to be separate from politics. Thus, the interventionists seemed to fear being perceived by the fishing communities as committed to serving the interests of members of some political parties only, to the detriment of others, because such a perception could potentially lead to two consequences: protest by people who feel discriminated against and confrontation/conflict (possibly violent) among the fishing people; or massive adherence by fishing people to interventionists' political parties, with the potential of generating conflict among members of opposing political parties. Therefore, the interventionists tended to prefer to demonstrate neutrality by simply narrating to their interlocutors the phenomenon of politicization of intervention processes, and their compliance with the decisions and wills of the politicians framed as their authorities to whom they owe respect. They also invited the fishing communities to be patient about their problems being solved slowly. This discursive strategy on the part of the interventionists can be understood because Grand-Popo is part of Benin, a democratic country with more than one hundred political parties spread all over the country. These parties encompass people from every place, every social-cultural and every social-professional category who compete every four to five years for local, parliamentary and presidential elections. Thus, since people (interventionists and fishing people alike) belong to all kinds of political parties, on all possible occasions, they work directly and indirectly for

their parties to be in power (or win elections) to protect their interests (material, money and power). To this end, people (interventionists included) are careful not to provide arguments that could result in electoral failure for their political parties or social conflict.

5.5.4 Interventionists' corrupt practices

Corruption by interventionists was mentioned by fishing people as an existing practice that hindered effective fishery interventions in Grand-Popo. The following utterances are illustrative of how the fishery stakeholders talked about corruption in the interviews and homogeneous group meetings. Extract 15, from a homogeneous group meeting, reveals one fisherman's views on corruption.

Extract 15: *That's what we are saying. It's always the 'Gbadétchédjinnabi' [all advantages for me nothing for the others] which is hindering our country. Isn't it the fact of corruption we have always been talking about?*

Extract 16, from an interview with the interventionist CPCZ from an anti-corruption organization in Grand-Popo, mentions how CPCZ talked about the scale of corrupt practices and about how known corrupt people are even professionally promoted:

Extract 16: *There are too many instances of corruption in our country. And, when someone says he wants to punish, finally he doesn't punish people. People are next moved to more juicy positions. Doing so, we don't educate people properly. They say: oh! If it's like that, me too I can behave the same way the other did without being punished. It's so.*

In extract 17, collected from an individual setting interview, the interventionist TPA went into some detail about how corruption happens in fishery intervention practices (especially in interventions to promote income-generating activities) and about the necessity for interventionists to be more strict:

Extract 17: *There is need to attribute responsibility for the failure to promote income-generating alternatives. There is need for more strictness... We should take the implementation of our job more seriously at the level of beneficiaries... We should no longer give credit [for income diversification] irregularly. That means, me [fisherman] I know that I am not able to carry out the activity. And the backer, I go and see the backer to ask him: give me this, develop this for me, I give you 10%. If you develop that, take your share. You see! Those are things we do, we do, which ... euh, how to say it, don't benefit producers. Because*

we make difficulties for them, and the producers also unconsciously make difficulty for themselves...

During the heterogeneous group discussion, neither interventionists nor fishing people made any mention of interventionists' corrupt practices; this suggests that it is a sensitive issue for both of them.

As we can see, the corruption issue was openly talked about by the fishery stakeholders, and indirectly in terms of generalized practices (see extracts 16 and 17), practices of others (see extract 15) and with general descriptions of the practices in the individual and homogeneous setting. The issue was not raised at all by the stakeholders during the heterogeneous group discussion. One may wonder why. Our investigations about this question revealed that the interventionists were aware that corrupt practices are not allowed so they refrained from explicitly denouncing themselves in order to avoid potential social sanctions. Indeed, since the 1990s, several civil society and public organizations have been created to denounce corrupt practices publicly in order to discourage perpetrators in Benin. Among those organizations, we can cite the National Front of Anti-Corruption Organizations (FONAC), Transparency Benin (Benin section of Transparency International) and Social Watch Benin (Benin section of Social Watch International). Indeed, most corrupt people fear those organizations because they fear the social stigmatization (social isolation; loss of face, power, job; popular vindictive damage; etc.) to which they are systematically exposed when they are publicly denounced or known by victims. Thus, corrupt people try as much as possible to hide their corrupt practices or even to fight against those people who can denounce them or prevent their corruption.

5.5.5 Interventionists' fear of fishing people's physical aggressiveness

The fear of fishing people's physical aggressiveness is an important reason for fishery interventionists not imposing sanctions for illegal fishing practices. Interventionists acknowledged this explicitly during individual and homogeneous group discussions:

Extract 18 from HCLA: *Some rules were elaborated somehow for rational fishery management. We sensitize the fishing people on that... It's themselves who do not respect the rules. We, we try to avoid repression. We avoid that because when it starts like that, that causes confrontations. Some people last time gave the example of the Ahémé Lake where; euh! the police for example went on the water, and where the finger of one policeman was cut off and put in a glass by the fishermen; and then, they put some Sodabi [a local alcoholic*

drink] on it and started drinking. So, you see, those people (living in water areas) are 'sauvage' enough, and if we should engage in repression [general laugh from participants]...

Although in individual and homogeneous group discussion settings the interventionists were open about the fishing people's physical aggressiveness, in the heterogeneous group discussion they tended to discuss indirectly the illegal fishing practices – an underlying cause of the fishery problems– by inviting the fishing communities to review their practices. This normative discursive strategy can be read in the following utterance from the interventionist DHPD:

Extract 19: If you are asked to no longer practice Gbagbaloulou, hâ; to no longer practice Amêdjrotin ... if you continue practicing that, if you ask for financial support, then, we will not give you... We should convert our behaviours, our ways of thinking and of conceiving things...

In no discussion setting did the fishing people talk about their alleged physical violence practices. With regard to the illegal fishing practices mentioned by the interventionists in the heterogeneous discussion, the fishing people shifted responsibility to the interventionists for not sanctioning rule breakers, without going into further details. Thus, we can see that the fishing people did not discuss their alleged physical aggression practices in any discussion setting. Meanwhile, in individual and homogeneous group discussion settings, the interventionists mentioned explicitly the fishing people's physical aggressiveness and their fear of it, but mentioned those issues indirectly in front of the fishing people in the heterogeneous group discussion. It thus seems to be a sensitive issue for both stakeholder groups.

We can explain the fishing people's discursive strategy of complete silence by the fact that they do not want to be perceived as dangerous and the cause of their own problems. The interventionists' discursive strategies (indirect talk in front of fishing people) can be understood as a concern to prevent the fishing communities from having the impression that they are vulnerable and afraid of them (face-saving and maintenance of power image). We can explain it also as a concern to preserve a peaceful relationship with the communities since an open accusation of physical violence could provoke even more aggression. However, by referring to what the fishing communities should do to solve their problems (normative discourses), the interventionists nonetheless put the issue on the agenda in the presence of the fishing people.

5.5.6 Interventionists' fear of fishing people's occult forces/aggression

The fear of fishing people's occult forces is an important issue for fishery interventionists. They discussed it by using metaphors as follows:

Extract 20: *All actors, even the commune, the mayor, village chiefs, arrondissement chiefs, all technicians from the agriculture promotion centre should be involved in the monitoring and income diversification credit recovery. Otherwise, if that job is left in the hands of only the technical direction that financed it, it will not be a success... This collective monitoring and pressure can give more weight to the pressure for credit repayment when even political authorities are involved in the credit recovery activity... Thus, it will not be only you [a language style to talk about anybody] as an individual who will bring pressure to bear... If it's only you who are dealing with credit recovery, you can experience pressure from credit clients. You can start receiving some missiles [metaphor to talk about occult forces]... The client can start threatening you verbally, and you can start dreaming that you sleep on the sea, on the ocean... So, it's like that. It's not easy. It's not easy... (TPA, individual setting).*

The manifestation of, and interventionists' fear about, occult forces were also stated in general terms by the interventionist HCLA during a homogeneous group discussion:

Extract 21: *No! [in response to another participant who was protesting by saying, me I don't believe in that]. Ninety percent of Beninese people believe in that... That means that the occult factor is there and it acts against development. We cannot deny that! Where you are now, if you have resources and you say I want to build a house, and people ask you to come and do that in your village, maybe you can yourself have the willingness and the courage to do so. But, your parents will tell you: Eh!!! Don't come to invest your money here because you can be hurt occultly. And, I know many people faced this issue in Benin here. And that is a factor of under-development...*

Fishing people's use of occult forces was also mentioned by the fishing people, mostly in informal discussion settings. The following utterances from an influential member, SEGMENT, of the Grand-Popo indigenous religions promotion organization illustrates how this issue was mentioned by the fishing people:

Extract 22: *Nowadays, due to the proliferation of the good religions, i.e. new religions other than the catholic religion, the young people no longer respect indigenous fishing rules... The lack of responsibility of some actors from indigenous religion convents also allows young*

people to access 'ébobadawo' [worse occult forces] with which they challenge traditional authorities and offend indigenous fishing rules in some places...

This utterance exposes three new issues not dealt with in this article: conflict between generations about the wise use of occult forces; internal conflict among the indigenous religions' authorities about the transmission of occult forces; and a possible latent conflict between foreign and indigenous religions.

During the heterogeneous group discussion, however, the interventionists did not mention the existence and manifestation of this issue. The fishing people no longer talked openly about the existence and manifestation of their occult forces either. The fishing people used the general term 'social-cultural realities' to talk about occult forces. Hence, this also seems to be a sensitive issue for both stakeholder groups.

As in the case of the physical aggression issue, we can explain the interventionists' discursive strategies (silence in front of the fishing people) in terms of their concern to maintain their power position and peaceful relationships with the fishing people, because showing explicitly to the fishing people that they fear occult forces could cause the fishing people to lose respect for them and give rise to an increase in illegal practices. The fishing people seemed to avoid giving the interventionists and the researchers the impression of being occultly dangerous in order to save face and to retain their chance of inclusion in interventions. Indeed, if the fishing people openly confirmed their occult threat to the interventionists, these latter could have good reason to avoid including them in intervention processes.

5.6 Analysis and conclusion

In this article, we have discussed the variation in the discursive strategies used by fishery interventionists and fishing people to address some fishery management issues in three different discussion settings. The discussion settings consisted of individual (interviews), homogeneous group (composed of peers), and heterogeneous group (composed of different stakeholders). We offered these discussion settings to the fishery management stakeholders in the municipality of Grand-Popo, Benin, during the implementation of a responsive evaluation approach aimed at facilitating open dialogue among the stakeholders about all issues concerned with sharing understanding and finding improved solutions to fishery problems. We expected open discussion on all stakeholder issues, but we observed that some of the issues were addressed differently by the stakeholders depending on the discussion setting. These issues related to:

1. the interventionists' failure to fulfil the fishing people's fishery management expectations;
2. the primacy of the interventionists and the fishing people's material interests over the interests of the interventions;
3. the compliance of the interventionists with politicians' electoral concerns;
4. the corrupt practices of the interventionists;
5. the fishing people's alleged physical aggressiveness; and
6. the fishing people's alleged occult aggressiveness.

Table 5.2, drawn from the analysis of the findings presented in section 5.5, gives an overview of the discursive strategies used by the fishery stakeholders in Grand-Popo to address the sensitive issues in the different settings. We distinguish the strategies according to issue, setting and stakeholder category.

Table 5.2: Discursive strategies used by fishing people and interventionists in different discussion settings in Grand-Popo

	Issues	Discursive strategies of fishing people			Discursive strategies of interventionists		
		Individual setting	Homogeneous setting	Heterogeneous setting	Individual setting	Homogeneous setting	Heterogeneous setting
Issues raised by fishing people about interventionists	Fishing people's expectations unfulfilled by interventionists	O	O	O	I	I	I
	Material interest of interventionists	O	O	S	I	S	S
	Compliance with electoral concerns by interventionists	O	O	S	I	I	I
	Corruption of interventionists	O	O	S	I	S	S
Issues raised by interventionists about fishing people	Money concern of fishing people	O	O	I	O	O	O
	Physical aggressiveness of fishing people	S	S	S	O	O	I
	Occult aggressiveness of fishing people	I	S	I	O	O	S

Source: Analysis of the findings of this article

Legend: I= Indirect discursive strategy; O=Open discourses; S=Silence.

The analysis of this table indicates that the fishery management stakeholders used three general kinds of discursive strategies: silence, indirect and open. In general, during individual and homogeneous group discussions, the fishery stakeholders were open about those issues for which they did not hold themselves responsible. The issues for which they were held responsible were treated with silence and indirect strategies in addition to openness.

Our expectation was that deliberative processes would offer opportunities for stakeholders to put sensitive issues on the agenda, albeit with indirect discursive strategies. We now turn to

the question of whether that seems to have been the case in Grand-Popo. From Table 5.2, we can see that two of the seven sensitive issues were not addressed at all in the heterogeneous discussion by either of the stakeholder groups (material interests and corruption of the interventionists). Three other issues were addressed indirectly by one of the groups but not responded to by the other (fishing people's physical and occult aggressiveness, and interventionists' compliance with politicians' electoral concerns). Hence, these also remained non-explicit in the deliberation agenda. However, two other issues were addressed openly by the accusing group and responded to by the accused group with indirect acceptance and shifting responsibility. The first (fishing people's money concerns) thus remained on the agenda; the second (non-fulfilment of fishing people's expectations) did become part of the deliberation. These issues are the only ones that are sensitive for only one of the stakeholder categories (i.e. interventionists or fishing people). These findings show how hard it is to put sensitive issues openly on the agenda of heterogeneous group discussions, even with a relatively long preparation phase of individual interviews and peer group meetings. This confirms to some extent the idea of Abma (2006) who recommends taking special care, especially in homogeneous group interaction, to discuss sensitive issues until conditions are ripe for their discussion in a heterogeneous group. We thus conclude that the responsive evaluation process has given the stakeholders little opportunity to put sensitive issues on the in-depth discussion and deliberation agenda of the heterogeneous group. Indirect strategies were deployed, and these were not effective in triggering explicit deliberation.

The silence and indirect discursive strategies used by the fishery stakeholders to deal with the sensitive issues depending on the discussion setting are understandable as strategies to reduce the threat of negative consequences (physical injuries, loss of face, power threat, electoral failure, conflict, loss of entitlement to intervention advantages, etc.) that can result from talking openly about such issues. The variation in the discursive strategies depending on the discussion setting is illustrative of the fact that the sensitivity of the issues is associated with the identities of the interactants (Lessler and O'Reilly 1997, Warren 2006, Aarts *et al.* 2011, Idrissou *et al.* 2011). Although silence may be useful to undermine negative discursive consequences, and also evidence of understanding or learning, indirect discourses may be relevant discursive strategies that not only prevent such consequences, but also contribute to learning among discussants as expected in deliberative (among which responsive evaluation) processes. Indeed, although the discursive strategies used by the stakeholders do not allow an explicit conclusion that learning occurred about the issues, the common conclusion drawn by

them about the necessity for collective commitment to solving fishery problems (see chapter 4) illustrates the occurrence of a level of learning about the issues. We can affirm this because, in practice, dealing with sensitive issues is often a matter of commitment of the people involved (Argyris 1970, Argyris and Schön 1976, Stake 2006, Noelle-Nuemann 2009). According to Noelle-Nuemann (2009), commitment to open discussion of sensitive issues is often easier for people who do not fear any consequences from their open talk, such as powerful or avant-garde people (convinced intellectuals, artists and reformers for instance) and ‘hard-core nonconformists’ who are like ‘immunized victims’ (i.e. people who have experienced consequences for so long already that they no longer fear). This means that both categories of stakeholder still need time to be able to commit to open discussion of the sensitive issues. This suggests also that the sensitivity of issues may diminish with experience or time. Thus, we can conclude that open dialogue among stakeholders does not need to be a precondition for responsive evaluators or deliberative interaction facilitators to engage stakeholders in heterogeneous group discussion, especially in the context of sensitive issues. Indirect discourses need to be considered and built on by responsive evaluation in the case of sensitive issues. In such a context, responsive evaluators need to be aware that deliberation could need time to reduce the sensitivity of the issues or for the maturation of the stakeholders so that they can engage in open discussion and deliberation on sensitive issues.

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CHAPTER 6

Conclusions and discussion

6.1 Introduction

This thesis aims at contributing to the understanding of the limited effectiveness of natural resource management (NRM) interventions, from a learning perspective, and at exploring a way of enhancing learning with an action research approach. The research was carried out in the fishery municipality of Grand-Popo in the South-West of Benin Republic. In this research area which is characterised by ineffective fishery resource management interventions, the study explored the extent to which fishery interventionists and fishing people learned from earlier management experiences to improve in effectiveness during subsequent interventions. Similarly, it looked at learning that occurred in ongoing intervention practices. As there appeared to be scope to enhance learning, the study continued with the design and experimenting with of a responsive evaluation (RE) process as a relevant action research approach to stimulate learning among stakeholders.

This chapter recalls the research questions for this thesis and provides answers to them. It connects the results of the various studies and reflects on how wider insights about learning may help to explain the findings. Finally, this chapter discusses the implications for practice and policy, and provides a general conclusion on the contribution of the thesis.

The research questions of this thesis were:

1. To what extent do interventionists learn from earlier ineffective natural resource management interventions?
2. What kind of monitoring and evaluation approach may a researcher use to stimulate learning among stakeholders in a natural resource management context?
3. To what extent is the contextualised responsive evaluation design valuable for supporting learning by natural resource management stakeholders?

6.2 Major findings

In this section we synthesize the findings from the separate chapters of the dissertation. When looking across the various experiences, the most striking cross-cutting observation is that there were important limitations in learning, even in those situations where we actively sought to support and facilitate it to happen. Below we summarize our findings in connection with the different time horizons and settings studied.

6.2.1 *Limitations in learning across generations of interventions*

The study that looked at learning over a long time period, and between different generations of interventions, revealed repetitions of ineffective espoused and in-use intervention theories

(see chapter 2). To redress fishery resources' depletion and improve the fragile livelihoods of fishing people, for example, successive interventions since the 1950s continued to propose solutions such as income generating activities' diversification and the establishment of fishing rules, even though the efficacy of these solutions was questionable in view of the fact that the problems remained and even worsened. The repetition of the ineffective fishery experiences was attributed to limitations in interactions and learning by and among interventions designers, implementers, evaluators, and other stakeholders (see chapter 2).

Learning across generations took place to some extent with regard to interventions plans, but remained absent in practice. For instance, it was noticed that the fishing rules improved over time, without being implemented by either the fishing people or the interventionists in charge of control. Only an intervention that resulted in conflict and serious violence among fishing people, was learned about in that the contested fishing technique 'Acadja' was banned by subsequent interventions for the sake of avoiding further conflict and violence among fishing people. The review of evaluations' results and projects' documents of some earlier interventions revealed also that subsequent interventions did not build on major reasons for limited effectiveness that had appeared from diagnostic studies (e.g. limited competences of interventionists, limited coordination among interventions, etc.). Therefore, it was concluded in chapter 2, that interventionists learned across generation of interventions at the level of espoused action theories but not at all at the level of action theories in-use. The absence of learning in practice seems to be the result of a low commitment to espoused intervention objectives, and to limitations in feedback provision in the interaction among interventions designers, implementers, evaluators, and other stakeholders (see chapter 2).

6.2.2 Limitations in learning in current resource management efforts

When studying the action theories of stakeholders (interventionists and fishing people) in the context of recent interventions (see chapter 3), several indications of limitations in learning were also found. The analysis of data on how different parties perceived causes and solutions for the fishery problems of the municipality of Grand-Popo revealed the existence of ambiguity and mismatches between the action theories espoused and the practices of the interventionists and the fishing people at the start of the RE process. While for instance the fishing people espoused that the persistent fishery problems were caused mainly by the indifference of politicians and the other interventionists, these latter attributed the fishery problems to the lack of respect of rules by the fishing people and to limitations in the intervention resources they were provided with by their funders. Based on these diagnoses,

the interventionists and the fishing people interviewed differed also in the solutions proposed. The interventionists wanted the fishing people and their funders to respectively improve in the respect of the fishing rules, and in the provision of financial and technical resources to interventions. As suggested in chapter 3, the diverging perspectives tended to co-exist, and did not seem to lead to constructive interaction and mutual adaptation of action theories notwithstanding the generations of fishery management interventions. This observation led to the design of and experimentation with a RE approach aimed at the stimulation of interaction and learning among interventionists and fishing people.

6.2.3 Limitations in learning during the RE process

In order to stimulate learning in current resource management efforts, an adapted RE approach was developed (see chapter 3), carried out and evaluated (see chapters 4 and 5). As shown in chapter 4, the RE approach helped to facilitate communication among the fishing people and the interventionists about the diverging perspectives, and the participants of the evaluation process learned from each other about their differences and on how to improve resource management. However, the learning that occurred did not contribute to double-loop learning with regard to the participants' theories in-use. In essence, the participants considered themselves unable to overcome the perceived absence of mutual commitment and lack of financial and technical means. At the level of espoused action theories interventionists and fishing people recognized a need for increased mutual commitment, enhanced participation in intervention processes, improved exchange of feedback, greater effort to put pressure on political, financial and technical partners, and better monitoring and respect of rules. While such insights reflected both single- and double-loop learning, it did not lead to clear changes at the level of theories in-use. Furthermore, it was noticed in chapter 5 that critical reflections were voiced mainly during individual interactions with the researcher and within the homogenous group discussions that were part of the RE process. During interaction in heterogeneous groups, participants were more cautious in their talks and turned to indirect discursive strategies, or ignored and kept silent about important issues completely (see chapter 5). There existed quite a few issues that were concealed in this manner, including the unfulfilled expectations that fishing people had in relation to interventionists; the alleged prevalence of material interests on the side of both the interventionists and the fishing people; the perceived compliance of the interventionists with the electoral concerns of politicians; reported corruption practices of the interventionists; and perceived physical and occult aggressiveness on the side of the fishing people.

This cautious communication among participants during heterogeneous discursive interactions on the one hand indicates a certain degree of learning at the level of espoused action theories; after all some issues were indeed discussed albeit indirectly. At the same time these findings illustrate that relevant issues were not thoroughly discussed and translated into alternative courses of action. Thus, it was concluded that the sensitivity of issues in heterogeneous group interaction limit the performance of RE in learning about them.

6.3 Discussion

The finding that limitations in learning were indeed prevalent, and remain so even when serious efforts were made to enhance learning, makes it necessary to reflect on why learning may be so difficult to achieve in the context of Grand Popo. This section explores possible reasons for the occurrence and limitations in learning by and among natural resource management stakeholders. It does so by linking experience and understanding of the case study to factors and conditions that may influence learning (positively or negatively) and that are likely to be relevant in the complex setting of natural resource management in Benin.

6.3.1 *Lack of motivation and conducive learning environment*

It has been argued by several authors that learning is not something that people are necessarily inclined to do, but requires a degree of motivation at the level of individuals (see e.g. Pratt et al., 2009; Wals, 2010; Widdershoven, 2001). Such motivation may derive from the perceived importance of the issues at stake and/or the urgency that is experienced by stakeholders in relation to them. Thus, in the context of Grand-Popo, limitations in learning by and among interventionists and fishing people could have been due to their low valuation of the importance or urgency of learning to find effective solutions to the fishery problems (i.e. resources depletion and livelihoods degradation). There are indeed some indications that sense of urgency (or a lack of it) may have affected learning processes in Grand-Popo. For example, we have seen in chapters 2 and 4 that learning did take place especially in relation to the promotion of *Acadja* (fishing parks), which was an intervention that resulted in violence among communities. The outbreak of violence was hard to ignore and assumedly created a sense of urgency that may well have lacked in relation to other interventions. In any case, the overall impression one gets from the various settings and time-horizons in which learning was studied, is that little investment was made in learning and even that stakeholders (both interventionists and fishing people) seemed to lack a degree of seriousness and commitment to realizing improvement (Interviews and Observations 2007 – 2011). On the side of the

fishing people, the seeming lack of motivation and commitment is somewhat difficult to understand, since the resources at stake are of critical importance for their livelihoods, and hence one would expect a motivation to learn. And while the livelihoods of interventionists are not directly on the line, one could expect that they too would be interested to improve upon their work, if only to derive professional satisfaction and to further their career ambitions.

The above leads to the inference that the broader environment in which interventions and developments take place may not be conducive to establishing a motivation to learn. The various studies in this thesis, as well as broader experiences in development literature and work, suggest that the learning environment was indeed far from optimal. The experiences reported in chapter 5, for example, suggest that there is to some extent an atmosphere of violence and/or repercussion that jeopardises the safety that people may need to express their views and learn. However, this is certainly not the only environmental condition that is likely to have affected learning. As is evident from chapter 2, different generations of interventions tend to be organised in the form of projects that are (co-)funded and (co-)owned by different foreign donors. The lack of learning across generations of interventions, may relate in part to discontinuities in the staff and organizations involved from one generation of interventions to another, or to greater concern with the priorities and popular approaches of funders than with lessons drawn from earlier experiences. As pointed out by several scholars (Kpatchavi et al., 2009; Moyo, 2009; Observatoire du Changement Social, 2011) the presence of donors and/or the political culture in Benin may also negatively affect the commitment and accountability of interventionists towards local level stakeholders such as the fishing people in Grand Popo, as field level interventionists need to consider those situated higher in the hierarchy as well. An example of this was provided in chapter 5, where we have seen how field level staffs were – in the context of an evaluation – discouraged from providing a realistic account of affairs, and pushed to paint a picture that superiors and/or donors wanted to hear. As indicated in chapter 2, lack of learning also relate to the absence of an incentive system that rewards performance and sanctions a lack of progress on the side of those who are responsible for interventions. A further aspect of the environment that may hamper the motivation to learn is that the problems faced by fishing communities are not purely of a local nature, but tend to be (re)produced by the actions and behaviours of others, such as neighbouring fishing communities, Togolese dam authorities and communities that live upstream of Grand-Popo (Ouali, 1995). This means that solutions require the cooperation and involvement of others, and may well be out of the

direct sphere of influence of interventionists and fishing communities. This lack of control at local level may have hampered the motivation to learn in the settings studied in this thesis, and especially those reported in chapters 3, 4 and 5. In relation to learning at the individual level it is well known that active learning requires confidence that realistic solutions can be found (see Leeuwis, 2004). Something similar may be the case in multi-actor situations; if people do not have confidence that solutions can be negotiated with relevant actors then they may not want to invest in learning and/or develop a defeatist attitude (Heyd, 2011; Rotmans, 2006). Such confidence and trust is easily undermined in a situation where rules and other institutions are not functioning well and/or equitably (International Civil Society Steering Group, 2009; Lee, 1998; Singleton, 2000; World Congress on Justice, Governance and Law for Environmental Sustainability, 2012). At the same time, the above discussion calls into question the boundaries that were drawn by limiting the RE interventions to local level and to fishing people and interventionists. Given that local NRM problems may have to be re-solved in part at higher (national, regional, etc.) levels (see. e.g. Giller et al., 2008), it is important to somehow embed local level interventions directed towards learning in a wider strategy that involves broader networks of actors and scales. This is increasingly recognized in the broader field of (agricultural) innovation studies, where we see increasing popularity of nested innovation platforms that connect and cut across different levels and spheres (Hawkins et al., 2009; Hounkonnou et al., 2012; Klerkx and Leeuwis, 2008; Nederlof, Röling, and van Huis, 2007; Nederlof, Wongtschowski, and Van der Lee, 2011).

6.3.2 Limited opportunity and capacity to learn

Even when people are motivated to learn and improve their practice, they may lack the opportunity and capacity to do so (Bandura, 1986; Leeuwis, 2004). In order to learn people need to be somehow exposed to relevant knowledge, information and feedbacks, and have the capacity to capture and process these (Blackmore, 2005; Sweller, 1994). Limitations in opportunity and capacity may well have influenced the learning that occurred in Grand-Popo. Many of the fishing people are poor, illiterate and live in isolated communities without electricity and hard to reach for the interventionists, especially those living on the islands. Thus, they only rarely have face-to-face discursive interactions with interventionists, and they tend to have limited exposure to newspapers, documentation, radio and television. This implies that they have relatively little access to information and feedback that might have triggered learning. Moreover, the fishing people are not well organised, expressed that they felt unable to exert influence on intervention processes (see chapter 4), and seem to lack the

countervailing power that is needed to make demands and ensure the commitment and accountability of policy makers and intervention staff at different levels.

Clearly, interventionists have in principle better access to reports and systematic information than fishing communities, but they are also affected by poor arrangements (e.g. resources, facilities, transport) and in actual practice they have little discursive contacts with the vulnerable fishing people within their jurisdiction (see chapter 3 and 4). At the same time, it must be noted that high quality information on the ecological and social dynamics in the complex setting of Grand Popo is lacking, or at least not available at the local level. As mentioned in chapter 3, the aim was to enrich RE with valid and palpable information about the functioning of the system, but only limited high quality information appeared to be available (see chapter 3). Moreover, while the field-level interventionists were better educated than fishing people, few of them have been trained in and committed to improvement oriented monitoring and evaluation techniques, let alone those that are aimed at fostering of learning (Observatoire du Changement Social, 2011). The above suggests that even if people had been motivated to learn, the opportunities and capacities to realize this was far from optimal in Grand-Popo.

6.3.3 The need to acknowledge additional dimensions of complexity

As discussed above, the limitations in learning that were revealed in the various studies conducted across different time horizons and settings – including the setting in which learning was deliberately facilitated through an adapted version of RE – may well have been related to a variety of conditions that undermine the motivation and ability to learn. This means in essence that the research team has underestimated the level and dimensions of complexity of the relevant context of natural resource management in Grand-Popo. Although the very effort to adapt RE was inspired by the recognition that the situation in Grand-Popo was more complex than the healthcare and school settings in which RE has been mostly applied (see chapter 3), the adaptations in the approach were clearly not sufficiently feasible and/or effective to help foster a high level of learning. In many ways, the adapted version of RE developed and carried out (respectively chapters 3 and 4) sought to create greater transparency in the action theories espoused and in-use by different stakeholders and to enhance the quality of information about the system in a historical perspective, and through this reduce uncertainty. While power imbalances were anticipated, the emphasis was on providing better quality information and exchange as a strategy to deal with these (see chapters 3 and 4). This emphasis was informed by theoretical perspectives that conceptualise

complexity in terms of two axes: the extent to which stakeholders agree on goals and values, and the level of understanding and uncertainty about the dynamics in a system (Douglas and Wildavsky, 1983; Funtowicz and Ravetz, 1990; Hendriks et al., 1999). Moreover, our confidence in learning derived from the Habermasian idea that frictions among stakeholders can be resolved through the development of a shared understanding of a situation as a result from joint learning and communication (Habermas, 1981; Leeuwis, 2004). The above discussion suggests that these conceptualisations may not be adequate and applicable in the context of natural resource management of Grand-Popo. There seem to exist additional dimensions of complexity that relate to discontinuities in governance, commitment and responsibility (e.g. associated with donor dependency), an atmosphere of fear, the limited availability of high quality information, and the level of capacity and organisation of stakeholders. At the level of inter-human interaction, these additional dimensions make it more difficult to communicate in an open, informed and sincere manner, which goes to the detriment of learning (see chapter 5). In relation to this, the idea that the identified ambiguities and mismatches between actors' espoused theories and theories-in-use (see chapters 2, 3, and 4) could be addressed in an RE process was somewhat naïve, since the continued existence of such ambiguities and mismatches may well have served strategic purposes on the side of the actors involved. The additional dimensions of complexity signalled above are likely to be relevant not only to the context of Grand-Popo. There are many other areas in Benin and other developing countries that struggle with the management of natural resources under conditions that resemble those of Grand-Popo. Similarly, it is not unthinkable that in 'developed' regions too there are more dimensions of complexity than just the level of agreement on values and the degree of uncertainty. Hence, rethinking approaches to fostering learning may have relevance well beyond Grand-Popo.

6.4 Lessons and implications for policy and practice

The discussions above suggest the need to adopt a two track approach when the purpose is to enhance learning in complex natural resources management settings. The first is to work towards a more conducive learning environment, while the second relates to the further improvement of the design of RE.

6.4.1 Improving the learning environment for NRM

From the analyses above, it appears that the establishment of a conducive learning environment is a prerequisite for improvement in the natural resource management sector in

Grand-Popo. An environment conducive to learning is a situation in which stakeholders are able and willing to generate, capture and exchange relevant feedbacks and are open to change their action theories (Argyris and Schön, 1976; Leeuwis, 2004). A first strategy to enhance stakeholders' capacity to generate and exchange feedback with others is training and awareness rising. It is important that stakeholders understand and experience what constitutes feedback and learning and how important these are in the context of NRM. In this way, interventionists as well as target beneficiaries may gain the knowledge that they may be able to use for generating, exchanging, and capturing feedbacks necessary for learning. Such knowledge may also contribute to empowering the stakeholders for a better fulfilment of their responsibilities in NRM intervention processes. Since theoretical knowledge or espoused action theories are not always translated into practice, training and awareness rising may need to be complemented with strategies to create and institutionalise incentives and mechanisms supportive to the generation, exchange and capture of feedback by stakeholders. Besides institutionalising, the kind of training mentioned above, greater effort is needed to integrate inclusive monitoring and evaluation (M&E) in the design and implementation of policies and development interventions. Regular inclusive monitoring and evaluation activities are important in that they can create a context and opportunity for people to put their capacities and skills into practice. Such monitoring and evaluation should already start at the formative stages of intervention (Ogle, 2002; Taylor, 2003); where diagnoses are made and where problem-solving strategies are designed. When this is done in an interactive manner this can improve the quality of interventions and enhance collective ownership and commitment (International Civil Society Steering Group, 2009; Leeuwis, 2004; Mertens, 1999). In the context of dealing with illiterate and vulnerable people who live in isolated areas far from where key decision-makers reside, it may be wise to make use of innovative M&E methods and strategies for capturing and communicating stakeholder experiences, perspectives and views. It has, for example, been reported that audio-visual learning strategies may help to enhance dialogue and problem diagnosis, and bring them to the attention of decision-makers (IIED, and SSN, 2009; Lie and Mandler, 2009; Lunch, 2007; Witteveen, 2009; Witteveen and Lie, 2012; Witteveen et al., 2010). Thus, the use of photo-visioning techniques, Visual Problem Appraisal (VPA) and/or participatory video and film production methods may usefully be considered as part of regular M&E strategies (IIED, and SSN, 2009; Lunch, 2007; Witteveen, 2009; Witteveen and Lie, 2009). It has been reported that such strategies can contribute to giving voice to vulnerable people and enhance their capacity to control and

influence the quality of interventions (see e.g. IIED, and SSN, 2009; Lunch, 2007; van Mele, 2010; Witteveen and Lie, 2009; Zossou et al., 2010). An additional advantage of such audio-visual strategies is that they may be used in media strategies aimed at leveraging broader awareness, support and agenda setting.

This issue of increasing the leverage of vulnerable people is linked to a final but critical aspect of enhancing the learning environment for NRM, which is to influence the motivation and urgency to learn on the side of interventionists especially. As suggested in section 6.3.1, interventionists may at times lack commitment and seriousness in improving upon their work, and be more concerned with the pleasing of donors, superiors and/or personal interests. In such a context training and/or the institutionalisation of M&E are unlikely to be effective. This implies that, in one way or another, it is important to create an incentive structure for implementers of policies and projects that rewards effectiveness and sanctions a lack of performance. The precise ways of doing this fall outside the scope and expertise of this research project, but it is likely that it would require different funding arrangements and different accountability mechanisms. One could, for example, consider making funding and/or career opportunities dependent on demonstrable results and performance, or channelling funds through the supposed beneficiaries who can then make contracts with whoever has proven to be committed and capable. Collecting funds from within the area may also help ensure that accountability to beneficiaries increases, and the same may be true for improved democratic procedures for electing and hiring staff. Some of this may be difficult to achieve given the current international donor funding procedures, unless they become subject to innovation and change as well because of donors facing pressure to improve on their performance. Thinking about how and by whom such performance may best be defined and assessed remains an important area of reflection.

6.4.2 Track 2: Improving Responsive Evaluation

The limitations recorded for the contribution of RE to learning by and among the interventionists and the fishing people in Grand-Popo, and the analyses of learning above suggest that any RE intervention in NRM needs to acknowledge the complexity of the issue. Moreover, it could be questioned whether a learning approach is relevant, as long as there is no supportive learning environment. Political actions and seeking media attention to put pressure on the system may be at least as important. The famous evaluation scholar Quinn Patton (2011) who works especially on evaluations to support a learning and innovation

process in complex situations states that such approaches do not function well (or even contribute to the problems) in cases where systems are malfunctioning. He said:

"Once things start falling apart in a system, it becomes vulnerable to a downward spiral of chronic disasters. This can be seen in overpopulated, low-lying areas subject to major flooding or monsoons, especially those inhabited by people in poverty who have nowhere else to go. That the area is not suitable for dense human habitation is well established. That another flood will hit is certain... All the thinking and action gets locked up in crisis management. When a program is overwhelmed, understaffed, and badly managed, evaluation isn't of much help; indeed, it can contribute to the crisis because it's one more thing to deal with, one more thing to manage. "(Patton, 2011: 215).

In this paragraph, I explore ways to deal with the complexity of NRM systems and especially in the case of repetitive ineffective interventions. While some suggestions have already been made in the paragraph above, others are added with regard to the RE approach and the role of the evaluator more specifically.

An obvious recommendation in line with the above is to address both local and higher levels' stakeholders to enhance the chance of this approach to contribute to learning by a larger number of relevant stakeholders. While the experiences have shown that not all invited stakeholders may be willing to participate in the organised meetings, evaluators could employ other ways to involve them in a learning strategy. Examples are to organise visits to their offices, to interview them, to inform them about the results of the meetings or to try to organise informal meetings. However, given the complexity and multi-level character of the fishery problems it may be difficult to include all actors that limit the room for learning and effective interventions at the local level, such as the authorities of the Togo dam. A more flexible network strategy may be a way to deal with this, organising smaller groups instead of one large group. This could be conceived of as a small core team of local actors willing to learn and work on change supported by the evaluators and maybe some interventionists who travel around and meet with people from villagers and different institutional actors. Instead of exploring the many interrelated causal mechanisms to gain insight into the complexity of NRM, they could seek for other actors who are willing to change e.g. politicians and donors who are committed to effective (financing of) interventions and want to put effort in change instead of the actors who have an apparent stake (Ewing et al., 2000; Gilmour et al. 1999; Gunderson et al., 1995; Wildavsky, 1979). An additional advantage of such an approach would be that the beneficiaries of the intervention programmes are better able to set their own

agenda. Especially in a situation of a malfunctioning system this seems a good start to open up the room for change before deciding to continue with a systematic RE approach.

Such a flexible learning strategy should be more action oriented to overcome the limitations of the merely cognitive approach of explicating action theories that was employed in Grand-Popo as well as the negative spiral of ineffective interventions that interventionists and beneficiaries keep on engaging in for the sake of jobs and financial resources (Cernea, 1996; Milgroom, 2012; Schut, 2012). While the main problems were analysed in-depth and potential solutions were suggested and discussed, no novel kinds of actions have been taken during the research period, so no reflection could take place on their effects – apart from the exchange during the meetings. Hence, only a part of the action research cycle of planning, acting, observing and reflecting has taken place, instead of going through iterative cycles. Instead, it may be good, even before the analysis of problems has been completed, to engage in experimental actions to try to improve the situation, reaping some low-hanging fruit if necessary, so that small effective interventions may impede the motivation among stakeholders to learn in a further more systematic evaluation process.

A final suggestion is to train RE evaluators in NRM and other contexts alike to get sensitivity for stakeholders' mechanisms to deal with sensitive issues and to develop ways to help them to get these issues on the collective agenda. Analysing the sensitive issues of all groups and not just of those who are less powerful is a first step, for which evaluators need to know what kind of indirect discursive strategies the stakeholders may employ and in what kind of interactional context they may feel threatened in their identity and hence close up completely. The next step would be to explore good ways and moments to reflect on these issues. It may even for instance be useful to train the groups to use indirect discursive strategies.

6.5 Conclusion

This dissertation aimed to contribute to the understanding of the limited effectiveness of fishery management interventions in the municipality of Grand-Popo in Benin. It looked at the effectiveness of the interventions from a learning perspective, and explored a way of stimulating learning and effectiveness with an action research approach. The research journey and experience in Grand-Popo contributes in several ways to broader discussions on NRM interventions. First of all, the thesis has resulted in an operational framework that has proven to be useful for the study of learning processes across different time-horizons and settings. While 'learning' is often referred to in relation to NRM (Leeuwis and Pyburn, 2002;

Blackmore, 2010; Ison, Bawden, et al., 2007; Wals, 2007), it is not often defined in a clear way, and it is rarely scrutinized systematically across different generations of projects and within on-going activities. Using the idea of espoused and in-use action theories (Argyris & Schön, 1976) in order to operationalize research into learning has helped both to (a) identify areas of ambiguity and mismatch that served usefully as entry points for learning, and (b) assess the extent to which learning happened or occurred. Thus, the framework is valuable and can be used by others who wish to stimulate and study learning.

Applying the framework in Grand-Popo resulted in the conclusion that there were important limitations in learning in all time horizons and settings studied, and even where we applied and adapted version of RE in order to support and facilitate learning. So far RE had not been used in the complex setting of natural resource management, and this research has led to the development of a new adapted version of RE that was expected to make the approach more effective and robust in complex settings. Although the approach indeed proved helpful to support a degree of learning, the design and implementation of RE appeared to have several shortcomings as well. Notwithstanding these shortcomings, putting the approach in practice has yielded valuable insights.

Importantly, the variety of discussion settings included in the RE process enabled us to identify a number of sensitive issues and discursive strategies that contributed to limitations in learning. The identified sensitive issues, in turn, eventually helped considerably in finding plausible explanations of why learning in Grand-Popo proved to be so difficult. In essence, we conclude that the degree of complexity in Grand-Popo is considerably greater than could be anticipated on the basis of commonly accepted conceptualisations of complexity in NRM, and that there are more dimensions of complexity than just the level of agreement on values and the degree of uncertainty. In view of these complexities, the context of Grand-Popo does not provide a conducive environment for learning; in the current context, interventionists and fishing people seem to lack the motivation, urgency, opportunity and capacity to learn effectively. This leads to the conclusion that enhancing the learning environment is of critical importance. While several ways of doing so have been suggested, this clearly remains an area of further study and experimentation both in Benin and elsewhere.

The experiences with the adapted version of RE confirms that investing in inclusive monitoring and evaluation (M&E) can help to generate high quality feedback, exchange and insights, and hence that institutionalising regular inclusive and interactive M&E activities in policy and intervention cycles is worth considering. The experience with RE has also led to

the formulation of specific further adaptations to the design of RE processes and implementation strategies in complex settings. Scholars and practitioners in the field of NRM may benefit from this in future activities.

In all, this thesis has demonstrated that limitations in learning are prevalent in Grand-Popo, and likely to undermine the effectiveness of (series of) NRM interventions. The thesis also makes clear that we should not have naïve expectations about the potential of systematic approaches and methodologies to foster learning. Creating more conducive conditions for learning should be a first priority.

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SUMMARY

This dissertation may be located in the wide debate on the effectiveness of policy interventions in developing countries, in the field of natural resource management (NRM). It is especially concerned with contributing to the understanding of the limited effectiveness of fishery management interventions in the municipality of Grand-Popo in Benin, where fishing people face fishery resource depletion and livelihood degradation. It looks at this topic from a learning perspective, and explores a way of stimulating learning and effectiveness with an action research approach. Building on Argyris and Schön (1976), the study contributes to discussions on learning in NRM by regarding learning as changes in action theories operationalized as the integration of specific micro-theories or micro-assumptions underlying stakeholders' actions. Also novel is the experimentation with and evaluation of a responsive evaluation (RE) as an action research approach in the fishery context of Grand-Popo.

To account for the research process and findings, this dissertation is structured around six chapters. **Chapter 1** is the general introduction which discusses the background information justifying the research choices, the research objectives and questions, and the methodology that was used to answer the research questions. It explores possible reasons for the limited effectiveness of interventions in natural resource management (NRM). The conclusion is that NRM interventions are affected negatively by various limitations in the sphere of perspectives and understanding. Limited understandings of NRM complexity, limitations in interactions for exchange among stakeholders, differences in management action theories and practices, multiplicity and lack of coordination of interventions explain among others the ineffectiveness of NRM interventions. Therefore the study proposed to explore whether the limited effectiveness of generations of interventions in Grand-Popo is indeed related to limited learning. As there appeared to be scope to enhance learning, the study continued with the design, experimentation with and evaluation of a RE process.

To deepen the understanding of the learning related to the problems faced by the fishing people and interventionists in the case study, the process of learning in generations of interventions was investigated and discussed in **chapter 2**. To redress fishery resources' depletion and improve the fragile livelihoods of fishing people, successive interventions since the 1950s continued to propose solutions such as income generating activities' diversification and the establishment of fishing rules. This chapter reveals that fishery interventions were repeatedly ineffective, because of limited learning which was interpreted as repetitive discrepancy between espoused and in-use action theories of the interventionists. Therefore,

we suggested to facilitate learning interaction among the stakeholders towards more effectiveness of the fishery management interventions.

To develop a good action research approach to stimulate learning, in **chapter 3**, the study was extended to the unfolding of the action theories of the interventions' beneficiaries, for the sake of comparing them with those of the interventionists. It shows ambiguity in the fishery problems solving action theories of the interventionists and the fishing people; power differences among the stakeholders; and, the absence of learning interactions among the stakeholders. RE was chosen, since this is an evaluation approach that addresses such conditions. However, this approach needed to be adapted to the study context. The main adaptations compared to 'regular' RE related to the operationalization of learning in terms of changes in action theories, the investigation of action theories in-use in addition to those espoused, and the inclusion of an analysis of the history and the intervention system to deal with routine and complexity of NRM, and to stimulate high level learning. These adaptations led to what is called the contextualised RE approach in this chapter.

In order to assess the relevance and performance of the proposed RE approach, we experimented with it in the fishery case study of Grand-Popo. **Chapter 4** reports on how and the extent to which it contributed to learning by and among the interventionists and fishing people involved. This chapter reveals the occurrence of single-loop, double-loop, and social learning, but also a remaining gap between changes in espoused theories and theories in use. The single-loop learning concerned changes in action strategies like the extent of the fishing people's demands, and the intervention resource raising strategy of the interventionists. The double-loop learning addressed the underlying reasons for action such as the redefinition of the roles played in intervention processes. The fishing people redefined their own roles as more active to show concern for solving their problems, to diversify their intervention partners, and to lobby for solutions. The interventionists suggested that they needed to empower the fishing people to lobby with politicians and financial partners in collaboration with interventionists about their problems. The social learning concerned emergent congruence in the action theories of the two stakeholder categories with regard to the need for mutual commitment to the effective solving of the fishery problems. The gaps between espoused and in-use action theories related to the complexity of NRM in this case and survival threats. We concluded that it may be difficult for RE to stimulate learning in NRM and provided some suggestions to improve its use.

Chapter 5 goes into depth about exploring the reasons for the limitations in the learning notwithstanding the RE process. It discusses which issues were sensitive for the interventionists and the fishing people, and how they presented them in different interaction settings of the adapted RE approach (interviews, meetings). It discusses which discursive strategies the stakeholders employed to put their issues on the agenda in the meetings with the other stakeholder groups. It shows that some sensitive issues that were mentioned during the interviews, were not discussed at all, while others were discussed with indirect discursive strategies. The sensitive issues were: expectations of the fishing people unfulfilled by the interventionists; prevalence of material interests of the interventionists and the fishing people over concerns of effective interventions; compliance of the interventionists with the electoral concerns of politicians; corruption practices of the interventionists; and physical and occult aggressiveness of the fishing people. The discursive strategies used by the interventionists and the fishing people were silence and indirect discursive strategies. This chapter suggests the necessity of paying attention to discursive strategies and sensitive issues that may hinder learning in natural resource management (NRM) facilitation settings.

Chapter 6 recalls the research questions, summarizes and discusses the major findings, and concludes the dissertation with lessons and implications for policy and practice in NRM and monitoring and evaluation (M&E). The reasons for the limitations in learning by the interventionists and the fishing people were explored on the basis of relevant literature. They related to the opportunities to learn offered by the environment, the motivation and the capacity to learn of the interventionists and the fishing people, and to the level of complexity of the NRM context. Based on the analyses of the reasons for the limitations in learning by the interventionists and the fishing people, this chapter suggests a two track approach. The first track relates to working towards a more conducive learning environment, and the second to further improving the design of RE. It suggests to create and institutionalize incentives and mechanisms to train and raise awareness about the importance of, and to support feedback generating, exchanging, capturing and learning by stakeholders. This chapter suggests also to create incentive structure for implementers of policies and projects that rewards effectiveness and sanctions a lack of performance. In the second track, flexible learning strategies are seen to help improving the performance of the design of further RE in NRM context. To these ends, inclusive monitoring and evaluation, audio-visual learning stimulation strategies, action oriented learning strategy, and the training of evaluators on strategies to get sensitive issues on discussion and learning agendas are suggested.

In all, the thesis demonstrates that limitations in learning are prevalent in Grand-Popo, and likely undermine the effectiveness of (series of) NRM interventions. It makes clear that we should not have naïve expectations about the potential of systematic approaches and methodologies to foster learning, and that creating more conducive conditions for learning should be a first priority.

SAMENVATTING

Deze dissertatie kan worden geplaatst in het brede debat over de effectiviteit van beleidsinterventies in ontwikkelingslanden, in het domein van het beheer van natuurlijke hulpbronnen (NRM). Het levert een bijdrage aan de kennis over de beperkte effectiviteit van beleidsinterventies in de visserijsector in de regionale gemeente Grand-Popo in Benin, waar vissers te maken hebben met de gevolgen van overbevissing en een lage kwaliteit van leven. Het beschouwt dit onderwerp vanuit het perspectief van leren en verkent hoe leren en effectiviteit bevorderd kunnen worden met behulp van actie-onderzoek. Voortbouwend op Argyris and Schön (1976), draagt de studie bij aan discussies over leren in NRM door leren te beschouwen als veranderingen in actietheorieën, geoperationaliseerd als de integratie van specifieke aannames die ten grondslag liggen aan het handelen van belanghebbenden (*stakeholders*). Ook nieuw is het experimenteren met en het evalueren van responsieve evaluatie (RE) als specifieke actie-onderzoek benadering in de context van visserij in Grand-Popo.

Om het onderzoeksproces en de bijbehorende bevindingen toe te lichten, bestaat deze dissertatie uit zes hoofdstukken. **Hoofdstuk 1** is de algemene introductie en presenteert achtergrondinformatie als basis voor de keuzes die zijn gemaakt in het onderzoek, de doelstellingen en -vragen van het onderzoek en de gebruikte methodologie ter beantwoording van de vragen. Het verkent mogelijke redenen voor de beperkte effectiviteit van NRM-interventies. De conclusie is dat NRM-interventies negatief worden beïnvloed door beperkingen in inzicht, begrip en kennis. De ineffectiviteit van interventies wordt onder meer verklaard door beperkt inzicht in de complexiteit van NRM, een gebrek aan uitwisseling tussen belanghebbenden, tegenstrijdige actietheorieën en -praktijken, alsook de diversiteit en het gebrek aan coördinatie van interventies. De studie stelt daarom voor om na te gaan of de beperkte effectiviteit van generaties van interventies in Grand-Popo inderdaad verwant is aan beperktheid van leren. Aangezien er ruimte leek te zijn voor het bevorderen van leren heeft de studie ingezet op het ontwerpen van, experimenteren met en evalueren van een RE-proces.

Om verder inzicht te verkrijgen in het leren rond de visserijproblemen in de casestudie, wordt in **hoofdstuk 2** het leerproces van beleidsmensen (-makers en -uitvoerders) gedurende generaties van interventies onderzocht en besproken. Om de geleidelijke uitputting van vispopulaties te kenteren en de fragiele bestaansmiddelen van vissers te verbeteren zijn er, vanuit opeenvolgende interventies sinds de jaren '50, steeds weer voorstellen gedaan voor de aanpak van deze problemen, zoals diversificatie van inkomens genererende activiteiten en het

instellen van regels voor vissen. Dit hoofdstuk toont aan dat de interventies op het gebied van visserij steeds weer ineffectief waren vanwege beperkingen in leren. Daarbij is leren geïnterpreteerd als terugkerende discrepantie tussen de in woord beleden actietheorieën en de actietheorieën-in-gebruik, herkenbaar in het handelen van de mensen. Wij stellen daarom voor interacties te faciliteren met het oog op het bevorderen van leren tussen de belanghebbenden, ten bate van meer effectiviteit van interventies.

Om een goede actie-onderzoek aanpak te ontwikkelen gericht op het stimuleren van leren, wordt in **hoofdstuk 3** de studie verder uitgediept met een uiteenzetting van de actietheorieën van de begunstigen van de interventies, zodat deze kunnen worden vergeleken met die van de beleids mensen. Hieruit blijkt dat de actietheorieën over oplossingsrichtingen van de beleids mensen en de vissers ambigue zijn, dat er machtsverschillen bestaan tussen de belanghebbenden en dat interacties om te kunnen leren ontbreken. RE is gekozen, omdat deze evaluatiebenadering inspeelt op dergelijke situaties. Desondanks moest deze benadering worden aangepast aan de studiecontext om diepgaand leren te stimuleren. De voornaamste aanpassingen hebben betrekking op het operationaliseren van leren als veranderingen in actietheorieën, het inventariseren van de beleden en de daadwerkelijke actietheorieën, en het analyseren van de geschiedenis van het interventiesysteem vanwege de routinematige interventies en de complexiteit van NRM. Deze aanpassingen leidden tot wat in dit hoofdstuk de gecontextualiseerde RE-benadering wordt genoemd.

Om de relevantie en de effectiviteit van de voorgestelde RE-benadering te kunnen evalueren, hebben wij hiermee geëxperimenteerd in de casestudie over visserij in Grand-Popo. **Hoofdstuk 4** doet verslag van de vraag hoe en in welke mate het een bijdrage leverde aan het leren door de beleids mensen en vissers in kwestie. Dit hoofdstuk toont aan dat enkelslag (*single-loop learning*), dubbelslag en sociaal leren plaatsvonden, maar ook dat er een blijvende kloof was tussen veranderingen in de beleden theorieën en de theorieën-in-gebruik. Het enkelslag leren heeft betrekking op veranderingen in actietheorieën van vissers met betrekking tot hun wensen en eisen en van beleids mensen met betrekking tot de interventiestrategie. Het dubbelslag leren betreft de onderliggende redenen voor actie, zoals de herdefiniëring van de rollen in interventieprocessen. De vissers herdefinieerden hun eigen rol als meer actief om daarmee hun betrokkenheid bij het oplossen van hun problemen uit te drukken, om hun interventiepartners te differentiëren en om voor oplossingen te kunnen lobbyen. De beleids mensen gaven aan dat zij de vissers zouden moeten helpen om, in samenwerking met henzelf, te lobbyen bij politici en financiële partners. Het sociaal leren

slaat op het ontstaan van overeenstemming tussen de twee belangengroepen over de noodzaak van wederzijdse toewijding om de problematiek in de visserij effectief op te kunnen lossen. De hiaten tussen beleden en daadwerkelijke actietheorieën zijn gerelateerd aan de complexiteit van NRM in deze situatie en aan de bedreiging van overlevingskansen. Wij concluderen dat de mogelijkheden om RE in te zetten om leren in NRM te stimuleren beperkt lijken te zijn en dragen voorstellen aan om de bruikbaarheid daarvan te verhogen.

Hoofdstuk 5 verkent de oorzaken van de beperkingen in het leren, ondanks het RE-proces. Het gaat in op de vraag welke thema's gevoelig lagen bij de beleidsmensen en de vissers en hoe zij deze presenteerden in verschillende interactiesituaties van de aangepaste RE-benadering (interviews, bijeenkomsten). Het beargumenteert welke discursieve strategieën de belanghebbenden gebruikten om hun thema's in de bijeenkomsten met de andere belangengroep op de agenda te krijgen. Het geeft aan dat sommige gevoelige thema's die in de interviews waren genoemd, helemaal niet werden besproken, terwijl andere werden besproken middels indirecte discursieve strategieën. De gevoelige thema's betroffen: verwachtingen van de vissers die niet door de beleidsmensen waren ingewilligd; materiële belangen van zowel beleidsmensen als vissers die van groter belang werden geacht dan de effectiviteit van interventies; de neiging van beleidsmensen om tegemoet te komen aan electorale belangen van politici; corruptiepraktijken onder de beleidsmensen; en fysieke en occulte agressiviteit van de vissers. De door de beleidsmensen en de vissers gebruikte discursieve strategieën zijn zwijgen en indirecte strategieën. Dit hoofdstuk onderstreept de noodzaak om in de facilitatie van een leerproces rond het beheer van natuurlijke hulpbronnen aandacht te schenken aan discursieve strategieën en gevoelige thematiek.

Hoofdstuk 6 grijpt terug op de onderzoeksvragen, biedt een samenvatting en bediscussieert de voornaamste bevindingen. Het sluit de dissertatie als geheel af met lessen en gevolgtrekkingen voor beleid en praktijk in het domein van NRM en monitoring en evaluatie (M&E). Oorzaken voor de beperkingen in leren door de beleidsmensen en de vissers worden verder onderzocht aan de hand van relevante literatuur. Ze hangen samen met de leermogelijkheden aangeboden vanuit de omgeving, de motivatie en de capaciteit van de beleidsmensen en de vissers om te leren, en de mate van complexiteit van de NRM-context. Naar aanleiding van deze analyse stelt dit hoofdstuk twee benaderingen voor. De eerste is gericht op het ontwikkelen van een goede leeromgeving, en de tweede op een verdere verbetering van het RE-ontwerp. Het stelt voor om positieve stimulansen en mechanismes te creëren en institutionaliseren om zo belanghebbenden te trainen en meer bewust te maken van

het belang van feedback, uitwisseling, onderhandeling en leren . Dit hoofdstuk stelt tevens voor om structuren te creëren die de beleidsuitvoerders zullen aansporen om effectief te handelen. Dit kan in de vorm van beloning voor effectiviteit en bestraffing voor een gebrek aan prestatie en daadkracht. In de tweede benadering worden flexibele leerstrategieën beschouwd als een manier om de effectiviteit van RE-ontwerpen in NRM verder te verbeteren. Met dit in gedachten wordt een voorstel gedaan voor het volgende: integrerende monitoring en evaluatie, audiovisuele leerstrategieën, actie-georiënteerde leerstrategie en het trainen van evaluatoren om gevoelige thema's aan de orde te stellen en op de leeragenda's te krijgen.

Al met al illustreert de thesis dat er veel beperkende factoren zijn op het gebied van leren in Grand-Popo, die waarschijnlijk een ondermijnende rol hebben in (opeenvolgende) NRM-interventies. Het maakt helder dat wij geen naïeve verwachtingen moeten koesteren over het potentieel van systematische benaderingen en methodologieën om leren te bevorderen, en dat het creëren van meer bevorderlijke leeromstandigheden de hoogste prioriteit zou moeten krijgen.

RÉSUMÉ

La présente dissertation mérite d'être rangée dans les débats relatifs à l'effectivité des politiques d'intervention dans les pays en voie de développement, et plus précisément dans le domaine de la gestion des ressources naturelles. Elle vise spécialement à contribuer à la compréhension des limites de l'effectivité des interventions relatives à la gestion de la pêche dans une commune d'un pays en développement : la commune de Grand-Popo au Bénin. Cette commune rencontre des problèmes d'amenuisement des ressources halieutiques et de dégradation des conditions de vie des populations vivant de la pêche. L'analyse des limites de l'effectivité des interventions s'est faite suivant une perspective d'apprentissage et de capitalisation d'acquis d'expériences, et l'étude a exploré la mesure dans laquelle une approche de recherche-action peut contribuer à stimuler l'apprentissage et la capitalisation d'acquis pour l'amélioration de l'effectivité des interventions. En se basant sur Argyris et Schön (1976), l'étude a contribué aux discussions relatives à l'apprentissage en gestion des ressources naturelles en considérant l'apprentissage comme les changements au niveau des théories d'actions, les théories d'actions n'étant rien d'autres que les micro-théories ou micro-assertions sous-tendant les actions des parties prenantes. Innovante a été aussi l'expérimentation de l'«évaluation réponsive» (*responsive evaluation*) comme approche de recherche – action dans le secteur de la pêche et dans le contexte d'étude de Grand-Popo.

Pour rapporter le processus de la recherche et les résultats obtenus, cette dissertation a été structurée en six chapitres. Le **Chapitre 1** a servi d'introduction générale et a discuté les informations de base justifiant l'étude, les objectifs et questions, ainsi que la méthodologie de recherche. Il a exploré les raisons qui peuvent justifier les limites de l'effectivité des interventions en gestion des ressources naturelles et a conclu que les interventions de gestion des ressources naturelles sont affectées négativement par plusieurs facteurs relatifs aux perspectives et à la compréhension des parties prenantes. Les limites de compréhension de la complexité de la gestion des ressources naturelles, les limites d'interactions d'échanges entre parties prenantes, les différences relatives aux théories d'action et pratiques de gestion, ainsi que la multiplicité et l'absence de coordination des interventions, contribuent à expliquer les limites de l'effectivité des interventions de gestion des ressources naturelles. Dès lors, l'étude s'est proposé d'explorer si les limites de l'effectivité des générations d'interventions à Grand-Popo seraient liées à des défauts d'apprentissage par les parties prenantes ou à d'autres raisons.

Pour approfondir la compréhension des leçons tirées des problèmes rencontrés par les populations de pêche et les interventionnistes dans le contexte de l'étude, le processus d'apprentissage et de capitalisation d'acquis entre les générations d'interventions a été investigué et discuté dans le **Chapitre 2**. En effet, pour réduire la dynamique d'amenuisement des ressources halieutiques et améliorer les conditions de vie des populations de pêche, plusieurs interventions se succèdent depuis les années 1950s et proposent principalement comme solutions la diversification des sources de revenus et la mise en place et l'application de règles de pêches. Ce chapitre a révélé que les interventions ont été répétitivement ineffectives à cause du manque d'apprentissage et de capitalisation interprété ici comme inconsistance répétitive entre les théories d'action épousées et celles mises en œuvre par les interventionnistes. Dès lors, nous avons suggéré la facilitation d'interactions pour l'apprentissage et la capitalisation des acquis entre les parties prenantes pour l'amélioration de l'effectivité des interventions en pêcherie.

Pour développer une bonne recherche-action relative à la stimulation de l'apprentissage, l'étude s'est étendue à l'exploration des théories d'actions des bénéficiaires des interventions en vue de leur comparaison à celles des interventionnistes (voir **chapitre 3**). Ce chapitre a montré qu'il y a : ambiguïtés (ou non concordance) entre les théories de résolution des problèmes des interventionnistes et celles des populations de pêche; différences de pouvoir entre les parties prenantes; et, absence d'interactions pour l'apprentissage entre les parties prenantes. L'approche d'évaluation réponsive a été choisie pour être expérimentée parce qu'elle traite avec des conditions d'intervention similaires à celles observées dans le milieu d'étude. Toutefois, cette approche a eu besoin d'être adaptée au contexte d'étude. Les principales adaptations apportées ont rapport à : l'opérationnalisation du concept d'apprentissage en terme de changements dans les théories d'action; l'investigation des théories d'actions mises en œuvre en plus de celles épousées ; et, l'inclusion de l'analyse de l'histoire et du système des interventions pour traiter des questions de routines et de complexité en gestion des ressources naturelles, et pour stimuler l'apprentissage profond. Ces adaptations ont conduit à ce qui est appelé «évaluation réponsive contextualisée» (contextualised responsive evaluation) dans le présent chapitre (3).

Pour évaluer la pertinence et la performance de l'approche d'évaluation responsive proposée, elle a été expérimentée dans la commune de pêche de Grand-Popo. Le **Chapitre 4** a rapporté le processus et la contribution de l'approche à l'apprentissage par et entre les interventionnistes et les populations de pêche. Ce chapitre révèle qu'il y a eu apprentissage de

niveaux “une loupe”, “double-loupe” et “social”, mais qu’il y a eu persistance d’écarts entre les théories d’action épousées et celles pratiquées. L’apprentissage de niveau “une loupe” a conduit aux changements de stratégies d’action relatives principalement aux demandes d’interventions des populations de pêche, et aux stratégies de mobilisation des ressources d’interventions par les interventionnistes. L’apprentissage de niveau “double loupe” a eu rapport aux raisons d’action comme la redéfinition des rôles joués dans les processus d’intervention. Les populations de pêche ont redéfini leurs rôles comme devant devenir plus actifs pour montrer leur attachement à la résolution de leurs problèmes ; diversifier les partenaires d’interventions ; et, faire du lobbying pour la résolution des problèmes. Les interventionnistes ont suggéré qu’ils doivent renforcer les capacités de lobbying des populations de pêche afin qu’ensemble avec elles des actions de lobbying soient menées en direction des politiciens et des partenaires financiers. L’apprentissage social s’est manifesté à travers la convergence des théories d’action des interventionnistes et des populations de pêche par rapport à la nécessité d’engagement mutuel pour la résolution effective des problèmes de pêche. Les écarts observés entre les théories épousées et celles mises en œuvre sont liés à la complexité de la gestion des ressources naturelles et aux préoccupations de survie des populations. Nous avons alors conclu qu’il doit être difficile pour l’évaluation réponsive de stimuler l’apprentissage dans la gestion des ressources naturelles, et fait des suggestions pour l’amélioration des performances de cette approche.

Le **Chapitre 5** a approfondi l’exploration des raisons des limites de l’apprentissage stimulé par le processus d’évaluation réponsive. Il a discuté les sujets sensibles pour les interventionnistes et les populations de pêche, et comment ces sujets ont été abordés par ces deux catégories d’acteurs dans différents contextes d’interaction offerts par l’évaluation réponsive. Il a également discuté des stratégies de discussion utilisées par les parties prenantes pour faire aborder leurs préoccupations lors des rencontres avec leurs vis-à-vis. Ce chapitre a montré que certains sujets sensibles ne sont pas du tout discutés, pendant que d’autres sont abordés avec des stratégies indirectes de discussion. Les sujets sensibles mentionnés sont : le non-comblement des espoirs des populations de pêche par les interventionnistes ; la prévalence des intérêts matériels des interventionnistes et des populations de pêche par rapport aux objectifs d’interventions ; la conformation des interventionnistes aux intérêts électoraux des politiciens ; les pratiques de corruption des interventionnistes ; et l’agressivité physique et/ou occulte des populations de pêche. Les stratégies de discussion utilisées par les interventionnistes et les populations de pêche sont le silence et les stratégies indirectes. Ce

chapitre a suggéré la nécessité de faire attention aux stratégies de discussion et aux sujets sensibles qui empêchent l'apprentissage dans les contextes de gestion des ressources naturelles.

Le **Chapitre 6** rappelle les questions de recherche, résume et discute les résultats majeurs, et conclue la dissertation avec les leçons et implications de politiques et de pratiques en gestion des ressources naturelles et en suivi-évaluation. Les raisons des limites de l'apprentissage par les interventionnistes et les populations de pêche ont été explorées sur la base de la littérature existante. Les raisons évoquées ont rapport : aux opportunités d'apprentissage offertes par l'environnement ; à la motivation et à la capacité d'apprendre des interventionnistes et des populations de pêche ; et au niveau de complexité des contextes de gestion des ressources naturelles. Sur la base des analyses des raisons des limites d'apprentissage par les interventionnistes et les populations de pêche, ce chapitre suggère deux axes d'actions. Le premier axe recommande de créer un environnement d'apprentissage propice, tandis que le second recommande d'améliorer la conception de l'évaluation réponsive. Ce chapitre suggère de créer et d'institutionnaliser les mécanismes de motivations, et de formation et de conscientisation par rapport à l'importance de la génération, des échanges, et de la capture de feedbacks et de l'apprentissage par les parties prenantes. Il suggère aussi de créer des mécanismes qui récompensent l'effectivité et sanctionnent l'ineffectivité des concepteurs et exécutants des politiques et projets d'intervention. Les stratégies flexibles d'apprentissage sont perçues comme pertinentes pour contribuer à l'amélioration des performances de l'évaluation réponsive dans les contextes de gestion des ressources naturelles. Pour ce faire, le suivi-évaluation inclusif, les stratégies audiovisuelles de stimulation d'apprentissage, les stratégies visant la traduction effective de l'apprentissage dans les actions, et la formation des évaluateurs sur les stratégies pour identifier et faciliter la discussion de sujets sensibles sont suggérés comme actions.

Au total, la thèse a démontré que les limites d'apprentissage prévalent à Grand-Popo et semblent affectées négativement l'effectivité des séries d'interventions de gestion des ressources naturelles. Elle montre clairement que nous ne devons pas croire naïvement au potentiel des approches et méthodes systématiques pour stimuler l'apprentissage, et que créer davantage de conditions propices pour l'apprentissage devrait être une première priorité.

ABOUT THE AUTHOR

BRIEF CURRICULUM VITAE

Augustin T. Kouévi was born in Cotonou, Benin, on 27 August 1976. He completed his high school education with a major in mathematics and natural sciences (Baccalaureate D) in 1996 in the College of Sainte Rita, Cotonou. In 1997, he obtained his first level university diploma in scientific studies with major in chemistry, biology and geology, in the Faculty of Sciences and Techniques of the then National University of Benin, actual University of Abomey-Calavi. From 1997 through 2002, Augustin studied agricultural sciences in the Faculty of Agricultural Sciences (FSA) of the University of Abomey-Calavi and obtained the Certificate of the End of General Agriculture Studies in 2001, and the Agricultural Engineer Degree in 2002 with major in Economics, Socio-Anthropology and Communication for Rural Development. After the graduation of his engineer degree in December 2002, he was engaged by the Faculty of Agricultural Sciences (FSA) of the University of Abomey Calavi as research and project coordination assistant of the project ECOCITE (sustainable and shared management of urban and suburban agricultural and natural spaces) funded by the European Union from 2003 through 2006. In 2004, Augustin was also involved as coordination assistant of the Professional Agricultural Advice and Extension Bachelor Degree Training Programme of the FSA. He started his PhD studies in the autumn 2007 with the then Communication and Innovation Studies Group (CIS/COM) actual Knowledge, Technology and Innovation Group (KTI). His PhD thesis researched on the role played by monitoring, evaluation and learning in fishery problems solving in the fishery municipality of Grand-Popo, South-West of Benin Republic. From 2003 to date, Augustin has conducted several activities related to ecological and organic farming promotion, ecological city development facilitation, contributions of endogenous knowledges to development, local communities' development project design, monitoring and evaluation in Benin, etc.

PUBLICATIONS AND PRESENTATIONS

Peer reviewed publications

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les activités génératrices de revenus à Gouka et à Gobé, Rapport de stage en entreprise, PROMIC, Bénin.®

COMPLETED TRAINING AND SUPERVISION PLAN

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Name of the activity	Department/ Institute	Year	ECTS (1=28 hrs)
Project related competences			
Research Methods for Environmental Sciences	WUR	2007	6
Advanced Communication Science (COM 33806)	WUR	2007	6
Introduction to communication and innovation studies (COM 22804)	WUR	2007	4
Innovation management and cross-disciplinary design (COM 21306)	WUR	2007	3
Research Methodology I: From topic to proposal	WASS	2007	4
Interpersonal communication for PhD students	WGS	2007	0.6
Scientific publishing	WGS	2007	0.3
Techniques for writing and presenting a scientific paper	WGS	2007	1.2
General research related competences			
CERES Introduction course	CERES	2008	5
Presentation tutorials	CERES	2008	5.5
'The design of a Responsive Evaluation framework to deal with ambiguity in the case study of fishery management from Grand-Popo, South-Western Benin'	CERES summer school	2011	3.5
'Responsive Evaluation of commons problems solving interventions: Case study of fishery problems solving interventions in Grand-Popo, South-Western Benin'	COM	2011	-
Career related competences/personal development			
Competence based education	WUR	2010	6
SENSE Context symposium	Sense	2007	0.3
Decentralised Natural Resources Management	University of Copenhagen	2008	8
'Responsive evaluation of interventions for integrated water resource management'	CIS	2009	-
'Responsive evaluation towards double loop learning for fishery problems solving in Grand-Popo, Benin'	CIS	2011	-
'Facilitating fishery problems' solving with a responsive evaluation approach: case study in Grand-Popo, Benin'	WASS Research day "Knowledge in society"	2011	1
Total			54.4

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