Explore, Scale Up, Move Out – Three Phases to Managing Change under Conditions of Uncertainty

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Abstract

Private sector development is dominated by the use of 'good practice' solutions, driven by a desire of the development donors to control the outcome of development initiatives – with limited success. Bottom-up participatory approaches are more appropriate to find solutions for the complex challenge of market and private sector development. Theory-based approaches are used to design and deliver solutions to economic development challenges. We will argue that these approaches have limited potential to manage interventions that target systemic change in complex contexts. On the other hand, alternative approaches based on emergence have some essential shortcomings from the perspective of the international development system. Based on our own working experience, we propose a pragmatic way forward that aims to build on the strengths of emergence-based approaches in complex contexts but is designed to work in the current development environment.

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1 Private sector development and complexity

Private sector development approaches have changed significantly over the last decades. In the beginning, they were dominated by direct training and often also equipping of small and sometimes larger enterprises. This intensive engagement limited the scale and impact that could be achieved. In the mid-nineties many donors shifted from working directly with enterprises towards supporting intermediaries that provide market-based support to enterprises (Committee of Donor Agencies for Small Enterprise Development 2001). Subsequently, approaches have shifted to supporting whole market systems in developing countries rather than individual companies. The emergence of market systems approaches like the 'Making Markets Work for the Poor' (M4P) approach (The Springfield Centre 2014) are exemplifying this shift. Focusing on removing bottlenecks and 'root causes' of market underperformance is believed to be a more promising approach to improving competitiveness and strengthening growth of entire sectors – and eventually reducing poverty.

Despite the adoption of a more systemic view, development actors predominantly see themselves as bringing solutions to local problems, informed by 'good practice' gathered in different contexts. The involvement of the targeted private sector in developing these solutions is very limited. The fact that markets are embedded within broader social context and societal institutions is overlooked or willingly ignored (Granovetter 1985; North 1990). Consequently, when working with international development organisations and programmes, one might think that these actors represent the whole universe of private sector development expertise and opinion. However, when taking the perspective of the private sector within developing countries, we quickly discover that many locally funded programmes, governmental ministries and departments, local universities, civil society and non-governmental organisations (NGOs) and even larger firms are involved in various forms of economic development.

The lack of recognition for change processes that already exist or could potentially emerge locally is a common feature of development more broadly, not specific to private sector development (Reeler 2007). In this article we argue that private sector development

programmes should not only take a systemic perspective, but also build on processes that involve local market actors; or where these do not exist engage with local actors to build the necessary momentum for change. Solutions need to be built from the bottom up, in the relevant context with the relevant actors participating. They cannot be imposed from the outside. Thus we see development as an evolutionary process where different kinds of organisations and institutions co-evolve based on local need and local capacities. This requires a search process of what is desirable and possible within a particular context.

Our argument for a strengthened focus on bottom-up approaches to market development is underpinned by the theory of complex systems. The context in which private sector development takes place – the economy of a particular region or country – can be characterised as a complex adaptive system. A complex system involves a large number of interacting, interconnected and interdependent elements (Mitchell 2009). In human systems, these elements are people or organisations interacting with each other and with a large number of artefacts. Each actor has a strategy that shapes their own behaviour. The actors continuously adapt their strategies. This adaptation is based on observation of their environment and on past patterns of success and failure, rather than on logical, definable rules. The actors have multiple identities and can fluidly switch between them without much conscious thought. For example, a person can be a respected member of the community while at the same time paying bribes to a traffic officer; a university teaching the latest business management approaches can be very old-school in its organisation structures or internal management systems.

Complex adaptive systems exhibit a number of important characteristics (Jenal and Cunningham 2013):

- The interconnections, interactions, and interdependencies among the heterogeneous actors in a complex system lead to non-linear effects; minor changes can produce disproportionately major consequences. At the same time, symptoms could appear constant while underlying causes change over time.

- The dynamic interactions between the elements of a system lead to emergent properties that can only be observed on the level of the whole system, not at the level of an individual. The whole is greater than the sum of its parts. The agents' behaviour affects the system, while the system's patterns constrain the agents.

- Elements of the system co-evolve with one another, with the emergent properties of the system, and with the environment. Through co-evolution, the system's history is embedded in the present.

- Complex systems are dispositional, not causal; observed effects cannot be traced back to a single cause and interventions do not have a simple effect. The disposition of the system, which emerges through the interaction of the components, defines the direction of change in a system and, hence, the effect of an intervention. Observed effects are always modulated by the disposition of the system much more than they are driven by a particular intervention.

- Though a complex system may, in retrospect, appear to be ordered and predictable, hindsight does not reliably lead to foresight because actors adapt while at the same time the external conditions and systems constantly change. As a consequence, complex adaptive systems are inherently hard to predict. We do not know with certainty what will happen.

As a consequence, in a complex adaptive system, solutions cannot be designed assuming linearity but need to emerge from the circumstances. The current capacity of the actors, the current context, but also past experience and past decisions affect the options going forward. Bottom-up participatory approaches intend to stimulate this emergence of new solutions, while rooting them in the current and adjacent capacities of the stakeholders.

The discussion on how to do development differently in complex contexts has become more and more prominent in recent years. Influential think tanks such as the Overseas Development Institute (ODI) or the Center for Global Development have published various reports, working papers, think pieces and blog posts on the topic (Barder and Ramalingam 2012; Barder 2012a, 2012b, 2012c; Hummelbrunner and Jones 2013a, 2013b; Jones 2011; Ramalingam *et al*. 2008). Also NGOs, most notably Oxfam, are contributing to the discussion

(Green 2012, 2013, 2014). Even large donor organisations such as the UK Department for International Development (DFID) explore the topic, for example by commissioning research on how to improve the delivery of development in the face of complexity and uncertainty (Ramalingam, Laric and Primrose 2014) or on how to better evaluate initiatives that target systemic change (Ruffer and Wach 2013). DFID also recently introduced a new operating framework for its programmes called 'smart rules' (DFID 2014). The framework is intended to allow for more flexibility on a programme level to adapt to the local context. Within the United States Agency for International Development (USAID) there is an initiative called Complexity Aware Monitoring, which recently published a discussion note on how to do monitoring for activities in complex contexts (Britt 2013).

In the next section, we describe the currently dominant approach to economic development, i.e. a theory-based approach. We will explain why we believe that this approach is not responding to the challenges of uncertainty and ignores insights from complexity sciences on how change in complex systems happens. In the section, we will also explore an alternative approach based on emergence. Asking a number of questions that challenge the emergence-based approach, we will, in Section 3, suggest a pragmatic way forward.

2 Predicting results or letting change emerge?

Theories of Change (TOCs) are the core of theory-based approaches to solving development problems. Programme theories or TOCs are an articulation of how and why a given intervention will lead to specific change (Stein and Valters 2012). Funnell and Rogers describe a programme theory as 'an explicit theory of how an intervention […] contributes to a chain of intermediate results and finally to the intended or observed outcomes' (Funnell and Rogers 2011: xix).

Theory-based approaches are built on a process of analysis, the development of an ideal solution and the path of how to get there. They rest on the assumption that underlying relationships between cause and effect in human interactions and markets can be discovered, arranged in a causal chain from an intervention to a result and empirically verified. In contrast, approaches based on emergence do not anticipate the best solution;

rather than predicting an ideal solution, they focus on the potential to influence the evolution of the system in the present (Snowden forthcoming). As we argued above, as economic development is happening in a complex system, we believe that solutions to private sector development challenges that emerge out of the context have a higher potential to work in the long run than the ones that we could have predicted and built into a TOC. Additionally, the involvement of the local actors themselves in the process strengthens their solution-seeking capacities and the systems' ability to adapt to future shocks.

When the future cannot be predicted with certainty, results cannot be guaranteed and solutions cannot be designed in advance. Because of our limited ability to understand complex systems, TOC approaches are susceptible to a biased interpretation of the current situation. The limited understanding of the system combined with our human tendency to see patterns where none exist make us jump to conclusions early in the discovery process (Kahneman 2011). TOC approaches consequently show a strong preference towards specific or desirable future states, and a naivety about how difficult it is to accelerate the change or evolution in a complex system, especially when very specific goals or outcomes are determined up-front. In complex systems such as markets, the design of causal models can lead to a premature selection of one or a few solutions that make sense to or suit the worldview of the development organisations (who are not directly depending on the functioning of the markets) at the expense of solutions that actually lead to the intended changes and that are adapted to local realities. Further, the complexity of the situations eludes the capacity of programme designers to accurately understand the dynamics and develop a logical intervention strategy with awareness of all its possible consequences on the system (Osorio-Cortes and Jenal 2013).

Approaches based on emergence can be distinguished from theory-based approaches by a fundamentally different understanding of causality in complex systems. They differentiate between distinct types of situations – ordered and un-ordered. Un-ordered systems are not lacking order, but are built on a different kind of order: emergent order (Kurtz and Snowden 2003). Emergence is the aspect that makes complex systems more than the sum of their parts. Complex systems are *autopoietic*, they self-organise. Self-organisation of individual

elements into new functional units allows complex systems to gain abilities that go beyond the abilities of the individual. At the same time, self-organisation leads to an increased level of interconnectedness and interdependency, constraining the choices of behaviours each individual can take (Juarrero 1999). Farmers, for example, self-organise into associations or cooperatives if the limitations of this arrangement are sufficiently compensated by additional benefits not accessible to each farmer independently. A new level of order thus emerges.

Emergent order has been found in many natural phenomena such as insect colonies, the brain, and the immune system but also in social systems such as economies and the World Wide Web (Mitchell 2009). The patterns that form, like living bridges built by ants or the human consciousness, are not controlled by a directing intelligence; they are self-organising. Emergence happens when a system is taken out of an equilibrium state, but not so far that it drops into the chaos of total randomness. This is what gave rise to the phrase 'the edge of chaos', which is seen as a status that is particularly conducive to innovation and change (Kauffman and Johnsen 1991; Ramalingam *et al*. 2008). Emergence does not follow simple, linear causality, i.e. is not caused by a single determinable cause, but spontaneously happens if the disposition of the system is right. This means that an individual actor cannot cause an emergent change, but can only be part of it. Emergence cannot be predicted nor can the form that the emergent phenomena takes be known or, indeed, designed.

In a complex and dynamic context, it makes no sense to have a classical analysis phase focused on collecting facts and data in order to understand the problem and design a solution in the form of a project – particularly if this analysis takes place months before the actual project starts and is implemented by a third party that is not involved in project implementation. There are three main reasons for this:

- Firstly, we cannot make sense of a complex context by objectively analysing it; we can only understand it when we interact with it. There are just too many elements to consider. As humans, we are prone to jump quickly to a conclusion on how something works even on partial evidence, introducing a strong bias both into the

analysis and solution design (Chambers 2006; Kahneman 2011; Kay 2010). Hence, to avoid bias and truly test a variety of possible options, analysis needs to take place through broad intervening or probing and observing the reaction of the system.

- Secondly, as soon as we are present in the system, we are intervening – we cannot really analyse it objectively 'from a distance'. Our presence affects the strategies and perspectives of the actors. This effect can often be rather small, but due to the path-dependent nature of complex systems it can still have an influence on the future. If we are not aware of this because we think we are 'just analysing', we might miss important clues of changing patterns or even have some harmful effect on the system.

- Finally, complex contexts are dynamic contexts, even if they superficially appear reasonably stable. Periods of stability, where behaviour patterns of the actors can seem very predictable, can change significantly without warning. Property markets can exhibit a seemingly stable pattern of growth over longer periods of time but then suddenly crash. Such crashes are not foreseeable, or investors would not continue to fuel what will with the benefit of hindsight be clearly identifiable as a bubble. This collapse can be rapid or take longer periods of time. Even if the symptoms appear to remain the same, the underlying causes and reinforcement loops could have changed. People are very much driven by their habits and changes can take some time to appear on the surface. Farmers might continue to grow a particular crop because they have been doing this for generations even if there are incentives to switch to another crop. This unpredictability of complex contexts makes it necessary to apply a continuous interplay of exploratory intervention and monitoring at least until we can see favourable patterns of change emerge and stabilise.

In essence, there is no analysis without intervention – as soon as we are present in a system, we influence it – and no intervention without analysis – every step we take we need to use as an opportunity for observation and learning. Hence, a conventional project approach that is based on an extensive pre-project analysis and subsequent design with preconceived and contractually fixed results is most certainly not the right vehicle to deliver complex social change in an emergent way.

Following this logic, interventions that are targeting systems characterised by emergent order cannot be guided by a strategy that relies on knowledge about and stability of causal interrelations directed towards a specific outcome. Change has to be allowed to emerge from the circumstances. The path of change needs to reveal itself while it is being walked and not designed in a meeting room (Snowden and Boone 2007). For example, the selection of the means of economic allocation for a specific good or service via markets, hierarchies or networks cannot be pre-determined through rational analysis (or preference). It is possible that allocation could even take place through hybrid models, or that two different means of allocation are chosen. Perhaps the initial means of allocation changes over time as a service or product becomes more familiar to the user.

This requires a more exploratory mode of management of interventions in economic development. Different options need to be explored in parallel and adapted over time in order to see how patterns change and what new patterns emerge. If these new patterns are favourable, they can be amplified, if they are not, they need to be dampened. This means that development programmes have to assist their counterparts in developing countries – economic development agencies, business service providers, local authorities, or businesses of all sizes – to develop a range of options rather than proposing a solution. Then they can support small explorative activities in order to see which solution is most viable in the specific context. For example, when a programme is tasked to improve extension services to farmers because publicly funded extension services are not working, it should, instead of switching completely to a market-based solution, explore different kinds of service combinations. This could mean trying a combined public and private service offering. In essence, the goal needs to be to give farmers more options to choose from.

Snowden (forthcoming) proposes one specific way to implement an approach based on emergence. It starts by using parallel, short life cycle, safe-to-fail explorations to determine which approach or approaches are successfully influencing current patterns and stimulating the emergence of more desirable ones. The portfolio of explorations is developed by identifying a set of coherent hypotheses by involved stakeholders. In order to improve the

chances to stimulate a viable solution or test a broad variety of possible solutions, the explorations should be designed to be as diverse as possible. This is achieved by avoiding convergence as long as possible and encouraging debate and dissent where possible and feasible. For each exploration the possible and likely signs of success and a strategy to amplify that success as well as the potential early signs of failure and dampening strategies are identified. Once the explorations are implemented, the results are reviewed and strategies that lead to favourable patterns are taken to scale.

It must be acknowledged that not all problems we face in development are complex. Indeed, most situations we face are a mix of ordered and un-ordered aspects, as they usually co-exist (Kurtz and Snowden 2003). This is to say not everything is complex, non-linear and unpredictable. Earlier we explained that constraints in the system limit the options and the behaviour available to the actors. By relaxing constraints we can move situations between the ordered and un-ordered domains in order to introduce novelty or more options. By tightening constraints we choose certain options and reduce variety so that we can improve efficiency (*ibid.*). Relaxing constraints has been described as bringing a system 'to the edge of chaos' to increase the likelihood for innovation to happen (Ramalingam *et al*. 2008). Tightening constraints is done to move from a modus of exploration to a modus of exploitation. In practice, relaxing constraints can mean for example to introduce new options into a situation that actors can choose from such as new business models, new technologies or new sources of finance. Also, as contexts shift, movement between ordered and un-ordered happens organically. For example, if markets are being liberalised, actors suddenly have many more choices as to how to act.

A continuous process is needed in any change initiative to make sense of the problems we are facing and select an appropriate strategy. Sense-making frameworks like Cynefin can help a project team to come to grips with a situation and decide whether it is in the ordered domain, where an expert solution can be sought and applied, or whether it is in the un-ordered domain, where an approach based on emergence is more appropriate (Kurtz and Snowden 2003; Snowden and Boone 2007). If we find that we are in the ordered space, we can apply traditional theory-based approaches with outcome-based targets and apply good

or best practice – our past experience is useful here. In the following, we describe ideas for an approach that can work to solve complex challenges.

There are, however, a number of challenges in shifting development work towards using more approaches that are based on emergence when tackling complex problems. The list below mentions some. We are aware that this list is not exhaustive.

- If pre-defining and contractually fixing results is not the way to solve complex development challenges, what do we agree to do together as a donor and an implementing organisation? How do we define whether a project has been successful or not? How much change is enough change?

- How do we know we are making progress? How do we know we are doing the right things? Whose assessment of progress matters? Change trajectories in complex systems are not linear and can take various shapes. Sometimes, 'hard work' does not show for long periods of time but then suddenly massive changes happen when tipping points are reached.

- How do we figure out in the beginning what resources we need to implement a project that leads to positive change? If we are lucky, some encouragement is enough to see big changes but often change will need more engagement.

- Connected to both the difficulty in assessing progress and also the question about resource needs is also the question of how long we need to commit ourselves to change a particular issue. Sometimes development organisations are under too much pressure to see quick results. Often change needs to be supported over extended periods before it takes hold. However, the opposite can also be true. Sometimes a good idea is absorbed quickly and local stakeholders take over an initiative. Development programmes mostly do not exit early if ownership shifts.

- Also connected to the resource question is the pressure to spend funds entrusted to the implementing agent. What happens if change requires much less funding than anticipated?

- What to do if we think a situation is uncertain/un-ordered, but our counterpart thinks it is certain/ordered? Or the other way around, we perceive a problem to be simple, but they perceive the situation to be quite complex? Whose reality matters?

- If we agree that we should support market actors in developing countries to explore and introduce more options, the big question is how would we measure our contribution to the resulting changes? Just as in developed countries, governments in developing countries are also increasingly under pressure to prove that public funding is used wisely, so they are also interested to attribute change to their spending.

Perhaps related to the points above is the question as to whether development is really ready to let go of some of its own treasured dogmata and fully support open exploration in the developing world. Very often donors support projects and programmes that fall within certain programme categories such as private sector development, education reform or good governance and intervention options are limited by these categories. Will donors really be willing to fully support a developing country to develop a portfolio of small experiments guided by resulting changes rather than pre-defined intervention options? For example, many donors value working with small enterprises, despite there being research that questions this preference (Beck, Demirgüç-Kunt and Levine 2003; Biggs 2002). In many countries, the small enterprises are vulnerable and unproductive, while the larger or rather medium-sized enterprises are perceived to not need any support and are overlooked as potential cooperation partners. Similarly, not all problems can be addressed purely by the private sector. Many market failures need governments to change conditions for markets to function better (Cunningham 2011). Donors need to be willing to suspend their preference if local evidence or the local context suggests that a more diversified approach is called for.

3 A pragmatic way forward

It would be easy to stand back and describe everything as complex with no place to intervene. Despite complexity, we can still be pragmatic. We also have to work within the constraints of the development system itself. In this way, we hope to tackle some of the questions around approaches based on emergence that we raised earlier in this article.

As an alternative to the classical analysis-design-implementation logic, we suggest an approach that is based on three closely inter-knit phases that organically evolve into each other and might overlap at times. Instead of starting with an analysis, an initial exploratory phase focuses on developing and implementing a portfolio of exploratory activities. It is important that these explorations are 'safe-to-fail', i.e. that the failure of individual explorations does not endanger the overall activity and at the same time does not put any stakeholder at risk. It might be challenging to find such safe-to-fail activities when, for example, working with small farmers. Development practitioners must also introduce naive or even contradictory experiments to ensure that more options are created. There is no experimentation without risk, therefore development programmes can mitigate some of the risk, but if the market actor cannot carry some of the risk then it will be highly unlikely that others will follow the example.

Allowing initiatives to fail is important for two reasons. On the one hand, if we can accept failure, we can also take higher risks in trying out new things. On the other hand, failures are extremely important for learning as they tell us about the constraints in the current system. A bottom-up focus on developing these exploratory activities is essential to root them in the reality of the system. Approaches that are grounded in the participatory action research tradition, as for example described by Burns or Hassan (Burns 2007, 2013; Hassan 2014), seem to be particularly adept to be used during this phase. When implementing action research type activities with stakeholders, it is important to use a frame of reference for decision-making as well as a learning model that is based on complexity thinking (Rogers *et al*. 2013).

The need for coherence and a purposefully designed portfolio of exploratory activities ensures that the exploratory phase does not start with any random intervention. Most importantly, we should avoid that the exploration is limited to any particular interests and implicitly preconceived solutions. Most of the things we do are based on implicit 'theories of change' that we develop partly unconsciously based on our experiences or on a quick scan of the situation. If we do not ensure that these are made explicit, we risk a biased exploration

portfolio that only covers a relatively narrow set of hypotheses around these implicit assumptions. We need to make assumptions explicit both about the type of change we want to see – which is strongly influenced by our values and worldview – and the assumptions about the pathway of change – the path we think we need to take to achieve this change. Making assumptions explicit also allows us to recognise different perspectives on the issue at hand and potentially conflicting points of view. While the reaction when applying a theory-based approach would be to work towards converging on an overarching theory of change, when taking an exploratory approach it is more valuable to keep the hypotheses about how change could happen as diverse as possible. Besides, real-world testing of competing hypotheses can also be used as a conflict resolution tool.

The exploratory phase then evolves into a scale-up phase that is more focused on exploiting the interventions and solutions that were found to work in a consistent way, spending more resources on them to see wider spread change. Essentially, this signifies a move from the un-ordered to the ordered space. Ideally, some of the activities and solutions that were tested in the exploration phase would be taken up by the stakeholders themselves without further support and become self-propelling. Other activities require more long-term investment from a development actor. If scaling up is supposed to happen in different contexts, we cannot resolve to do more of what worked in the original context. Replicating specific solutions of one complex context in another complex context is likely to fail due to the path dependence and distinct history of each situation. But we can learn which conditions we need to establish for stakeholders to engage in activities which have a high potential to lead to change.

A move-out phase could subsequently focus on capitalisation and communication with the intent to capture learning and communicate achievements. The capitalisation should not only document what solutions could be found for the local problems, but also reflect on the setting that was introduced to stimulate the changes.

Continuous monitoring of changes in the system is naturally a part of all three phases and, indeed, precedes them. In the exploration phase, monitoring with real-time feedback is

needed to understand if and how the patterns change and deliver the necessary data to decide if the change is favourable or not. The earlier we can detect newly forming patterns, the earlier we can dampen them if they are not favourable or amplify the intervention if they are. This needs monitoring systems that are able to pick up and make sense of weak signals. During the scale-up phase, monitoring is required to understand whether the changes remain consistent and whether there is any shift in the system's patterns that would make the interventions less effective. Also, there is always a need to monitor for unintended consequences and other dominant influencing factors that work in favour or dis-favour of the intervention. Finally, in the move-out phase, monitoring continues to assess sustainability and resilience of the interventions.

Lacking pre-defined results, we still need something to agree on between the donor organisation and the organisation implementing the change initiative on what we are trying to achieve over the three phases. We suggest agreeing on a strategic intent rather than a fixed goal or target. The strategic intent gives the change initiative direction while it is not a target that it can be held accountable for – such targets only emerge over time together with the change strategy. One possibility for a strategic intent could be to reduce poverty in a particular area by improving the population's economic circumstances. The strategic intent needs to be general enough to allow for a portfolio of interventions. These could target, for example, the markets that the population in this area participates in – or could potentially participate in; the services that they lack or receive in inadequate ways; governance and institutional issues that lead to suboptimal functioning of the economy.

Besides continuous monitoring, the strategic intent is the second aspect that links the three phases together as an ongoing activity. It thereby acts as a compass; it helps us decide whether a pattern is favourable or not to go in this direction and to assess whether the initiative is making any progress. Continuous review of the progress by both implementer and donor is needed and go/no-go points can be defined in order not to get locked into a path that is deemed to fail to achieve the strategic intent. The strategic intent can also be used to test the hypotheses that are behind the exploratory activities – or any activities for that matter – for coherence. One essential feature of complexity is that data can allow for

contradicting hypotheses (Snowden forthcoming). This means that hypotheses can be coherent with the strategic intent but contradict each other at the same time. If we go back to the example of a strategic intent of reducing poverty in a particular area, two hypotheses that are coherent with this intent but contradicting could be that an increased diversity of income sources leads to reduced poverty versus an intensification of the production of a particular crop leads to reduced poverty. Both are coherent with the strategic intent but we cannot know in advance which one works best. Having contradicting hypotheses allows us to build up a portfolio of explorations that achieves a broad scan for possible solutions.

The innovative part of the approach we suggest is in the addition of the exploratory phase. While some donors currently use so-called inception phases in private sector development programmes, these phases usually focus on analysing systems and designing project-supported solutions rather than actively exploring options. The exploratory phase we propose is essentially a phase of knowledge construction through interaction, not analysis. The stage could last from a couple of months up to a few years, depending on the context and situation. Complex social change can take a long time. The transition into a scaling up phase would happen once enough traction is seen in some of the implemented activities to allow for greater investments. For example, in a complex situation a project cannot pre-design a business model that is profitable and pro-poor at the same time. Such a business model can, however, emerge from an exploratory phase. In the scaling up phase, the role of the project can be to support the wider adoption of the business model. The scaling up phase could much more look like a conventional project as the explorations have on the one hand increased our understanding of the system and on the other hand potentially moved some of the aspects from the un-ordered to the ordered space. These aspects can be exploited using good practice. The exception is whether scaling should happen in new contexts. Then we need to move with care as solutions for complex problems cannot be copied from one context into another. The move-out phase then marks the end of a commitment, either because a pre-defined time frame has been reached or money envelope has been exhausted or because the goal has been reached to a satisfactory level.

Management of this type of arrangement needs a very close involvement of the donor organisation and a high level of trust between the donor and the implementing agency. Donors should, for example, not prescribe progress measures. These measures should be defined together with the implementing actor and possibly other stakeholders based on what makes sense for this particular initiative. Measures can be developed based on the intervention hypotheses and should be used as measures, not as targets. Some interventions might aim to increase income levels, others, participation in household decision-making – both possible expressions of reduced poverty. They should also not be fixed but under continuous scrutiny as to whether they are still suitable to show what we need to know. These measures should be treated as early warning signals that something is in fact changing in a particular direction, so that appropriate amplifying or dampening actions can be taken. Thus these measures are more useful for steering than for impact evaluation.

Adaptive management is essential and procedures need to be in place describing how the initiative's activities are reviewed and adapted. Transition from one phase to the other needs to be done dynamically and for each strand of activities separately. Go/no-go points can be included throughout the initiative where a decision would be taken to continue or not or if major adaptations are needed. The organisational set-up of the implementation unit could also be built up in an evolving way, starting with a small team that manages stakeholder engagement and monitoring, adding more competences as needed when going forward. Obviously, finding the right staff with the necessary skills and mind-set to implement such an approach will be a challenge. It is important to acknowledge that many experienced managers of development programmes have been doing what we propose in the preceding paragraph instinctively. They have learned the fine art of developing programme proposals and plans that appear to be specific enough to please head office and political decision-makers, while leaving sufficient room for flexibility and learning by doing.

The proposed approach for complex problems has not been tried in its entirety in donor-funded development initiatives. Thus, no complete case study exists. Nevertheless, a recent engagement can exemplify the sense-making step that determined that we faced a complex problem and the start of the change initiative with an exploration phase. A university

approached a development organisation for support to improve the positioning of its technology transfer centre as a broker between the academia and the industries. The facilitator started a sense-making exercise with different stakeholders exploring past decisions, hypotheses about what they thought was causing the current dissatisfaction with the institutional arrangements, and the proposals the different stakeholders had about the positioning of the technology transfer centre. From this short process it became clear that this was not a simple problem of how to improve the reporting lines between the centre, the academic department, the university innovation directorate and the industry. The problem was much more complex and caused by increased pressure on the academic department to show research outputs despite insufficient funding, pressure on the university management to improve the ranking of the university, and the need to keep the centre semi-independent and protected from excessive bureaucracy. At the same time, the industry that the centre was supporting was in a steep decline, requiring the centre to adjust its service offerings in order to remain valuable to industry. The facilitator took three senior managers who had the authority to resolve the issue on a very short exploration of alternatives. This involved speaking to key stakeholders within and beyond the university to identify possible alternative arrangements. Through this process of purposefully not seeking alignment, but searching for innovative ways to meet the needs of all the stakeholders, several options were generated. By exploring how these alternatives could be used it was discovered that many proposals were in fact not mutually exclusive. A few small changes to the institutional arrangements were made in order to experiment with the different options, with an agreement reached between the stakeholders to revisit the decisions and next options within six months.

4 Conclusion

This article is based on our experience in working in economic development and our study of complex systems sciences and complexity thinking. Until now, our work has predominantly focused on helping existing projects based in developing countries when they are stuck, or when they realise that their original planned approach is not yielding the desired results. In a sense, this is easier than trying to set up a completely new project that is following all principles and heuristics of emergent approaches. Thus, we need to take an experimental

approach to this as well. We need to find a donor that is ready to test these ideas and who can also absorb some failure before we arrive at a fine-tuned approach that works. Management and steering arrangements have to be developed and tested. The relationship between donor and implementer has to shift significantly from one based on top-down control to one that is marked with the motivation to achieve change together.

We cannot stress enough how important it is that, rather than imposing a solution, local development programmes are supported to introduce more variety and options into local programmes. In these programmes, stakeholders are confronted by a variety of market, network and firm-level failures that cannot be addressed through singular project interventions. For instance, low-income countries like Rwanda are attempting to improve the performance of their local manufacturing and agri-processing sectors. A wide range of development programmes is targeting different interventions aimed at different priority areas. However, we are not aware of any international support programme that is specifically trying to build responsiveness on an institutional level in Rwanda. This would include equipping universities, government programmes, industry associations, training colleges and other extension-like organisations to become more pro-active to the needs or constraints of the private sector and other institutions involved in development. If our strategic intent includes aspects like poverty reduction or environmental sustainability this would influence the selection of favourable changes. In Rwanda, many local organisations are involved as programme implementation partners, but the focus is on project delivery and not so much on adding value or building a wide range of institutional capacity. The local public and private stakeholders must be supported in a process of exploration for alternative ways to arrange interaction and cooperation between public and private stakeholders. This will also increase the resilience of any economy as the capability to work together to find solutions can also be used after a shock or change in environment, where a donor-designed new business model may no longer be viable.

We are convinced that it is worth going down this route as it will lead to development initiatives that are more transformative and lead to stronger and more resilient systems and overall we will achieve a higher level of impact and sustainability. We are not proposing a

blue print for future programme design and implementation, but ideas and suggestions that can be used and adapted to the specific situation when put into practice.

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