

Monitoring and measuring change in market systems –rethinking the current paradigm–

By Lucho Osorio-Cortes and Marcus Jenal



Synthesis

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To know more about MaFI, the MaFI-festo or the Systemic M&E initiative, please go to: <http://bit.ly/aboutmafi> or www.seepnetwork.org/marketfacil or contact Lucho Osorio, the facilitator of MaFI at luis.osorio@practicalaction.org.uk

Introduction

As is widely experienced, markets are not static, but in constant flux. The changes are not predictable and often surprising, even after thorough market analysis and strategic planning. Our interventions turn out results that were either unforeseen or unanticipated. This type of behavior creates specific challenges for monitoring and evaluation of development interventions. Changes in markets must be monitored and measured using approaches that embrace their dynamic and unpredictable nature. Advances in complexity sciences can provide useful principles and concepts to build the foundations of more effective and relevant monitoring and evaluation frameworks for both market and financial systems.

This paper is a synthesis of the work of the Systemic Monitoring and Evaluation (M&E) initiative of the SEEP Network between August and December 2012. The initiative, coordinated by MaFI (The Market Facilitation Initiative), brought together practitioners and academics to explore two issues:

- the **obstacles and challenges** that field practitioners face when trying to monitor and evaluate changes in market systems using the current linear, top-down, rigid, mechanistic paradigm.
- the **principles and guidelines** that can bring donors and practitioners together to build systemic M&E frameworks and tools that produce not only relevant evidence about their impacts on markets systems, but also appropriate and timely information for field practitioners to navigate the fast changing and unpredictable landscape of market systems.

Besides earlier and ongoing discussions on the LinkedIn group of the Market Facilitation Initiative (MaFI)¹, the Systemic M&E Initiative specifically featured the following events:

- A **three-day e-consultation** on USAID's Microlinks platform, exploring cutting-edge thinking about effective ways to measure impacts of market and financial development interventions.²
- A **webinar** where four experienced speakers discussed systemic approaches from the perspective of their own work. They came from the practitioner, donor and academic communities and focused mainly on issues regarding field implementation and M&E, organizational learning, financial access and networks.³
- The **opening plenary of the 2012 SEEP Annual Conference** titled "Measuring Impact in Market Systems: Rethinking the Current Paradigm". This plenary brought together practitioners and experts to explore cutting edge thinking and inquiry in effective ways to measure results of market and financial development interventions.⁴
- Two **podcasts** with experts in complexity thinking: David Snowden of Cognitive Edge and Shamim Bodhanya of the University of KwaZulu Natal. Snowden and Bodhanya talk about the challenges of dealing with complex adaptive systems and how we can master them by using approaches and tools from systems thinking and emerging approaches based on complexity sciences.⁵

This paper is based on a discussion paper published in October that was intended to promote online and in-person discussions. It follows the structure of the earlier paper and enriches it with insights and quotes from the e-consultation, the webinar, the podcasts, and the opening plenary of the SEEP Annual Conference.⁶

1. For more information on MaFI go to <http://bit.ly/aboutmafi> or <http://www.seepnetwork.org/marketfacil>

2. Explore the discussions here: <http://bit.ly/PSk7Ow>

3. Listen to a recording of the webinar here: <http://irgltd.adobeconnect.com/p5t6d9r63kj/>

4. Watch a recording of the plenary session here: <https://vimeo.com/54887176>

5. The podcasts can be accessed via the MaFI website: <http://www.seepnetwork.org/marketfacil>

6. Original discussion paper produced and edited by Lucho Osorio and Marcus Jenal. The original discussion paper can be accessed at <http://www.slideshare.net/marketfacil/systemic-mand-e-paper-3oct12>

Main obstacles and challenges with the current M&E paradigm

Excessive focus on *our* direct effects on the poor

Donors, parliaments and eventually taxpayers ask development projects to prove their direct impacts on the poor: how many schools or hospitals did WE build; how many cows or bags of improved seeds did WE deliver; how many training workshops did WE host and how many people attended; etc. The list of the inputs and services that we, the development agents, can deliver is long.

Box 1. Don't strive for local optima

The world is organized in subsystems aggregated into larger subsystems, aggregated into still larger subsystems. A cell in the liver is a subsystem of an organ, which is a subsystem of a human as an organism. The human is a subsystem of a family or a producer group, which again is a part of a value chain, which is a subsystem of the market. In systems thinking terms, this is called the hierarchy of systems.

Hierarchical systems evolve from the bottom up. The purpose of the upper layers of the hierarchy is to serve the purpose of the lower layers. To be a highly functional system, hierarchy must balance the welfare, freedoms, and responsibilities of the subsystems and the total system. As consequence we should not intervene in parts of the system to create local optima while ignoring the whole, e.g. helping one group of producers to strive without having a vision or the awareness of how these “localized” improvements will contribute to changes in the wider market system. This could have negative consequences for the overall functioning of the system but most importantly for the sustainability of our interventions. Our aim should be to enhance system properties, such as growth, stability, diversity, resilience, and sustainability – whether they are easily measured or not.⁷

Measuring our direct impacts on the “poor” is possible when using a direct delivery approach because the relationship between the provider and the receiver is straightforward and easily verifiable; consequently, it is possible to attribute changes at the level of the “poor” to a project intervention. These direct delivery approaches have, however, proven not to be sustainable. Therefore, there has been a drive for more systemic approaches to market development.

In the e-consultation, the difficulties to satisfy the demand for visible, direct changes within the poor when using systemic approaches were discussed. Explicitly mentioned were issues of *additionality*, *attribution*, and *timing*.

Systemic approaches aim to catalyze change, inducing spillover effects to indirectly drive and scale up change. This poses a challenge to attribute changes to the project, as external factors have an increasing influence on scale and nature of change further up the results chain. Similarly, programs facilitate the behavior of market players who in turn incentivize others to behave differently. With this approach, the distinction between groups that are “treated” and “untreated” is not always clear, and it is difficult to distinguish which target groups are actually driving change. Finally, measuring change over time is difficult because of variable timescales for different interventions to take effect at different points in the results chain, feedback loops and delays of visible impacts beyond the project’s lifetime.

Detailed planning and standardized result measurement frameworks are believed to help development projects to plan their impact on the poor and measure it afterwards. Causal models or results chains are used to connect

7. Donella H. Meadows (2008): Thinking in Systems. A Primer. Edited by Diana Wright, Sustainability Institute. Chelsea Green Publishing, White River Junction, Vermont. Pages 82-85 and page 178.

project activity and expected results. M&E approaches, procedures and tools focus on collecting information along these results chains, on numbers of beneficiaries, and changes at beneficiary level.

The pros of causal models

In the e-consultation, some practitioners advocated for the use of causal models to describe the intended impact from project intervention all the way to the target population. They argued that these models enable the project to be explicit about what they do and why and guide discussions within the project team, and with donors and project partners.

Mike Field, a presenter in the webinar, showcased the monitoring framework of his project which is successfully using results chains as an integral part of the project's learning framework. Instead of a focus on results, the results chains used in Field's project are focusing on processes that are needed to reach the intended change at the level of the poor and allow the project team to reflect whether these changes are actually happening.

Box 2. Arguments for results chains

"Results chains are a means of illustrating and explicating our ideas about how a particular intervention or set of interventions is going to lead to changes in our environment" (Christian Pennotti, Care USA; taken from the online discussion)

"We use results chains not for the design of an intervention, but as a tool to graphically synthesize what is in our heads. Results chains reflect rather the way, we (should) think: formulate a causal logic and the assumptions. Hereby discussion of relations between 'boxes' gives the main value. A results chain can be very complex, or rather simple, as long as it reflects our ideas. When we think of a systemic change of a market, we have some decisions to make: which constraints do we address, which target group shall benefit, what would be the benefit for the target group, what the business case for our partner or other market actors, etc. These decisions can be formulated in narrative form but a results chain has proven to be complementing a strategy very well." (Markus Kupper, Katalyst; taken from the online discussion)

The cons of causal models

Some participants of the e-consultation see that the quality of the monitoring using results chains is still weak. They were concerned that programs struggle to comply with even the basics of impact reporting with some degree of credibility. This is attributed firstly to the capacity of the project staff to implement the M&E frameworks they adhere to and, secondly, to the low priority given to monitoring in project management. As a consequence, some participants advocate for further simplification of the methodology.

Besides that, there is a more fundamental critique against these detailed causal models. From a complexity theory point of view, the design of detailed causal models can, firstly, lead to a premature selection of one or more solutions that make sense to the donors and NGOs at the expense of solutions that make sense to the stakeholders that require processes of participation, convergence and co-creation and that, in most cases, cannot be predicted in detail. Secondly, the complexity of the situations often eludes the capacity of project teams to accurately understand the dynamics and derive a logical intervention strategy and all its possible consequences on the system. These participants argue that simplification must not be done by reducing, negating or ignoring complexity but by accepting it and embracing it.

"Linear' approaches to M&E would draw the boundaries (important systems concept) too tight and would therefore ignore or minimize spillover effects and hence tend to undervalue structural changes and other spillover effects that were not within the boundary at conceptualization of an intervention." (Shamim Bodhanya, University of KwaZulu Natal)

From this perspective, there is a need for new approaches that are able to embrace the complexities of reality while at the same time avoid being overly formalistic and burden the project staff with additional work. As causal models are seen as very beneficial by practitioners, they should be able to use them but with the understanding that such models are artifacts that need to evolve as the understanding of the project evolves. Monitoring systems have to become useful for the project staff in fostering this understanding and be an integral part of their work.

Excessive focus on extraction of information for accountability to the donors

In most cases, accountability is translated into an act of keeping track of the resources delivered into the system and demonstrating their positive and direct effect on poverty indicators such as income and employment levels. In direct delivery models, attribution of changes to project interventions is relatively straightforward; in systemic approaches, it is a challenge. Although in practice, more systemic approaches are emerging, the belief in this type of upward accountability is still strong because it gives NGOs, donors, parliaments and taxpayers a comforting sense of control over the implementation process and certainty about the outcomes of their development initiatives. This is needed by the whole development “industry” to survive in a demanding political economy exacerbated by global recession.

In contrast to direct delivery approaches, systemic approaches try to understand how change is happening in a system and how the project can facilitate or catalyze these processes of change. The indicators currently demanded to satisfy accountability towards the donors, however, are not able to show how change is happening nor are they good at describing the future capacity of the system to generate desirable outcomes on an ongoing basis, i.e. measuring the sustainability of the project’s interventions.

Box 3. Example of a learning project

Mike Field explained in the webinar how his project is geared towards learning:

“Essentially what we do is to track the process of change instead of just the end results. To do this properly we need to be able to learn as fast as possible and establish learning cycles with as much real time data as possible that show you what change is happening in the system. It is therefore critical to set up a really good learning framework that will help you structure your actual implementation activities. It is critical to structure your interventions within this learning framework. With that knowledge, we are producing a theory how we expect change is going to happen.

“Results chains are our best guess of how the process of change would look like, what kind of components of change we would like to see. The results chains are our primary learning framework. Discussions will be structured around what change has already happened or what expected change has not happened. This would lead us to reflect on the results chains or even the theory of change.

“Essential indicators for change that we use are grouped around performance (capacity and practice), rules and incentives, relationships, and ownership of the process. We have a package of tools to do that. We then quite explicitly try to track how these changes relate to the results chains.”

In the reality of the field, practitioners are dealing with highly complex and dynamic economic, social and cultural systems and trying to navigate fast changing and in many cases unpredictable landscapes of opportunities and risks. Current M&E systems catering for upward accountability become an additional burden of data collection – most of which is meaningless, irrelevant or outdated, tied to predefined and rigid work plans and log-frames, and decoupled from realities and needs on the ground. These systems do not support adaptive project implementation. Attribution of changes to project interventions is done using extrapolations based on alternative scenarios of how things would be without the project or by employing highly expensive randomized control trials, which are questioned for their applicability in complex social settings.

Box 4. View on current M&E frameworks

"The need for accountability led us to pretend that we know more about [how projects can promote change] than we do; that results are reliably achieved by standardized approaches that are not well tailored to their specific contexts; and that measuring these results is fairly straightforward" (Stacey Young during the webinar)

"One: despite all the lip service given to M&E, it remains the poor step-child relative to operations and other project priorities—when push comes to shove, and people are under stress with little time to implement the project activities, M&E just doesn't rise to the top of their priority list but rather the opposite. Two: M&E, particularly in the USAID world, tends to be overly formalistic and geared toward its accountability function; this in turn affects the cultural attitudes toward M&E which in turn affects how we train people in it. Three: as a further result of 1 and 2, M&E rarely functions as a true management tool, it's something to get done to satisfy the donor, which in turn, brings us back to number 1 above, and so the cycle continues." (Gary Woller)

"Is attribution possible? Can ABIF (where I work) measure changes in household incomes in Afghanistan over (let's say) the next 5 years, and plausibly argue that the results of a certain intervention in this tiny project can somehow be isolated from all other influences on the lives of our target group (from the weather, to the road building program, to the capacity building at the Ministry of Agriculture, to the educational advances of the last ten years, to the improvement in electricity supply, to the changes and regional variations in the security environment, to the improvements in local governance... etc. etc.)? I challenge anyone who believes this is possible to show me how!" (James Blewett in an earlier discussion on MaFI)

"You are dealing with a complex adaptive system which doesn't have linear causality but is multi-modulated. So one of the things you have to start to show donors is how their funding [...] had a positive impact on the area but you can't show actual attribution because it's dependent on other things that are going on at the same time." (Dave Snowden, Cognitive Edge, from the podcast).

Upward accountability tied to quantitative changes at beneficiary levels creates inappropriate incentives for the project managers and implementers on different levels. Firstly, the focus on changes at beneficiary level has incentivized project managers to directly intervene for the poor, creating local optima, mostly ignoring the need for optimization in the wider system to make the intervention sustainable and scalable. Secondly, deliverables and impact targets that are defined during the planning phase incorporated into planning tools and contractually fixed by the donors and the implementers give strong incentives for the implementers to try to control the evolution of the system to make it fit within the agreed plans, instead of promoting adaptive management that "flows" with and leverages the energies of the system. As pointed out by Dave Snowden in the podcast, this has been generalized by Professor Marilyn Strathern's variation of Charles Goodhart's law: *"When a measure becomes a target, it ceases to be a good measure"*. Or as Donella Meadows puts it: *"Be especially careful not to confuse effort with result or you will end up with a system that is producing effort, not result."*⁸

Box 5. Achieving change in complex systems

"The single biggest shortcoming of non-systemic approaches is that they keep the people they are supposed to benefit out of the driver's seat in their development process. This indicates a problem with lack of sustainability but also hints towards an ethical problem with these approaches to development. Traditional approaches to M&E are not only a reflection of this problem but also a driver of it. The kind of issues we face around accountability drive a particular approach to monitoring and evaluation which in turn drives a particular approach how we choose and shape our development assistance, both its mode and its implementation." (Stacey Young during the webinar)

"There is no linear process of change. Change happens through some momentum where, from actor to actor, or from one interconnected system to another, people start picking up on those changes and we can really track the momentum. Key to that is really having fast cycles to identify where change is still going and being able to support it where it has trailed off. We can identify where we have to insert ourselves in a way that would create a greater ripple effect built on the momentum. We catalyze momentum in internal change process as opposed to an external change process. This essentially guarantees ownership of the change process by local actors." (Mike Field during the webinar)

.....
8. Meadows (2008), p. 140.

Sustainability understood as longevity of *our* legacy

The understanding of sustainability as the permanence of what development agents do or provide to the poor (i.e. the persistence of the *local optima*) drives the project cycle and the design of M&E frameworks. The goal is to prove that positive changes in poverty indicators within the target population will persist beyond the project and by virtue of the project's deliverables. The dynamic and complex nature of market systems is, however, incompatible with this approach: prices change, industries strive or collapse, droughts devastate crops, new technologies or business models destroy jobs, etc. Too much focus on the permanence or longevity of what development projects provide distracts donors and implementers alike from building and measuring the ability of the market system actors to create their own solutions to withstand current and future shocks and adapt to changes that are very difficult to foresee.

Box 6. How practitioners approach sustainability

"The concept of sustainability comes from a very linear way of thinking: this is what we have done and we need to make sure that it continues. We now know that the world changes all the time. The concepts of resilience and adaptation are more appropriate." (Jason Wolfe in an earlier discussion on MaFI)

"Where individuals in a community have the option to identify opportunities and take the type of action they wish to and that their decision for action is based not only on the identified opportunity but also on what they as individuals are passionate about doing there is a much greater likelihood of sustainable action." (Chris Pienaar in an earlier discussion on MaFI)

People have been conceptualizing sustainability as systemic change, i.e. fundamental changes to the way that a system like a value chain looks and the way it operates. Three examples of such changes are new or better relationships, learning and adaptation, and broadening of benefits. So sustainability is essentially an emergent property of a system." (Elizabeth Dunn during the SEEP AC opening plenary)

Seven principles to build usable systemic M&E frameworks

In this section we present seven principles based on complexity theory and systems thinking and on the premise that systemic M&E approaches, procedures, tools and incentives have to be designed and used to monitor and measure systemic change. Understanding and applying these principles will help project staff to understand their own situation in the system, see their ability to promote change, and tune them to changes they observe in the system.

Systemic change is defined as transformation in the structure or dynamics of a system that lead to impacts on large numbers of people, either in their material conditions or in their behavior.

The original discussion paper proposed five principles that were presented to practitioners during the e-consultation. The discussions led to modifications in the formulation of the principles and the splitting of two principles into four. Some of the reactions of the participants in the e-consultation are also presented below.

The principles are intended to promote debate and convergence between donors, researchers and practitioners in the field of inclusive market development about how to build fully-operational and user-friendly systemic M&E frameworks.

Principle One: Indirectness of impact

In interventions that are systemic all beneficiaries are indirect because their context, relationships and possibilities to access tangible and intangible assets are affected by the system itself, not by the project. The relatively few market actors with whom a project engages directly are in fact *collaborators*.⁹ A project enables these collaborators to test new ideas, demonstrate benefits, mobilize large numbers of other market actors, etc. Collaborators actually work with the facilitators to transform the structures and dynamics of their market system. Examples of collaborators are lead firms, farmer groups, policy-makers, supermarkets, etc. In other words, collaborators are those with whom the facilitator interacts directly to promote or catalyze changes in the structures or dynamics of the market system.

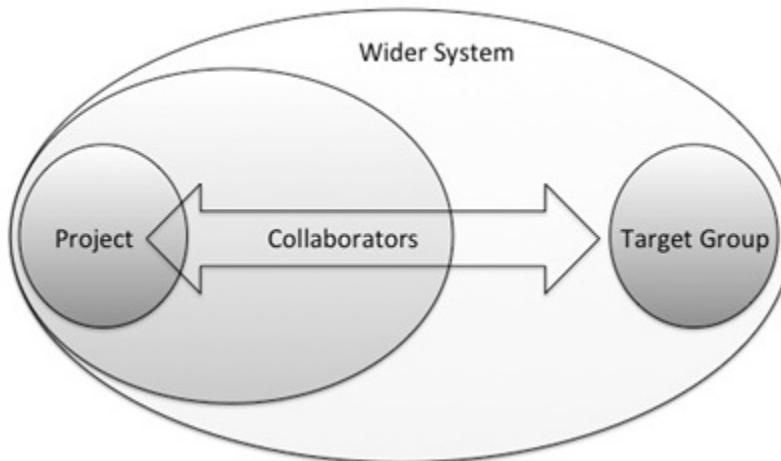


Figure 1: Indirect impact of the project. In systemic interventions, impact at the target level is achieved through collaborators and the wider system.

The original formulation of Principle 1 –that in systemic interventions all beneficiaries are indirect beneficiaries- triggered some disagreements during the e-consultation. However, there seems to be a general agreement that there are in fact *direct* beneficiaries but that we need to be paying more attention to the *indirect* ones (i.e. those benefited by an improved market system).

9. The terms “partners” or “allies” could also be used but the former has been widely used to refer to NGOs and the latter has war/conflict connotations.

This supports the point made above that we need to move from the focus on creating local optima towards facilitating improvements in the whole system, so that change is affecting more people, including the most marginalized. This, however, leads us back to the **definition of systemic change** as transformations in the structure or dynamics of a system that leads to impacts on the material conditions or behavior of large numbers of people.

Therefore, projects have to aspire to systemic changes, reaching target populations indirectly. Consequently, the focus of M&E has to shift from counting direct beneficiaries or assessing direct impacts at beneficiary level to a broader view of changes in the structures and dynamics of the market system with indirect effects on the target populations.

"[...] Our current over-emphasis on direct beneficiaries pushes us to pay attention to the wrong set of people in the system – they are important but they should not be the end goal. We need to be placing much greater emphasis on indirect beneficiaries – who we intend them to be, how we anticipate our probes will reach them, etc. If we shifted our accountability from reaching direct to reaching indirect beneficiaries that would be a very valid and game-changing shift."
(Christian Pennotti)

Principle Two: Depth of impact

From a systems perspective, change can take place at different structural levels. If most changes are related to *stocks and flows* of goods such as number of trainees, beneficiaries' incomes, number of packages of seed sold per month, liters of milk produced by a farmer's cows, or number of new jobs created, we know that sustainability and scalability will suffer. Current M&E practices rely heavily on the use of such superficial indicators. These indicators are useful to detect changes in the system but they take place at the most superficial levels and can therefore be produced with relative ease by the presence and investments of external development agents.

Superficial changes in the system expose market actors to a high risk of relapsing to their earlier (pre-project) states or even worse states such as dependency on donor funding or conflicts and job losses due to inappropriate project subsidies to name just a few.

Focusing the attention on these superficial changes creates a false illusion of success that can easily mislead donors when deciding where, how much and when to invest, and practitioners when deciding how and when to act, what and how much to subsidize, and when to exit. Systems thinking offer us clues to assess the relative depth of impact of our interventions and of the actions of market actors themselves.

One example of a classification of entry points was proposed by Donella Meadows in 1999. Originally, Meadows proposed this classification as a way to get us to think beyond the usual manipulation of "small" parameters such as how much money farmers have in their pockets, how many beds there are in a hospital or how many mosquito nets an NGO distributed in a village, because these are "way too *puny*."¹⁰ It was in fact "an invitation to think more broadly about the many ways there might be to get systems to change".

Some examples of Meadows' deeper entry points are the structures of distribution of physical inputs; how fast information flows and who has access to it; rules and incentives; the goals of different groups of actors; and even the capacity of the actors in the system to question their own paradigms!

These entry or leverage points are "places within a complex system [...] where a small shift in one thing can produce big changes in everything". However, we should avoid falling in the temptation of believing that we can predict where the best leverage point will be (this would wrongly assume a static view of a market system) or that some

10. All quotes in this paragraph and the original list of leverage points are from Donella Meadows (1999): *Leverage Points: Places to Intervene in a System*. The Sustainability Institute, Hartland, VT.

leverage points are absolutely better than others (this would wrongly assume no interactions or synergies between leverage points). Although Meadows also finds that often intuition helps us in identifying leverage points but at the same time warns that, instinctively or unknowingly, we often end up pushing these points in the wrong direction.

The best entry points are constantly opening and closing with changes in resources, *collaborators* or stakeholders involved, investments made by different market actors, etc. This is another reason why helping project teams to learn and adapt faster and collaborate better with other projects and market actors is so important.

A full discussion about leverage points is beyond the scope of this paper, however, one of the reasons why Meadows' classification of leverage points is important in the context of systemic M&E is that it can be turned into a classification of indicators to assess the depth of impact of our interventions and to detect changes in the structures or dynamics of the system at different depths. This can in turn be used to infer trends towards sustainability and scalability. As Meadows said it, "this is work in progress". We can adapt this classification or create new ones that are appropriate for the field of inclusive market systems development and we should test and adapt them to our needs.

In practice, this means that we need to pay closer attention to deeper and more structural changes in the market system, such as creation of new networks, associations, or business models; increased access to information; shifts in power dynamics; collaboration around jointly agreed objectives, etc. Information about what goes on at deeper levels of the market system can be used to determine whether the system is changing its trajectory towards a horizon of more inclusion, productivity and efficiency, and whether it will stick to its new course beyond the life of the project.

Principle Three: Network-driven change

In a systemic intervention, the facilitator engages a set of networks composed of public and private market actors. These networks are the real drivers of systemic change; not the facilitator.

The original formulation of the principle was: "the facilitator does not change the market system; the actors with whom the facilitator collaborates do". The modification was necessary to accommodate experiences from the discussants regarding the fact that the mere presence of the facilitator in a market system can change it (e.g. through changes in the expectations of the stakeholders or information provided by the facilitator to the stakeholders about technologies or practices). This is further explained in Principle 5 here below. Nevertheless, there was broad agreement that the facilitator itself should not be seen as the long-term driving force, but as an enabler or catalyst of changes that are produced and owned by the system's stakeholders.

To some extent, principle three reinforces principle one by saying that sustained, deep and pervasive change in the market system cannot be driven by the project but by the system itself; it links us back to the question of indirect beneficiaries and widespread change.

The problem with widespread changes that are owned and sustained by large numbers of market actors is that the more success the project has, the harder it becomes to establish causality! As the distance between the facilitators' direct sphere of influence and the intended target groups increases, three things increase exponentially: the number of both steps and actors in the causal chains and the number of uncontrollable forces that influence them. In other words, in a complex system, the further away the cause is from its effects, the harder it becomes to establish causality in a plausible way.

In order to overcome this problem, this paper proposes to use an approach of proving the effectiveness of projects using information about:

- The effects of the project on its immediate sphere of influence: the collaborators and their networks
- The effects that the collaborators' networks have on the system
- Key characteristics of the structure and dynamics of the wider system that nurture the dissemination of change throughout the wider system

Effects of the project on its immediate sphere of influence: collaborators and precursor networks

Systemic change is driven and sustained by the system – not by the project. Projects, however, can change the evolutionary path of the system through their influence on specific public and private markets actors: the collaborators. These actors operate, thrive or survive in the system thanks to their connections with and influence upon networks.¹¹ In fact, no matter how powerful or influential individual actors are, they always need the connection to other actors to achieve their objectives within the system. Changes in the dynamics and structures of the system to make it more inclusive, productive and efficient in the long run are disseminated and enabled through networks. A precursor networks, as they are proposed in this paper, are the networks that are in the more or less direct sphere of influence of the project's collaborators.

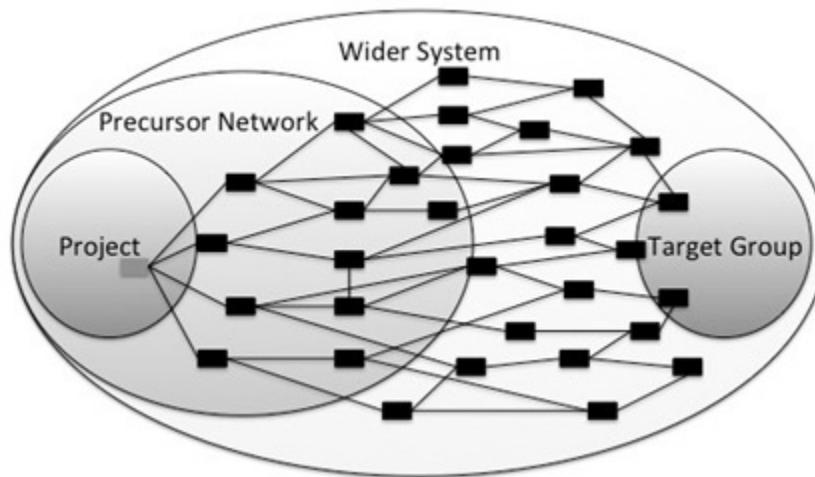


Figure 2: The project influences the wider system through groups of collaborators who are in turn embedded in one or more networks (precursor networks).

Consequently, the role of the facilitator is to kick-start, changes in the system through their work with collaborators and the precursor networks. Changes in the precursor networks are thereby determined to a significant extent by behavioral changes of the collaborators. The project can sustain or amplify widespread structural change by facilitating the precursor networks proliferate change into the wider system.

Precursor networks can be formal or informal, highly hierarchical or flat, small or large, and they can have a very short or long lifespan. In any case, they create spaces, opportunities, incentives and routines for market actors to learn from one another; align their objectives, strategies and activities; pool and leverage resources; experiment with new ideas and disseminate the successful ones throughout the system, etc.

Examples of collaborators and their precursor networks are lead firms and their supply chains, chambers of commerce and their members, farmer associations and their members, etc. Even when it seems that the facilitator engages an individual in the process of change, for example a lead firm, the reality is that changes in the system cannot happen without the individual mobilizing one or more precursor networks, e.g. the lead firm's supply chain.

11. The project influences the wider system through groups of collaborators who are in turn embedded in one or more networks (precursor networks).

12. <http://www.slideshare.net/marketfacil/fan-approach-wielinga-apr2011>

Box 7. The Free Actor Network (FAN) Approach (from Eelke Wielinga's presentation in the webinar and email communication)

Instead of the classical approach that follows the sequence of mission, targets, instruments, competences, performance indicators and finally people that lead to change, Wielinga proposes an approach that starts with the people, their ambitions and their dreams, and helps them to connect to create energy for targets and missions that are relevant to them, leading to changes that matter to them. A shared mission is the result of a good process, not the start of it. Central to a functioning network are special individuals called "free actors" who play an important role in keeping the network alive and vibrant. They are everywhere; "just look around! What networks give you energy and satisfaction? Probably you can identify at least one person who does just a bit more to keep the spirit, to keep people connected, and to maintain the energy level. [They feel] free to do whatever is needed to keep the network vital, with or without a mandate to do so.

"The Free Actor position is distinct from change agents, managers and suppliers. Here it is important to distinguish FUNCTION (the formal mandate in a structure), ROLE (what people perform, at least try) and POSITION (what they acquire in interaction with others). Someone with a function of manager, supplier of change agent can acquire the Free Actor position, thanks to [their] performance for which [they are] trusted by the others. It is also possible to give someone a function (for example as facilitator) that makes it easier to become a free actor. But the function of Free Actor cannot exist: that would require a task description with a mandate, and that is by definition what a free actor does not care about

"If we want to work on what really matters to make networks function properly we need different kind of tools and a different kind of language. We are used to concepts like management and control, hierarchy, planning, risk management. What we need are tools to navigate unknown areas, to recognize patterns, to have options to intervene.

Wielinga presented some tools that have been used in the facilitation of networks such as the Circle of Coherence, the Triangle of Co-creation and the Learning History Method. The methods and tools are described in the FAN (Free Actor Network) approach.¹²

Effects of precursor networks on the system

A better understanding of how precursor networks can be created, sustained or improved and how they drive change throughout the market system is possible¹³ and will allow development agents to improve the design and implementation of their interventions. However, in order to understand the impacts of the project on the wider market system it is also necessary to monitor and measure the effects that the precursor networks have on those parts of the system under their direct sphere of influence (e.g. a lead firm on its suppliers, a cooperative or chamber of commerce on the relationships between their members, etc.).

Structure and dynamics of the wider system

Accepting that it is impossible to know a system in its totality, it is nevertheless useful to know some critical aspects of its structure and dynamics that will promote or hamper the dissemination of appropriate innovations produced by the activity of precursor networks throughout the wider system. Some of these aspects can be known through studies, project staff, consultants and market actors. Examples of structures are: legislation, rules or social norms that enable or hamper the dissemination of certain types of knowledge or business ideas; population density of a group where the dissemination of ideas is required; existence of transport or telecoms infrastructure; etc. Examples of dynamics are: expected rate of adoption of new ideas within a given target group; consumption and investment patterns; rate of asset transfer within extended families; etc.

This is one of the areas where more research is required in order to understand the relative effects of such structures and dynamics on the innovations produced by the precursor networks.

13. It is possible to design indicators to monitor and evaluate how networks evolve and perform. See for example the "nine indicators of growing networks": <http://networkweaver.blogspot.co.uk/2010/09/9-indicators-of-growing-networks.html>

Principle Four: Unpredictability

The highly dynamic and unpredictable nature of market systems undermines the effectiveness of tools and approaches that are currently used in market development, such as long-term strategic analysis and planning, log-frames, or fixed indicators and goals. These tools and approaches are based on a world of relative stability and predictability, and repeatability of causes and effects.

In a complex system you don't know where the good outcomes will be and sometimes we don't even know what a "good" outcome looks like. (Dave Snowden, Cognitive Edge, from the podcast with Marcus Jenal).

In order to deal with the dynamism and unpredictability of market systems, new approaches need to be built on the principles of variation, experimentation and adaptation. To implement these approaches, successful projects also require skillful facilitators who can sense and adapt to conditions on the ground and respond appropriately and swiftly to the actions, intentions and fears of market actors – some of which are generated by the presence of the project itself.

The systemic M&E frameworks required by the field market development should not only provide evidence of impact to the key development agents, but also fast, reliable and relevant information to the facilitators to help them navigate the "systemic jungle" effectively, for example: taking advantage of unforeseen opportunities, minimizing conflicts and operational costs, leveraging the resources of public and private market actors, contributing to deeper impacts, etc. Systemic M&E is needed not just for "proving" but also for "improving".

Furthermore, the facilitators' responsiveness and ability to navigate the inherent unpredictability of market systems is not only determined by their skills and knowledge but also by the organizational environment they belong and are accountable to: their project team, their organization, their professional associations and networks, the donors, and, of course, the M&E frameworks, tools and procedures that the facilitators are required to use.

Flexibility, rapid learning systems and effective collaboration between facilitators, NGOs and donors were recognized throughout the three days of discussion in the e-consultation as key requisites to deal and navigate the uncertainty of complex systems. However, much more needs to be discussed about our ability to understand and forecast trends and patterns of change; and more importantly, about the incentives and disincentives that are forcing development agents to pay excessive attention to highly unpredictable micro-changes at the expense of more predictable trends and patterns of change at the meso and macro levels.

Principle Five: Sensitivity to external signals

In the original discussion paper, the third principle stated that "the facilitator does not change the market system; the actors with whom the facilitator collaborates do" and the fourth principle that "complex systems behave in extreme and unpredictable ways and are sensitive to the presence of the project". These formulations created an apparent contradiction that was raised by Christian Pennotti: How could it be possible that the facilitator does not change the system but at the same time that the system is sensitive to the facilitators' presence and the project interventions? Pennotti added: *"we cannot own any systemic changes over time but we certainly can influence their trajectory of the system's behavior and that is in fact our whole intent, no?"*

The online discussion and the plenary brought about important insights about the relatively high sensitivity of the system to the presence of the project; no matter how good or light-touch the facilitation is done, how well the stakeholders were selected, or how "smart" the subsidies are used. Marcus Jenal highlighted that "we change the system from the moment we even make explicit our intention to intervene in it". There was a general recognition of

how important it is for facilitators to tread carefully and be flexible and nimble.¹⁴

This principle is a consequence of the fact that market systems are *open* systems. This is why putting boundaries is –and will always be– an artificial exercise; but a useful and critical one nevertheless. Who is part of the systems and what forces or factors should we take into account are fundamental questions for any facilitator of inclusive markets. The key is to draw boundaries that will contribute to long-term, wide-spread poverty reduction, environmental protection and adaptability of the whole system.

The principle of “sensitivity” should be a permanent reminder of how important it is for facilitators to strive constantly for the elusive ideals of neutrality, adaptability, learning and light-touch intervention. Only through this discipline will facilitators minimize the perturbations on the system.

Principle Six: Information deficit

In his presentation during the opening plenary of the SEEP Annual Conference, Shamim Bodhanya warned us that “[n]o agent can stand outside the system in its full complexity and design a [sustainable and scalable] way forward.”¹⁵ No actor –no matter how powerful or well resourced– can know everything about the system at any given point in time. In fact, each actor knows very little about the system when all possible variables are considered in realms that go from the psychological to the macro-economic. The situation is so problematic that we do not even know if there are missing variables that are having important effects on the system: we do not know what we don’t know!

According to Bodhanya “[t]his has serious implications for us as designers, strategists, [facilitators, evaluators.] etc. We cannot locate ourselves outside the system; we are always part of the system. If we make the distinction between thinkers and doers, between planners and implementers we are fundamentally wrong. Every one of us is implicated in the outcomes [...] For market facilitators, we must be aware that it is not facilitation of, but facilitation with.”

This principle reinforces the need for participation, learning, and flexibility in inclusive market systems policy and practice.

Participation: Effective facilitators must constantly identify and engage the actors that will improve collective understanding of a system to an “operational” level; in other words, solutions that are developed with the system actors have a higher chance to succeed in changing the structure of the system towards higher levels of inclusion, productivity and adaptability.

Learning: The only way to deal with the inevitability of information deficit is by improving the collective ability of the facilitator, the collaborators and their precursor networks to constantly learn from their contexts and from one another faster, and to learn enough about what is required to increase the capacity of the collaborators and their precursor networks to influence the evolutionary trajectory of the system.

Flexibility: not being able to know everything about the system and not knowing what we do not know seem already like insurmountable obstacles for donors, implementers and market actors alike, but things get even harder when this principle is combined with the one of Uncertainty. In such scenario, there is not only lack of information about the system in the present but also about how the system will behave in the future (even in the short-term).

14. The discussions led to the splitting of the original principle 4 into the new ones of Uncertainty and Sensitivity that appear in this version.

15. Bodhanya’s ideas were initially part of the original principle 5 but it made sense to split it into two to accommodate fundamental differences between the ideas of systemic sensitivity and information insufficiency.

The only way to deal with these challenges is through flexible organizations, project teams, project designs and facilitation processes that engage the right actors and create the right conditions for collaborators and their precursor networks to be more flexible. Flexibility in this context depends on the diversity of assets available to the donors, the implementers and the market actors alike, and their ability to deploy and recombine them quick enough to maximize their effects on the evolutionary trajectory of the system.

Note that the principle of “information deficit” is not the same as “information asymmetry” which is already part of the edifice of mainstream economics and contract theory.

Principle Seven: Sustainability as adaptability

As mentioned above, one key aspect of systemic M&E frameworks is the focus on how the facilitators are influencing the performance of precursor networks and how these networks are moving the system towards a desirable horizon of more inclusion, productivity and efficiency. Additionally, it is important to assess if the system is building up the necessary conditions to avoid or minimize future shocks and benefit from new trends whilst staying inclusive, productive and efficient.

Predicting how a market system will react to a shock is practically impossible, no matter how much computational power or how much information we have about its past behavior. It is, however, possible to assess if a system is becoming more or less adaptable – and therefore more sustainable. A better understanding of how a market system builds up and maintains resilience and adaptability would provide important information to design appropriate systemic M&E frameworks. In other words, M&E frameworks that pay attention to the structures, dynamics and parameters which would in turn allow development agents to assess trends towards more or less sustainability.

Regarding this principle, Markus Kupper wrote during the e-consultation that “adaptability may designate in general that any market system is flexible” and then referred to his experiences in Katalyst where they “define the stages adoption, adaptation, expansion and response (by other than market actors involved in the core transactions).” He continued saying that “the dimension [of] sustainability is linked with expansion and response. This considers that it is not sufficient for a fundamental market change, if a small number of partners of a project is adopting (or adapting) a change.”

Conclusions

This paper introduced three issues that were brought up consistently by market development practitioners in various discussions. Through further discussions, an online webinar, and a plenary session in the SEEP Annual Conference 2012,

We need a change of paradigm

The discussions reinforced the validity and relevance of the three issues or challenges that inclusive market development practitioners face today, namely:

- Excessive focus on *our* (the project's) direct effects on the poor
- Excessive focus on extraction of information and accountability to the donors
- Sustainability understood as longevity of *our* (the project's) legacy

Rather than small adaptations to current M&E thinking and practices, those three issues call for a radical rethink of the dominant M&E paradigm. Indeed, the current paradigm was built upon the illusion that we can control the evolution of complex socioeconomic systems (such as markets) and therefore, must be replaced by one that embraces their complex, open and adaptive nature. Such paradigm change will not only have deep repercussions on how we monitor, evaluate and learn in our projects but also on how we design and implement them.

On the other hand, the discussions also reiterated the importance of avoiding seeing complexity as yet another panacea or silver bullet, but as a very important "lens" to make more appropriate simplifications and models, obtain more and new useful insights about the systems we work with and increase the effectiveness and efficiency of our work as facilitators of inclusive market systems. The adoption of complexity should not lead us to ignore the other useful "lenses" or approaches such as facilitation, participation, game theory, anthropology, sociology, behavioral economics, political economy, etc.

However, one overarching idea that seems to withstand the test of ongoing debate and is seen by most discussants as fundamental to effective market development practice is that of *systems*.¹⁶ This idea is not new to development but, thanks to conceptual and technological developments in the field of complexity and computer sciences, it is becoming a more structured, measurable and formalized field.

We are converging around a set of principles to design and use systemic M&E frameworks

The discussions are also helping the participants to converge around a set of principles that could be used to design and use systemic M&E frameworks that respond to local contexts and needs, namely:

- Indirectness of impact
- Depth of impact
- Network-driven change
- Unpredictability
- Sensitivity to external signals
- Information deficit
- Sustainability as adaptability

16. Complexity and systems are not equivalent or inseparable. There are systems that are not complex, adaptive or open; for example a mechanical watch.

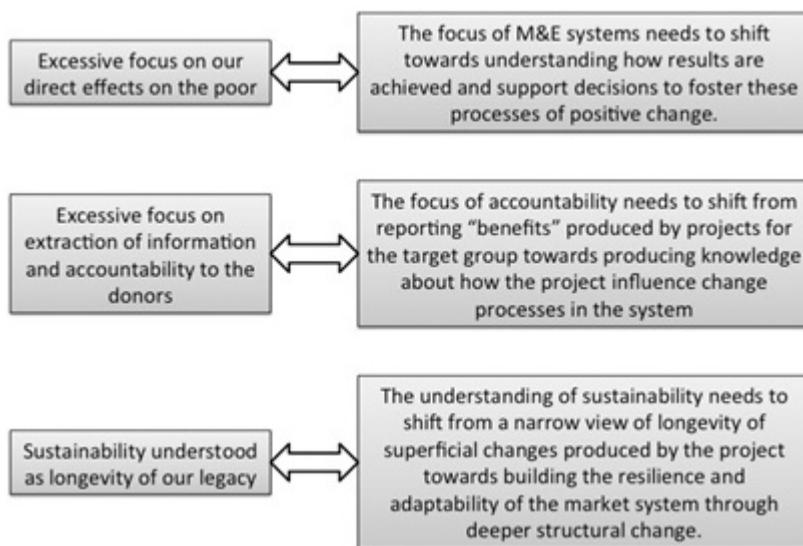
It is probable that, as the conversation moves forward, we will continue to improve, adjust and enhance them.

The adoption of such principles is not without its technical challenges for NGOs, donors and even market actors. These challenges range from the articulation and graphic representation of key concepts to sustained changes in behavior and organizational culture; and the design and management of fast and adaptive learning, communication and collaboration systems.

Both practitioners and representatives of donor agencies agreed that more flexibility to implement projects using a facilitation approach and adaptation to local contexts through continuous learning is needed. Strict, cumbersome or bureaucratic requirements for accountability of direct benefits on the “poor” inhibit projects from leveraging unexpected or hidden resources within the system or from responding to unique windows of opportunity that remain open for very short periods of time. Projects are restricted by strategic planning and strong incentives to force the production of outputs and outcomes that match predefined, static goals while the market systems they are trying to influence keep on changing.

Possible ways forward

Based on the discussions with the practitioners and taking the seven principles as a guideline, we propose for each of the three issues a possible way forward. These should be seen as basis for discussion, not as a prescription of any kind.



We are realizing that the biggest obstacles are political, not technical

Despite the technical challenges, there is a wealth of tools and techniques that can be adopted or modified with relative ease to overcome them. From mainstream or time-tested techniques such as rapid appraisal, community asset mapping, participatory video and storytelling, Most Significant Change, scenario planning, and participatory monitoring, to more recent adaptations or even brand new approaches, tools and techniques that incorporate different aspects of complexity and systems thinking, such as Cynefin framework, Sense Maker, Participatory Market System Mapping, circular dialogues, strategic area assessment, outcome mapping, Systemic Insight, etc.¹⁷

The adaptation, creation, combination and testing of tools and techniques to do systemic M&E effectively may be a tricky (and exciting) prospect in some cases but this is not the real challenge. The real challenge is political.

The aid industry, even the part of it that is allegedly working on sustainable development, has evolved for six decades upon the paradigm of poverty as a problem that the developed countries can fix, provided that there is enough expertise, technology and money. The values, incentives, institutions, frameworks, tools and techniques that keep it going are strong, reinforce themselves, and are deeply rooted in the minds of those who run it and those who receive its “benefits”.

A key insight coming out of the discussions captured in this paper is that in order for the new systemic paradigm to be embraced by the aid industry, we need to strike an acceptable balance between accountability on one side and flexibility and quick response on the other. The fast-changing, uncertain and complex nature of market systems cannot become an excuse for lack of accountability. Within the context of this political challenge, perhaps the most important contribution of systemic M&E frameworks is to demonstrate that it is possible to be accountable whilst monitoring and measuring the changes that really matter. Alongside this demonstration, we also need to work to make sure that donors, practitioners and even the public opinion (the tax payers) are prepared to:

- let go of the obsession of establishing detailed causal links between project activities and changes in the broad market system
- put more emphasis on the *inference or forecasting of the likelihood of impact* of project interventions on the evolutionary path of the system
- accept that no matter how much time, expertise and money there is available, it will never be possible to acquire complete information about the system
- accept that it is not necessary to have complete information about the system to infer impacts that development projects are likely to have on it
- accept compromise among a wide range of perspectives, knowledge and needs; in other words, embrace *optimal solutions* that make sense for the stakeholders who will have to live with them, even if that means letting go of the *best solutions* that make sense only to the donors and NGO experts

The adoption of a systemic paradigm is already taking place in different geographic and institutional corners all over the world. However, a global set of conversations and activities to bring together practitioners, donors, academics and entrepreneurs working to make market systems more inclusive, efficient and productive is not only necessary but urgent. The Systemic M&E initiative is an attempt to do this.

17. The following links take you to webpages where you can find more information about some of the mentioned approaches, tools and techniques: Systems Concepts in Action by Williams and Hummelbrunner; Systemic Action Research by Danny Burns; PMSD and market mapping by Practical Action, Systemic Insight by Mesopartner and Cynefin and Sense Maker by Dave Snowden.

This is just the beginning

This paper is a synthesis of the voices of MaFI members and several other experts who have been sharing their knowledge, experiences and questions since 2009.¹⁸ It also includes ideas and proposals from the authors to move the conversation forward, spur debate and inspire the readers to use the principles above to build their own systemic M&E frameworks.¹⁹

The journey is far from over. There are discussants who disagree with some of the ideas proposed here or find it hard to grasp their practical applications. This is not only acceptable but healthy and desirable.

- The ideas in this paper will continue to evolve as we move forward in a process that will be long and hard at times, but fertile and worthwhile. The discussions so far are giving us clues about where to go and what needs to be done; some proposals are:
- Continue reflecting about the ideas in this paper to improve them, clarify them and increase the agreement around them.
- Document examples where the principles and ideas proposed in this paper are making a real difference in our ability to monitor and adapt to change and assess the impacts of our interventions.
- Create opportunities for practitioners, managers, and staff of donor organizations to build their capacity in the concepts of complexity and systems thinking and their application in international development.
- Engage in long-term collaboration with organizations who are willing to pilot some of these principles and ideas to tackle technical challenges and demonstrate that operational, user-friendly and accountable systemic M&E frameworks are possible.

18. The opinions shared by the participants during this process may not reflect those of their organizations.

19. Any mistakes in the interpretation of ideas expressed by the participants are the sole responsibility of the authors.



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