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# How do you create change in the face of complex systems challenges?



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All blogs

## How do you tackle a problem that is vast, complex and confusing?

You don't. You work on the conditions that created the problem.

You change the patterns of governance, relationships, incentives, rewards and rules that produced the problem. Change these and you might just change everything.

Our lives, our organisations and our world are full of complex problems.

It could be how to raise smallholder incomes in West Africa or sustain a national health service in the UK; food insecurity in the Horn of Africa or graduation from poverty in Bangladesh; the future of employment in a world of artificial intelligence; the gender pay gap; the displacement of pastoralists in Northern Kenya.

These are the sort of problems we cannot afford to ignore, yet we struggle to know how to tackle.

Thirty plus years of systems thinking and complexity theory have helped us understand why these sorts of problems are quite so hard to work with.

We know that they are problems with many owners. There is no one person or institution, however well-resourced or intentioned, that can drive change alone.

We know these are problems with multiple root causes, and that the problem itself is not static and keeps changing. And we also know that these problems are produced

by entrenched behaviours and interests because the current situation works at some level for some people.

But whilst all this thinking is useful in diagnosing the problem (and understanding just how hard it is going to be to create change) it doesn't help us know what to actually do or how to do it. But it does point us in the right direction.

## Complex problems are symptoms not causes

They are the product of a pattern of relationships, rules, incentives and asymmetries of power and information.

It is these patterns that produce problems such as stubbornly low African smallholder incomes, depletion of fish stocks, or brown outs of electricity supply. So, by seeking to shift the patterns that produce the problems, rather than head on tackle the problem we can see – well, then we know how to start and what to do.

There are many aspects to the patterns that produce complex problems. However, we have found five common dimensions that offer a route into working on the patterns we want to shift.

These dimensions are not sequential. They are not a comprehensive list you need to tick off. Rather, at any given time, in any given context there will be a window of opportunity to shift one dimension or another. And as we know from systems thinking, once you have changed something in the system you need to go back and look at the whole system to see how everything has changed.

## Five dimensions for shifting complex systems

### **Build shared understanding**

Within complex problems there are usually many different actors and stakeholders who often have little understanding or even visibility of one another.

Those within the system are often simply unaware of who else is in the system.

**ELAN RDC's study** on traders on the Congo illuminates this struggle. Here farmers sell to a fragmented network of small and medium traders, so operators of larger boats lack information on how much produce traders are holding. As a result, there is often a shortage of boats, especially in more remote areas.

Helping those within the system better hear, know and understand the whole system enables actions which changes the system. Sometimes this dimension is mis-understood as merely analysis, where some actor (usually one who sees themselves in a leadership position) seeks to increase their own better understanding of the system. But this is wrong. This dimension is about processes,

not products, that help those in the system share perspectives and so generate a better SHARED understanding.

### **Secure commitment**

Given that no one individual or organisation can create change alone, shared commitment is essential to any change.

This doesn't mean everyone agrees with each other. This is usually impossible in the face of a complex problem. It is about creating enough commitment amongst enough actors to move forward. And undoubtedly compromises will need to be made.

It's easy at this point to keep creating more and more abstract, high level and often vague 'visions' in an attempt to include more actors and, often, to avoid dealing with the things people don't agree on. It is also easy to view this as a 'one off' event. However, securing commitment is about getting specific about what, collectively, you will change; it's about finding compromises and regularly reviewing that commitment.

It is also about constantly holding the door open to others to join in with the commitments that have been created.

### **Change the dynamics**

Every pattern is driven by a set of incentives, rewards, structures and 'rules of the game'.

This is what structures markets - incentives that drive production, rules for exchange, rewards for, well, everything!

Some of these will be explicit and formal, such as exchange rate controls. Many will be implicit and informal, such as Nigerians' preference for imported Thai rice.

Often these dynamics will be stacked in favour of the powerful few. Disrupting, changing and sometimes just making visible these dynamics, even in quite subtle ways, will change the pattern.

### **Enable co-ordination**

Patterns and markets that serve the few and not the many are made up of disparate stakeholders, separated by some combination of geography, politics, education and power.

Yet change is going to require collaboration, and this needs some form of co-ordination.

Such coordination is not a 'one off' meta organisation that seeks to centralise power and control. It is multiple formal and informal channels, some of which may exist for a limited time as actors co-ordinate around specific time bound issues.

Across Africa cross-sector leaders have worked to make agricultural markets both more inclusive and more productive. Central to this effort has been the development of co-ordination platforms and forums so that farmers, governments and private sector actors can generate the collaboration it will take to remove barriers, catalyse investment and ensure inclusivity.

Coordinating bodies like the SAGCOT Centre in Tanzania, or the ATA in Ethiopia, rarely hold any power over others. They don't control resources. They act as what Mark Kramer and Marc Pfitzer<sup>1</sup> called 'backbone organisations', convening others. They are the DJ in the night club. They can't make you get up and dance, but they make it more likely that if you do, you won't be dancing alone.

### **Augment learning**

Information holds patterns together and determines how, and for whom, they work. Learning is how we update and expand that information.

Typically, complex problems have significant asymmetries of information. Some actors hold much more information and are more able to get feedback (learning) from the system than others. This is particularly true with markets.

It is the asymmetries of information that allow the few to profit at the expense of the many. Key in making markets more inclusive is increasing who has access to information about the market, and how quickly they can learn.

There are many examples of such an approach been used within M4P programmes. They are also emerging through the increased accessibility of technology. But technology is not the only route. Sometimes it is about making sense of information people already hold.

For example the Farming as a Business training run by Prorustica helped Tanzanian farmers better understand their profit and loss and cash flow. Armed with that information they could make different choices that were right for them and transformative to their incomes.

Tackling complex problems is not easy, but it is possible. By seeking to shift the patterns that produce the problems we want to change we can engage in meaningful and practical ways. We can create more inclusive, sustainable and fairer markets for all.

Five questions to ask when working on a complex problem

1. What actions could you take that would help others better understand the pattern they are part of?
2. How clear and shared is the current commitment to change - are there actions that would deepen commitment, create accountability or invite others to join in?
3. How clear are you on the 'rules of the game' that drive the pattern you are trying to shift? Are there existing interventions that could be harnessed to change fundamental dynamics?
4. Are there opportunities to bring disparate stakeholders together in temporary or permanent ways?
5. Who dominates the information flows and learning within your complex problem? Are there actions you could take to create higher quality and more inclusive flows?

## References:

1. Kramer & Pfitzer (2016) Harvard Business Review [The Ecosystem of Shared Value](#)

For more on working with systems download the free [Systemcraft Guide](#)



### **Systemcraft**

A practical framework for tackling complex problems and helping change leaders and their institutions answer 'what next?'