Stockholm Environment Institute

Designing transformative development interventions

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Key points

- **Our research approach is a new way to help development interventions tackle complex problems**
- **The approach combines service design, complex adaptive systems thinking and behavioural science.**
- **Practitioners, programme implementers and researchers can use the method as a template to help deliver effective, efficient and equitable development interventions.**
- **The toolkit has been proven in the field in a range of settings.**

Introduction

More than three trillion US dollars have been transferred by the richest donor countries to low-income countries in the form of development aid since the 1960s. While these investments have achieved many successes, a significant number of complex and crucial challenges still prove intractable. Innovative ideas are required in response, and our model combines service design, complex adaptive systems thinking and behavioural science in a way that allows for effective and efficient design and implementation of development interventions in complex settings.

Beyond top-down and bottom up

A common criticism of top-down approaches is that they are rigid and overly bureaucratic (although they have been successful where development policies and services are standardized, routine and in high volume). Many see bottom-up approaches as the answer; but bottom-up approaches have their own record of failure, and have been criticized for bias in terms of who is ultimately represented, romanticizing the idea of community, and for practical difficulties in collecting and managing data accurately. If development programmes are to be more effective in tackling complex and intractable problems there is a need to move beyond this dichotomy. Our approach mines a space between the two positions.

The toolkit

We propose that successful interventions that require behaviour change in complex social and environmental situations must embrace non-linearity and complex system dynamics. This requires that interventions should be designed using a highly iterative process that incorporates feedback loops and which builds in opportunities for re-evaluating and redesigning activities throughout the process.

Photo (above):
Mango farmers in Kenya © SEI

How does it work? A seven-step process

The toolkit uses an iterative seven-stage process (see also figure 1):

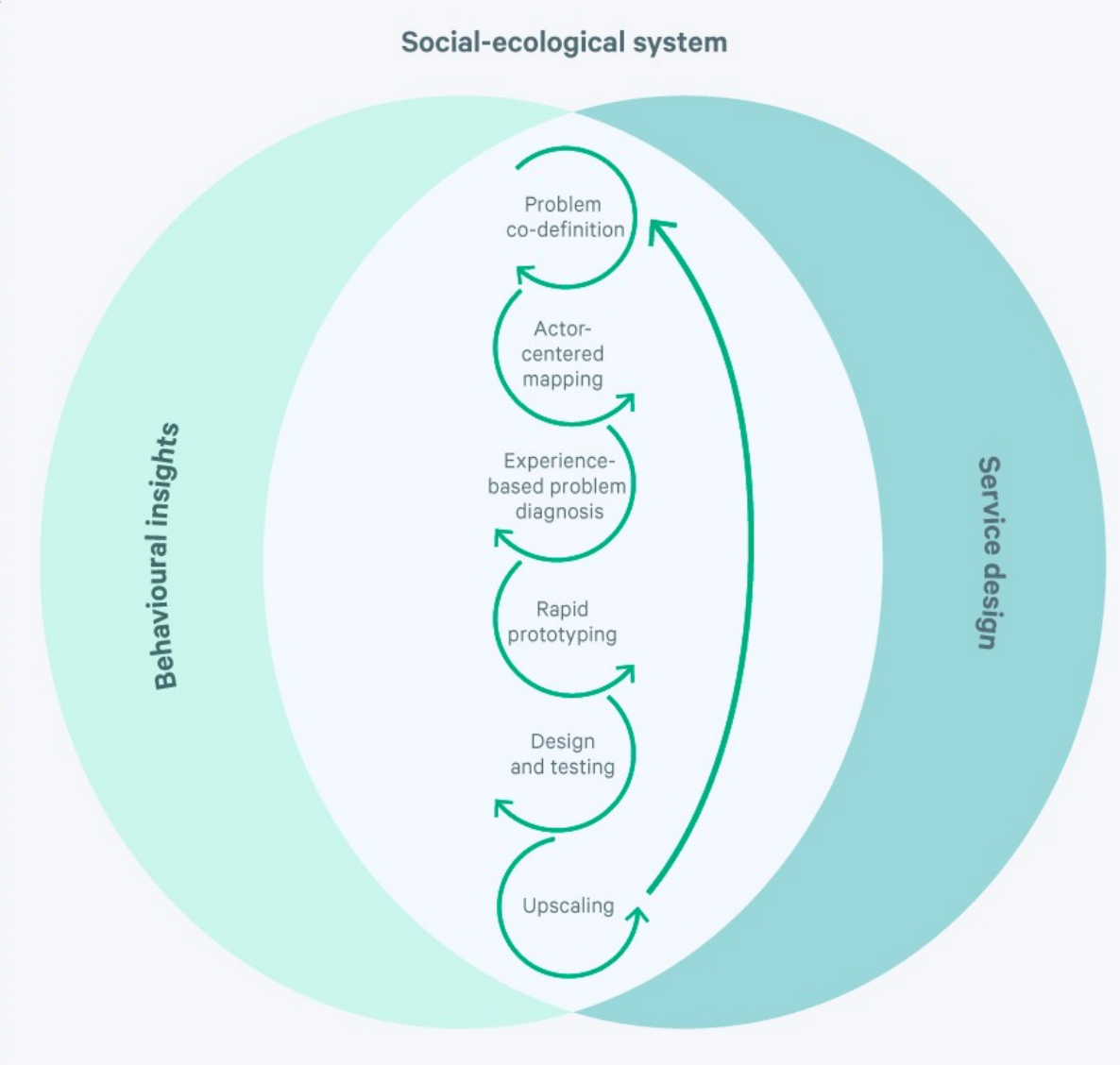
1. Problem co-definition: The assumptions of programme designers and funders are challenged through critical reflection and ground truthed through engagement with stakeholders. This mitigates against design flaws and can also increase goodwill and a sense of ownership.

2. Actor-centred mapping: The mapping process should begin with the relevant actors – individuals, households, groups or communities – and encompass socio-economic, ecological, structural and institutional dimensions. The mapping is then verified among stakeholders.

3. Experience-based problem diagnosis: Using service design methods, the research team develops a picture of people's behaviour in the system, as mapped in stage 2.

4. Rapid prototyping: The research team develops an array of prototype interventions to encourage input by actors in order to create new prototypes and to present and validate solutions. The prototypes should be shared with as many actors as possible – using them as trigger material to promote open and creative dialogue.

Figure 1. Conceptual framework for behaviour-based intervention design



5. Intervention design: The research team consolidates input and advice and begins to develop verified intervention packages. It is important at this stage to consider not only the aim of the intervention but also its implementation.

6. Intervention testing: Quantitative experimental methods provide a rigorous test of intervention efficacy. Insights from earlier qualitative stages should inform this quantitative stage. Various methods are available, but a controlled field trial is preferable.

7. Scaling up: All previous stages are repeated to ensure that assumptions are tested and to incorporate new information into the design. The reiteration of the seven stages can be completed more quickly and in a more targeted way.

An efficient project cycle

The length of time required to complete the process depends on the availability of resources and the complexity of the challenge. A research project team will usually consist of 5 to 10 lead researchers with a similar number of local research assistants or translators. Typically, stages one to five can be completed in under a month of fieldwork, and usually in significantly less time.

The time required for the quantitative assessment (stage 6) will vary significantly dependent on the intervention. Considering that a typical monitoring and evaluation cycle is measured over a number of years, in comparison this framework provides a rapid and effective means of designing interventions.

"The framework is highly adaptable to an array of settings and questions and can provide a template for practitioners, programme implementers and researchers to help deliver effective, efficient and equitable development interventions."

Application in the field: the case of Kenyan Mango farmers

The toolkit was recently successfully applied in a project for adopting farm technologies in Kenya. Technologies were introduced to smallholder farmers aimed at reducing their pre and post-harvest losses of mangoes, with the expectation that this would improve livelihoods in the region. The study focused on two sites: Tana River County in eastern and Meru County in the centre of the Kenya.

By applying the toolkit in this context we generated important results. The aim of the funder was to introduce technologies that would reduce losses in mango production, but uptake was low. We found that the reason for this was that the bulk of technologies were aimed at increasing the quality of mangoes. But the farmers did not have access to a market where the quality of their fruit resulted in a greater return. In fact, it emerged that their main concern was to increase the quantity of fruits produced, rather than quality.

Had stakeholders and farmers been involved in the co-design and diagnosis of the problem, as proposed in our methodological approach, the programme would have been able to focus on designing interventions with an appropriate objective – in this case to improve the quantity of fruits produced – and thus more successful outcomes.

An adaptable template

The toolkit is able to lessen, and in some cases entirely overcome, concerns about participatory methods. Our approach disaggregates the research groups that collect data and applies multiple methodologies to inform the same research questions. In doing so, we are able to offer immediate and multidimensional triangulation and validation of data during daily post-fieldwork analysis and stakeholder workshops.

The framework is highly adaptable to an array of settings and questions and we hope that it will provide a template for practitioners, programme implementers and researchers to help deliver effective, efficient and equitable development interventions.

What is service design?

Our approach draws on service design. Most design disciplines draw from other areas and fields. Technology, cognitive science and aesthetics all contribute to design as we know it today. Service design, a more recent application of design expertise, is no different.

Service design draws on many concepts, ranging from user experience, marketing and project management in order to optimize new services. It is all about taking a service and making it meet the user's and customer's needs. It is a non-linear, iterative process which seeks to understand users, challenge assumptions, redefine problems and create innovative solutions to prototype and test. Service design was first introduced as a discipline at the Köln International School of Design in 1991.

SEi researchers carrying out rapid prototyping with Mango farmers in Kenya. Photo credt: SEI

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