Overseas Development Institute

Exploring the science of complexity in aid policy and practice

Seminar One

ODI, London, 9th July 2008

Outline

The aim of this seminar was to bring together practitioners and researchers to discuss:

- The key ideas of complexity thinking
- The relevance they have for those working in the international aid sector
- To identify some concrete and practical ways to take this area of work forward, both collectively and within individual organizations

The workshop was structured as follows:

⇒ 0930 - 0945 Welcome by the Meeting Chair, John Young, Director of Programmes, RAPID

⇒ 0945 - 1100 Leading Thinkers in Complexity
Presentations from Eve Mitleton-Kelly and Ralph Stacey
Followed by discussions

⇒ 1115 - 1230 Panel Discussion: Exploring the Science of Complexity
Presentation by Ben Ramalingam
Panel Members: Chambers and Chris Mowles.

⇒ 1330 - 1500 Open Space Session on Methods and Approaches related to Complexity:
Outcome Mapping; Social Network Analysis; Scenarios; Group Facilitation; Alignment-Interest-Influence Matrix

⇒ 1530 - 1700 Peer-to-peer learning: real world applications of complexity
Plan, Tearfund, Vietnam Academy, IDS

⇒ 1700 - 1730 Next Steps and Wrap Up

Summary

Introduction

The workshop began with an introduction from the chair, John Young. He outlined RAPID's interest in complexity, and the agenda for the day. Brief self-introductions followed (see Annex I for the participants list).

Session 1: Leading thinkers in complexity

Ralph Stacey presented on the complexity sciences, emphasising their plural nature, as well as his ongoing work in the area. He explained that the complexity sciences are a distinct way of modelling nature, informed by fields such as chaos theory, dissipative structures and agent-based modelling. They are distinct from conventional approaches to modelling the world in that they are nonlinear: nonlinear models do not have solutions, are less predictable, and hence running a number of simulations is required in order to understand their behaviour. However, he urged caution in 'applying' insights from these mathematical models.

He suggested that three key insights can be taken from an understanding of the complexity sciences:

- Nonlinear models show that long-term evolution is unpredictable

- There is inherent diversity within systems
- There is no central 'blueprint', rather, coherent patterns are produced from myriad local interactions

In the context of his own work, these ideas turn on their head the 'myth' of how organisations strategise and change: it is not enough to make generalised statements about intended change; rather, one needs to postulate what people would do in their myriad local interactions. For example, NHS targets on waiting times resulted in doctors lying, evicting patients from their beds early, and allowing very long waiting times until second appointments.

Next, **Eve Mitleton-Kelly** gave a presentation on the practical application of complexity theory in the public and private sector. Complexity theory can be used: as an explanatory framework; to offer a different way of seeing and thinking; and as a different language and set of concepts. It is useful to help understand the problem when dealing with apparently intractable problems, and also to help create *enabling environments*.

She went on to outline an example of working with two hospitals in the NHS. Both hospitals had significant deficits, and needed a turnaround, however the chief executives approached the problem differently: one was creative, collaborative and inclusive, while the other was *perceived* (with the emphasis on perceived) as inaccessible and with a hidden agenda. While in the former problems were perceived as possibilities for participation in improvement, with an atmosphere of curiosity about the future, the latter environment was dominated by anxiety. In complexity terms, changes in the health ecosystem pushed the hospital far-from-equilibrium, and at that critical point the more successful hospital explored their space of possibilities, creating new order and actively co-evolving with their changing ecosystem.

In the ensuing **discussions**, the following points were made:

- It is sometimes argued that complexity doesn't add anything, since implications and actions that follow from the complexity sciences could be reached in other ways. However, proponents of complexity respond to this by arguing that complexity can help foster a far deeper and richer awareness of the relevant aspects of a problem, and that it helps actions be weighed up against a robust understanding of the system.
- There is an active debate on the application of complexity theory in the social sciences and to real-world phenomena, and there is a strong argument that one must be cautious in uncritically transferring theories from the natural sciences.
- Another point of view is that concepts and assumptions from linear, Newtonian science have *already* been transferred into mainstream management, policy and practice, and what complexity tells us is to *question these assumptions*.
- Just because complexity emphasises the role that change and patterns can be driven from the 'bottom-up', this does not imply that this is necessarily positive. Local interactions shouldn't necessarily be regarded as 'good' and requiring 'liberation'; rather we must just understand that they play a part in holding together patterns of stability and change. However, part of this understanding incorporates examining the 'degrees of freedom' at local levels.
- It is important to understand that even when applying complexity concepts, we are part of the system we're analysing.

Session 2: Complexity sciences and aid policy and practice

Ben Ramalingam presented on exploring the science of complexity in aid policy and practice, based on the working paper authored by himself and Harry Jones, with John Young and Toussaint Reba. He highlighted that the 'linear' conceptualisation sees systems as ordered and reductionist, changing in a linear way as a predictable result of cause and effect, with human action and behaviours a result of 'rational choice', best specified from the top-down. This is in stark contrast to the realities faced by aid agencies: international aid takes place in the context of a dense and globalised web of connections and relationships between individuals, communities, institutions, nations and groups of nations. He explained the overriding question posed in the paper as: 'what does complexity science have to say about aid problems?'

Complexity science was explained to be a loose network of connected ideas and concepts that provide ways of thinking about and understanding (1) the nature of systems, (2) how systems change, and (3) human action and behaviour within these systems. One key concept is that of interconnected and interdependent elements and dimensions. He demonstrated that the extent of this interdependence becomes most visible during crises such for example the credit crunch, shows the links between the US mortgage market and the world economy, and the food crisis shows the link between climate change, biofuels and food prices. The implication is that the complex realities and dynamics of the aid system must be analysed.

Another key concept presented was the idea of emergence from 'minimum rules': complex system-wide properties and behaviour emerges from 'simple rules' governing the interaction of parts of the system. This implies that in determining programmes and

projects one should define no more than is absolutely necessary to launch a particular initiative, in order to allow local adaptation and facilitating diverse behaviour.

There are number of different perspectives on the value of complexity, and a number of common criticisms that are dealt with in the paper; the authors concluded that complexity concepts have the potential to support the intuition, innovation and navigation of leaders and practitioners. It gives additional weight to calls for re-thinking five key areas: the tools and techniques for planning, monitoring, learning from and evaluating aid work; the nature of the processes utilised in aid work; the dynamics of change triggered by aid work; the role of partner organisations and beneficiaries in aid work; and, the wider contexts and the real influence of aid work. There are four suggestions emerging for aid agencies and staff within them:

- Develop collective intellectual openness to ask a new, potentially valuable, but challenging set of questions of our mission and their work
- Develop collective intellectual and methodological restraint to accept the limitations of a new and potentially valuable set of ideas
- Be humble and honest about the scope of what can be achieved through 'outsider' interventions, about the kinds of mistakes that are so often made, and about the reasons why such mistakes are repeated
- Develop the individual, institutional and political courage to face up to the implications of complexity

The discussants responded to Ben's presentation. First **Chris Mowles** drew on a real-life example of working with an NGO on a strategic 'visioning' process, that had involved the uncritical adoption of certain 'marketised' ways of thinking about change. The strategy focused activities on advocacy and capacity building, however country

offices found these extremely difficult: everything was bogged down by everyday politics, and a number of powerful players were involved. When acting into a web of intentions you can only have a limited influence. Some managers reacted to this by admonishing the country managers, while others understood that the managers were simply responding to their context. The difficulty is that some managers have climbed the 'greasy pole' through their good reputation as a problem-solver; they may react badly to complexity's implication that there are no problems and no solutions! The key implication is the need to get a number of people together to discuss phenomena that are emerging as you are acting. He echoed the point about modesty, and suggested that "big ambitions" were incompatible with realistic development work.

Robert Chambers further stimulated the discussion with four thoughts:

1) There is a lot of talk of applying complexity in natural, abstract, and social systems, and of talk of analogy vs. science. Are there any *universals* here?
2) We need a more practical way of approaching *diversity*. What tools are there for understanding this, and what does it mean for policy and practice?
3) The concepts of emergence from minimum rules and of self-organisation can be very empowering (for the want of a better word), encouraging diversity and ownership. One example of this working in practice is through womens savings groups in India, where certain non-negotiables acted as substitutes for much more strict rules, with positive outcomes. This seems to be a way to reverse the power relationship, with donors asking 'what are *your* principles, and what do you have to stick to?'
4) In light of complexity, the log frame as a tool seems completely out of sync with the realities of the problems faced. The question arises: why is it so deeply entrenched? And how could this relationship be changed to make it more empowering?

In the ensuing discussion, the following points were made:

- The log frame is used quite beneficially by some just as a tool for *communicating* a shared mental model. If developed in a participatory way, and supplemented with other tools, it can be useful.
- However, a key point is about how it is *generally used*. The reality of many situations is that it is rarely constructed in a participatory way, and hence tends to represents the objectives of someone sitting in London, rather than of those who are affected by problems and interventions. Often, the log frame is a tool for passing on others objectives: promises are made in parliament, and passed on by civil servants.
- It is often experienced in a very disempowering way; and is possibly preferred by donors as it minimises their transaction costs, transferring them to the recipient.
- It contains certain unarticulated assumptions about how change happens, for example it's used in a way that expects change to be mapped out 5 years in advance. The key recommendation from the difficulties with the log frame is the need for explicit discussions about how change happens in development.
- It was highlighted that the "log frame" often ends up being the focus of discussions about complexity, and that efforts needed to made to move beyond the instrument to the way change was thought about and dealt with.

Workshops on methods

Speakers made brief presentations on five tools, methods and approaches related to complexity, then participants gathered in groups to discussed each in more detail. There was flexibility to move around between the groups.

- **Vicky Cosstick** presented on lessons from complexity about facilitating groups. The key question is about how little control and power one can exercise in order to facilitate, to help people explore possibilities for themselves. It's important to use laughter and silence, and acknowledge the 'shadow'- that area that is often not explicitly talked about that is a deep source of resistance and creative possibilities.
- **Sean Lowrie** talked about scenario planning. A scenario is a narrative description of a possible future environment to help test policies against plausible future situations. This tool involves using a story about the future in order to help inform decisions today. It is an exercise in sensemaking, giving ways of recognising patterns from one's environment.
- **Rick Davies** presented his 'simple ways of dealing with complexity'. It involves a wider view of strategy, recognising the difference between planning for individual and collective actions, and between intended and actual strategies. Secondly it involves a wider view of partnership, such as the portfolio view and the network view, and the use of pathways within networks. Finally, it involves a 'social framework', in which causation takes place through relationships.
- **Enrique Mendizabal** presented the alignment – interest and influence matrix (AIIM). It involves first mapping actors according to their general level of alignment, and interest in specific topic, and then asking which are the most influential. It serves as a useful way to kick-start strategic conversations about how to work with different partners and stakeholders.
- **Simon Hearn** presented Outcome Mapping, a tool for planning, monitoring and evaluating development projects. While the log frame tends to focus on the 'sphere of control' (inputs, activities and outputs), and results-based management focuses on the 'sphere of interest' (impacts), OM puts the focus of planning, learning and accountability at where a project has direct influence. OM involves planning, monitoring and evaluating your project based around groups of 'boundary partners' – those individuals and organisations that a project interacts directly with and anticipates opportunities for influence.

'Peer learning' on applications

Participants presented a real-world problem that they were facing, and discussing how they might approach it using insights from the complexity sciences.

Nick Hall introduced the Children in a Changing Climate programme, which is looking to get childrens voices heard in climate change debates. It faces a number of different layers of complexity: the challenge of influencing policy is complex, involving a number of actors, interdependent actors, changes, etc. Also, managing the programme is complex: although all the partners involved are united around the singular aim of the programme, they each come from different perspectives, with different interests and incentives. Finally, there is a challenge of planning for unpredictability: you can't be sure what the children will actually say when they are involved in the conventions, and it is important to be able to plan for this.

Nigel Timmins and Ben Ramalingam introduced the Tearfund disaster management team's capacity building strategy: the aim is to build the capacity of at least 50 high capacity partners in 26 countries. They approached the problem using the concept of emergence from minimum rules, to try and understand the enabling constraints that help shape the behaviour of agents while providing scope and freedom, using 'must do's' and 'never do's'. They asked what these rules could be, how to implement them, and how to frame them as part of a strategic framework.

Rosalind Eyben discussed the relationship between power and complexity. Complexity implies partiality – that any one actor can only have an incomplete and imperfect view of the system – however, power relations mean that certain (partial) views will dominate over others. Part of this problem also seems to be the dissonance between understanding and acting in the complex environment presented in development work versus the way development is reported to the world in very simple, linear terms.
Arnaldo Pellini introduced his problem of linking research and policy in Vietnam, working with the Vietnamese academy of social sciences. Complexity suggests that change can be quite nonlinear, with some issues already interconnected to the degree that a little input can lead to large outcomes. Also, a key question is how to link to researchers own adaptive capacities, how to become accepted, and how to avoid resistance by policy communities.

Next steps

A number of follow-up activities were suggested:

- Building a collection of methodologies that people could use and adapt to help navigate their way through complex situations
- Find a way of collecting experiences of bringing complexity thinking into aid policy and practice, and sharing them, potentially as short cases
- It would be useful to link this set of complexity seminars with other events (such as the recent conferences in Oslo and Delft); perhaps by having a participant present on what was discussed at recent relevant events
- The community of practice on complexity and aid will be established and seminar participants were urged to join and contribute
- Future Seminars in the emergent "Exploring the science**s** of complexity" series (the hope is to be able to schedule one approximately every three months)
    - Seminar Two is being held at IDS on 3rd October on Knowledge and Learning, featuring Dave Snowden. The detailed agenda will be available shortly
    - CAFOD expressed interest in hosting Seminar Three in January, on complexity and strategy. Jean Boulton, of Cranfield School of Management and Claremont Management Consultants, has already agreed to be the opening speaker on this topic. For more on Jean and her work, click here: http://www.embracingcomplexity.co.uk/
    - Kings would be interested in hosting a seminar on complexity, potentially on complexity, partnerships and collaboration

Annex I: Participants

Robert Ian Arthur	CGIAR
Robert Chambers	Institute of Development Studies
Vicky Cosstick	Change Aware
Rick Davies	Independent Consultant
Pascal Duport	International Committee of the Red Cross
Rosalind Eyben	Institute of Development Studies
Jas Gill	Independent Consultant
Nick Hall	Plan International
Denis Hellebrandt	University of East Anglia
Mark Higgins	CAFOD
Ruth Jolly	Amnesty International
Daniel Jones	Christian Aid
Harry Jones	ODI, RAPID
Sean Lowrie	Independent Consultant
Antonella E Mancini	Independent Consultant
Nat Mason	Water Aid
Enrique Mendizabal	ODI, RAPID
Eve Mitleton-Kelly	LSE
Patrick Moriarty	IRC
Chris Mowles	Red Kite Partners
Besinati Mpepo	World Vision
Arnaldo Pellini	ODI, RAPID
Jaap Pels	IRC
Ben Ramalingam	ALNAP
Toussainte Reba	Lambeth Council/RAPID Research Associate
Jim Robinson	Building and Social Housing Foundation
Herman Specker	Ministry of Foreign Affairs, The Netherlands, DG International Cooperation (DGIS)
Ralph Stacey	University of Hertfordshire
Aidan Timlin	Christian Aid
Nigel Timmins	Tearfund
Robin Vincent	Panos
Brendan Whitty	One World Trust
John Young	ODI, RAPID