# Capacity development through international projects: a complex adaptive systems perspective

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## Abstract

**Purpose** – International development practice has had as its dominant paradigm the rational-analytic model of project planning, management and evaluation. This is reflected in the widespread adoption by donor agencies of results-based management (RBM), side by side with conventionally used tools for monitoring and evaluation (including logical framework analysis ("logframe"), logic model and results frameworks). Donor agencies rely upon such tools to generate the evidence base for measuring "success" across the spectrum of their work, even though projects differ enormously in their nature, scope and time-span. Process-led capacity development projects and input-led infrastructural or straightforward service delivery projects require very different yardsticks of performance monitoring and appraisal. Drawing on insights from the complex adaptive systems (CAS) literature, the purpose of this paper is to explore how projects focused on capacity development necessitate a more eclectic approach, including – but not restricted to – RBM methodology.

**Design/methodology/approach** – Using the insights of CAS theory, and with particular reference to projects which have capacity development as their prime focus, this paper explores a broadening of conventional project management practices.

**Findings** – The paper posits an integrative approach to managing international development projects focused on capacity development – one which would recognise the values of instrumental utility and goal-setting associated with the application of the tools of RBM, while situating that within a more open, system focused and holistic approach to projects and their outcomes, placing emphasis on context, adaptability and learning.

**Research limitations/implications** – The research enquiry presented is discursive rather than empirical, and builds on established theory and constructs of three distinct conceptual fields: first, the RBM approach to project and programme implementation; second, the "complexity" strand of organisational management literature; and third, the capacity development strand of international development discourse.

**Originality/value** – The paper intersects disciplinary boundaries between project management, organisational studies and international development theory and practice.

**Keywords** Complexity, Evaluation, International development, Adaptive capacity, Complex adaptive systems (CAS), Project planning, Emergence, Capacity development, International development programming, Results-based management

**Paper type** Conceptual paper

## Introduction

Donor-funded aid projects and programmes encompass a wide scope of activity, aimed variously at poverty alleviation, emergency relief and rehabilitation, essential service delivery, and strengthening institutions of governance or community self-reliance. One can visualise a spectrum of aid interventions, ranging from the most tangible at one end (e.g. capital works and infrastructure), to that which is amorphous at the other, e.g. the development of institutional capacity of, say, a higher education institution, a national audit office, or a system of administration of justice. Yet despite the obvious differences between projects of different types, similar management templates have tended to be employed, and similar approaches have been used to evaluate their performance.

Recognising that the development process is multi-dimensional, and having regard to the five aid effectiveness principles (ownership, alignment, harmonisation, management for results and mutual accountability), it becomes clear that achieving sustainable development is not only about the volume of aid given, but also about how that aid is given and managed (Kharas *et al.*, 2011). Although aggregate aid flows had increased in the years after the Millennium Development Goals were declared in 2000, fragmentation and duplication between donors and a propensity towards project proliferation prompted serious questioning as to whether the resources being provided were exerting optimal impact, and whether deadweight effects were being imposed unnecessarily on aid recipients.

In response, the focus of donor engagement moved away from the modality of discrete projects in favour of a more programmatic way of working, which generally implied defining higher level, sector wide goals for sustainable development which were closely aligned with the domestic development strategies of the host government. The donor discourse around this more programmatic approach was characterised by a theory of change which typically comprised social transformation through a combination of inter-related processes being pursued at macro, meso and micro levels of society, such as: promotion of good governance (including anti-corruption measures, advocacy space for civil society and holding government to account), essential service delivery (improved access to food, water, health, education, shelter, land, communications), environmental protection (building community resilience against disasters) and nurturing respect for universal human rights (on such issues as refugee protection, inclusion of ethnic minorities, gender equity and combating gender-based violence). Almost invariably, the quest for such processes of transformative change encounters two major challenges, one substantive and the other process-related.

The substantive challenge is the extent to which projects and programmes are vitiated by capacity limitations at individual, organisational and system-wide levels. The paper begins by clarifying what is meant by capacity in the international development context, and how it fits into the complex and dynamic landscape and language thereof.

The process-related challenge consists of the approaches being used by donor agencies and NGOs for gauging the effectiveness of their capacity development interventions and of their progress (or otherwise) towards attaining the higher level changes to which they aspire. After reviewing the conventional methods and tools of project planning and management for development results, the paper discusses the extent to which these are congruent with the programmatic approach to development practice in general and to capacity development in particular.

## Methodology and limitations
The research enquiry presented is discursive rather than empirical, and builds on established theory and constructs of three distinct conceptual fields – first, the results-based management (RBM) approach to project and programme implementation; second, the "complexity" strand of organisational management literature; and third, the capacity development strand of international development discourse. The tentative convergences between these three domains are discussed with reference to salient literature sources. However a truly comprehensive presentation of the extensive literature would be impossible within the space limitations of this paper, and so the authors are constrained to confine their analysis of the very extensive "complexity" literature largely to its manifestation in organisational management and in public administration; these are

considered to have more relevance to the world of international development project management than does another body of complexity literature that relates to the theory of the firm. Constraints also apply with regard to the treatment of RBM; this is considered in terms of its application to international development, this being but one segment of a broader management literature relevant to RBM, going back to Drucker's exposition of Management by Objectives in 1954 (Drucker, 1954). Such constraints are largely inevitable in attempting (as this paper does) to explore and mine the seams that form the disciplinary boundaries between project management, organisational studies and international development theory and practice.

## Capacity development

Capacity deficits are a recurrent feature of myriad projects and programmes across the international development spectrum, ranging from health, education, water and sanitation, to public administration, governance and improved systems of basic service delivery[1]. The evolving vocabulary of global North-South relations over the past several decades mirrors changes in understanding of capacity in the discourse of both development theory and of development aid programming.

The OECD Development Assistance Committee (OECD, 2011) offers a concise definition of capacity development as:

> […] the process whereby people, organisations and society as a whole unleash, strengthen, create, adapt and maintain capacity over time' (p. 2).

Baser and Morgan (2008) understand capacity to be:

> The emergent combination of individual competencies, collective capabilities, assets and relationships that enables a human system to create value (p. 3).

Meanwhile a former director general of UNCTAD considers that the language around capacity has undergone an evolution reflective of changes in thinking and approach to development aid over a half-century:

> During the 1960s, the only way to foresee and design development aid policies was summed up in the concept of "technical assistance". These words connoted the idea that rich countries have a monopoly on knowledge. Technical "cooperation" was coined more than a decade later, as a way to re-establish some balance in the North-South relationship. Then, in the 1980s and 1990s, following that logical sequence, "capacity-building" appeared as a key concept of development aid, and was widely recognized as its main goal […]. [Then came] the notion of capacity development, defined […] as an endogenous course of action that builds on existing capacities and assets, and the ability of people, institutions and societies to perform functions, solve problems and set and achieve objectives (Rubens Ricupero quoted in Lopes and Theisohn, 2003, p. xi).

Capacity development may refer to both process and outcomes – i.e. the efforts to improve individual capabilities and organisational performance and/or the results of those efforts in terms of capacities developed.

Though the distinction between capacity building to capacity development is not uniformly observed, nonetheless the discernible shift in language is suggestive of a move in the policy stance of donors away from a mainly instrumentalist view of capacity as a means of filling gaps in specialist expertise in the global South[2] through an injection of transferred knowledge, especially technical and scientific skills. This stance has gradually given way to a recognition that sustainable capacity involves local ownership, participation and an endogenous (and in this case Southern-centred) process of

strengthening existing human capital and institutional effectiveness (OECD, 2006, p. 12). Figure 1 represents the progression, both linguistic and conceptual. At one end is "technical assistance", understood in a restricted sense of imparting skills that enable institutions (both state and non-governmental) to be more effective in implementing interventions intended to bring about a desired development outcome in the relatively short term. At the other end we can posit "capacity development" understood in a more expanded sense that implies a broad development approach relating to "individual and organisational learning which builds social capital and trust, develops knowledge, skills and attitudes and when successful creates an organisational culture which enables organisations to set objectives, achieve results, solve problems and create adaptive procedures which enable it to survive in the long term" (DFID, 2008, p. 3).

The further the progression along this continuum, the greater the extent to which capacity develops organically, rather than being injected from outside, and the more meaningful the interactions between the key actors are likely to be. As De Grauwe (2009), observes: "technical skills are not the only ones needing to be strengthened, and in some cases they may not even be the main ones" (p. 48). For example, individual knowledge acquired from a learning module or course may remain static and have little organisational impact unless those individuals on their return to the workplace encounter a receptive environment allowing the innovation to be implemented. Capacity development can be seen in a limited way as a product, and in a fuller sense as an endogenous process.

*Levels and attributes of capacity development*
Capacity development operates at three levels – personal, institutional (or organisational) and systemic (in the sense of the enabling environment – see Figure 2). The systemic level supports the organisational level through its provision of
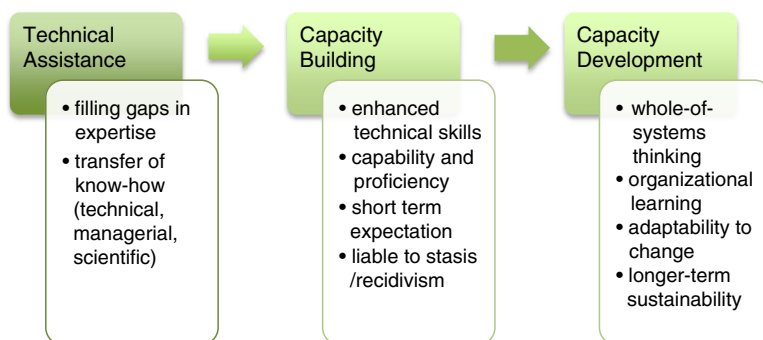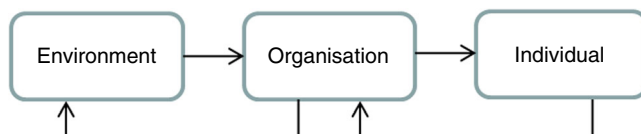


Figure 1.
Capacity progression



**Source:** Adapted from UNDP, available at:
www.lencd.org/learning (accessed 10 September 2014)

Figure 2.
Levels of capacity
development

incentives and an enabling environment. The organisational level in turn supports the individual level by providing a framework of procedures and rules. The individual supports capacity development through their own personal skills, experience and knowledge. Intrinsic to this systems approach to capacity development is feedback from the individual level to the organisational and in turn to the apex (systemic level).

While the main focus of this paper is on the organisational level of capacity, it is recognised that there are backward and forward linkages between this and the other two levels.

De Grauwe (2009) draws an important distinction between competence (as an individual attribute), capability (as an organisational attribute) and capacity (as a combination of competencies and capabilities). Reserving the term "capacity" for generic use De Grauwe's rationale is that "the specific skill of an individual officer or the collective capability of an (entire) department can only be considered capacity when they are part of a creative and collaborative process" (p. 48). Consistent with this generic typology of capacity is the seven-point framework for capacity development devised in the mid-1990s by the Community Development Resource Association in the context of not-for-profit organisations (Table I). A noteworthy aspect of this analysis is that "skills" constitutes only one of the elements within the entire capacity framework – a reminder that capacity development entails much more that delivery of skills training.

Some elements in the framework are more amenable to empirical observation or measurement than others. Those that are more tangible are material and financial resources, skills, organisational structures and systems; of their nature. The less tangible categories – vision, strategy, culture (including power relations and quality of communication) – elude attempts to evaluate the given project or programme using indicators that are quantifiable, time-bound and measurable.

In relation to the work of development NGOs in particular, a multi-dimensional perspective on "capacity" is offered in the work of Kaplan (1999), Datta *et al.* (2012) and Fowler (1996). Attributes which they identify as key to our understanding of capacity are: systems, emergence, feedback and context.

*Systems*. Kaplan (1999) contends that an organisation should be seen as a system greater than the sum of its multiple constituent parts, analogous to a living organism.

*Emergence*. Components of, or agents within, a given system interact continuously with one another, often in a self-organising but non-linear manner. Land *et al.* (2009, p. 2) refer to emergence as "an unplanned and uncontrollable process in which properties such as capacity emerge from the complex interactions among all actors in

| Attribute | Function in relation to capacity development |
| --- | --- |
| Context | Understanding of the milieu and the attendant risks |
| Vision | What the organisation aspires to do in response to the context |
| Strategy | How the organisation proposes to realise its vision; emerging methodologies of practice |
| Culture | Norms and values underlying the organisation's way of working; power relations |
| Structure | Outlines and differentiates the roles of staff, lines of communication, decision making |
| Skills | Skills, abilities and competencies of staff |
| Material resources | What the organisation needs to implement its work programme – finance, equipment, property |
| **Sources:** Adapted from Datta *et al.* (2012), Kaplan (1999) | |

Table I.
Analytical framework for capacity development

the system and produce characteristics not found in any of the elements of the system". Mintzberg (1994) has written about the distinction between planned and emergent strategies: change wrought by emergence is not predictable because it derives from the tangled web of interactions that take place within a system. It is these emergent properties that enable an organisation to learn and evolve. By the same token, because of the unpredictable nature and timing of these emergent elements, capacity development implementers and participants are required to be constantly reflective, adaptive and flexible in their way of working.

*Feedback*. Members of a given organisation are moulded by the organisation itself and their inter-relationships, reflecting a feedback loop. Different perceptions of importance, and how urgently organisational changes need to be made, mean that competing power relationships among individual decision-makers may arise. Capacity is not power-neutral: "An organization is composed of people, who bring potential, inspiration and struggles, each with their strengths" (Datta *et al.*, 2012, p. 12). It is these strengths that collectively constitute the elements, from and through which the organisation can learn and evolve, by incorporating the emergent properties referred to above. Furthermore, if "capacity" embraces the sum of interactions between different actors behaving within a system, which itself behaves in often unpredictable ways, it follows that capacity must arise in the quality and style of the inter-relations between actors both inside and outside an organisation, often at different levels (Datta *et al.*, 2012; Kaplan, 1999).

*Context*. Fowler (1996) reminds us that human development results from a complex mix of non-linear processes that are largely determined by non-project factors present in the wider environment. Adaptation to the constant flux of its non-linear interactions within an ever-changing context is key to organisational effectiveness. Context embraces not just the macro-level conditions of living such as political stability, governance and human rights, but also the "meso-level" institutional incentives, the economic, political and regulatory context and the resources available to the southern partner.

### Critique of capacity development and capacity building

In the view of the United Nations Development Programme (UNDP, 2006), capacity development "must occupy a central place in all development assistance" and "be taken into the core of all development planning, policy and financing" (p. 11), and that it "needs to be seen as the fundamental starting-point for improving peoples" lives (Lopes and Theisohn, 2003, p. xi). However this affirmative view of capacity development is tempered by "dissatisfaction and disappointment with the impact of many capacity development efforts and programmes" (De Grauwe, 2009, p. 30). Scepticism about effectiveness of capacity development arises from: first, historically fragmented nature of many initiatives in this area; second, apparent failure of such initiatives to permeate beyond the individual beneficiaries and exert the hoped-for transformative influence at organisational or system-wide levels; and third, insufficient attention being paid to local conditions, context and sense of ownership on the side of the beneficiary. The United Nations and the World Bank, apex-level bodies in the international development arena, have recognised these shortcomings:

> The review […] notes that the bulk of the Organization's programming under the rubric of capacity building consists of small, discrete short-term projects involving mainly technical inputs with little evidence of institutional change (UNESCO, 2007, p. 2).

Capacity building efforts have often lacked clear objectives or focus, relying instead on fragmented project-by-project approaches […] Training, equipment and technical assistance – also often provided without clear demand and effective management by recipient countries – frequently failed to take root (World Bank, 2005, p. 21).

This critique raises fundamental questions: did capacity building efforts of past decades of go wrong, if so how, and was the investment futile? Was it perhaps the case that the evidence of success and impact lay deep in the recesses of time and institutional culture, concealed from the purview of the conventionally used metrics and methodologies of project monitoring and evaluation? In approaching these questions, some consideration of approaches to project performance appraisal is relevant.

## Assessing effectiveness and impact
The increasing attention to aid effectiveness considerations, accountability and impact measurement in international development and humanitarian work (see Introduction above) has accentuated the quest for stronger internal systems for the management of projects (Bester, 2012; Otoo *et al.*, 2009). For over three decades past, Project Cycle Management had been the principal methodology used by aid donors and NGOs for the appraisal, management and evaluation of project interventions across the international development arena, including capacity development initiatives.

### Logical framework analysis
Within the overall PCM methodology, logical framework analysis (abbreviated to "logframe") constituted the conventional toolkit for its application. LFA in turn had its roots in the engineering and business management disciplines (Earle, 2002), and was first used in international development by USAID in the 1970s. Variations on the original theme of the four by four hierarchical matrix continue to be in widespread use by donor agencies and NGOs alike (Figure 3). The matrix comprises two dimensions and a number of cells. These are:

(1) a vertical logic as a hierarchy of objectives – activities deliver outputs, which contribute to outcomes, which contribute to the overall goal; and

(2) a horizontal logic showing how progress against each objective can be assessed through "objectively verifiable indicators", the means of verification (data sources) and the external factors (assumptions and risks) which might impinge on or interfere with implementation.

The structure of the "logframe" suggests a strictly sequential plan: project activities, outcomes and goals are all laid out in advance, as are measurable indicators with which to monitor these. Implicit therein are some formidable ontological assumptions about the existence of a chain of causality comprising sequential links (Table II).

Both funding agencies and stakeholders find advantages in using LFM (Bakewell and Garbutt, 2005): the discipline of completing a logframe instils clarity of thinking

| Narrative summary | Objectively verifiable indicators (OVI) | Means of verification (MOV) | Assumptions |
|---|---|---|---|
| Goal: overall aim to which project contributes | Measures (direct or indirect) to show contribution to goal | Sources of information and methods used to show fulfilment of goal | Important events, conditions or decisions beyond the project's control, necessary for project to succeed |
| Purpose or outcomes: new situation/change envisaged post project | Measures (direct or indirect) of progress towards attaining the outcomes | Sources of information and methods used to show progress against objectives | Important events, conditions or decisions beyond the project's control, necessary for project to succeed |
| Outputs: results that are within control of project management | Measures (direct or indirect) to show if outputs are being delivered | Sources of information and methods used to show delivery of outputs | Important events, conditions or decisions beyond the project's control, necessary for project to succeed |
| Activites: things that need to be done to produce the outputs | Measures (direct or indirect) to show if project outputs are being delivered | Sources of information and methods used to show completed activities | Important events, conditions or decisions beyond the project's control, necessary for project to succeed |
| Inputs | Resources: human and material needed for the project Finance: overall budget Time: start and end dates | | |

**Source:** Adapted from Mikkelsen (1995, p. 51)

Table II.
Logical framework
matrix template
("logframe")

in relation to objectives, activities and risks, especially at the planning stage, if used as a participatory tool to elicit stakeholder engagement and agreement on broad direction and priorities (Kothari, 2000). Indeed, where intended change is straightforward and easy to predict (e.g. water points connected or vaccinations administered) the rational-analytic tools in general are of value to the practitioner. But interventions that initially seem straightforward can rapidly escalate in complexity: in the case of the water connections, perhaps the new outlets created reduce the flow of water previously enjoyed by households further downhill, or perhaps disputes arise about traditional grazing rights posing a threat of animals contaminating the newly accessible water source. Or in the case of the vaccination programme, the technical logistics of treating the target population may be the easy part of the challenge, the more difficult part may be in working out how best to engage with traditional beliefs systems that view all invasive clinical routines with deep suspicion – or indeed superstition. The practitioner is now faced with challenges of human behaviours and attitudes, probably requiring a more modulated and reflective approach to project planning, and recognising that the substantial difference in nature between process-led capacity development projects and input-led infrastructural or straightforward service delivery projects require very different yardsticks of performance monitoring and appraisal.

Although the logframe is considered to offer utility value to those engaged in project design and management, it is "not particularly useful in evaluating the impact of a project" (Kothari, 2000, p. 6); the LFA and similar tools are rather one-dimensional, and therefore struggle to adequately reflect the acknowledged multi-dimensionality of capacity development. One way of mitigating this shortcoming of LFA has been to subsume it into an organisation-wide RBM system which focuses less on activities and

shorter-term outputs, and more on achieving medium and longer term outcomes, implementing performance measurement, learning, and adapting, as well as reporting on performance.

*RBM*

Defined as "a broad management strategy aimed at achieving important changes in the way in which agencies operate, with improving performance (achieving better results) as the central orientation" (Binnendijk, 2000, p. 3), the RBM approach and its associated planning tools seek to bring logic, clarity and accountability into the planning, monitoring and evaluation of a project, with clearly stated goals and targets at all levels and a set of objectively verifiable indicators that will assess progress towards these (Earle, 2002). Since the turn of the millennium, RBM systems have been introduced in most developed country government sectors, with ongoing implementation in most developing countries (Vahamaki *et al.*, 2011). RBM (including PCM) thus embodies the rational-analytic tradition of project and programme planning, implementation and evaluation as the dominant paradigm of development policy and practice.

With a focus on measurable results of projects and programmes, RBM systems are designed to compare actual achievements against expectation, using empirically verifiable indicators to measure progress towards each output, outcome and impact. The spread of the RBM approach can be attributed to influences both inside and outside the development sector: outside of the development sector, there is the impetus towards value for money analysis of resource allocation choices especially in times of scarcity, while inside the sector, donors and NGOs have intensified efforts to steer their management systems towards effectiveness and results, in response to contestation around the probity and merit of overseas development aid disbursements, as articulated for example by Moyo (2009) and Easterly (2006).

For many, RBM's appeal consists in its dedication to precision and rigour, but its underlying assumptions and claims begin to appear less definitive when questions are posed, such as: What constitutes "evidence" or "knowledge"? How robust are claims to "proof"? Where lies the distinction between "evidence", the interpretation of "evidence" (techniques and methods), and inferring causality? These deeper questions draw attention to the risk of asserting strong claims to validity, veracity and predictability for RBM systems and the evidence emanating from them. Such misgivings have been voiced from within the development NGO community in particular (Mango, 2014); their critique relates mainly to a potential bias towards doing or funding only what is measurable, encouragement to pursue short-term aims, the problem of attribution of outcomes to specific project interventions without due regard to the myriad factors that potentially exert influence, and the presumption of linear causality in RBM leading to over-simplification of complex social and environmental processes (Hailey and Sorgenfrei, 2004). Furthermore, project targets and performance indicators decided upon at the initial stages of the project potentially induce linear thinking among the implementers, narrowing the scope for agile response to unexpected events that may not have been envisaged within the project plan: Figure 3 provides a schematic representation of this linearity.

A hypothetical example from the education sector illustrates how a linear results chain logic might be articulated: support for high-quality teacher training, leads to an expected output: better results in public examinations. An outcome of this may be better education for poor students, as a result better jobs. The overall impact is that incomes should rise.

The representation in Figure 3 conveys the linear cause and effect thinking which underlies RBM, and is often expressed in the practitioner manuals and handbooks on

RBM as the "results chain" (e.g. UNDG, 2011). This notion implies epistemological claims in relation to causality:

> The results chain establishes the causal logic from the initiation of the project, beginning with resources available, to the end, looking at (the attainment or otherwise of) long-term goals (Gertler *et al.*, 2011, p. 24).

Although the appropriateness of RBM to different development contexts has been the subject of controversy, polarised positions for and against RBM are not inevitable. A reconciliatory view is that the difficulties relating to RBM referred to above do not constitute a failing of its general principle and rationale (enhancing strategic planning, monitoring and evaluation within the project management process), but rather a failure of its application. Taking this perspective, the RBM approach is not as a static and rigid formula born of linear thinking, but as a management strategy aimed at improving performance and substantive outcomes, by incorporating flexibility, revision, adjustment and learning (the latter extending also to the key dimensions of research and innovation; for example UNDG, 2011).

To illustrate this point, the lead author is familiar with a particular NGO-led programme intended to develop capacity for more resilient rural livelihoods in Ethiopia. The agency concerned has adopted a planning and evaluation framework that is avowedly identical to a statistical process control model commonplace in the world of manufacturing production, which follows a strictly linear "input-output-result" logic. Since the focus of programme performance monitoring centres on empirical observables (e.g. number of village savings and loan groups formed, and their collective assets), to the detriment of other substantive factors less amenable to quantification, such as stakeholder involvement and ownership, conduciveness of the socio-political environment for community self-empowerment, effectiveness of the organisational arrangements.

Flexibility of approach is required according as a project unfolds through the recognised stages of its life-cycle, RBM tools have a useful instrumental role to play in development programming, particularly at the stage of planning a project. However the value of such instruments tends to diminish as the project proceeds along the stages of the project cycle (planning-inception-implementation-evaluation). By the time the evaluation stage arrives, the cogency of the initial project logframe may be dilute. Yet it is often used in practice as the main point of reference for an end-of project evaluation:

> The further one moves from tangible NGO outputs – wells built, credit provided, trees planted, people trained, buildings constructed and so on – to impacts on people's lives, the more significant become less tangible factors such as socio-economic divisions, power relationships, human motivation, individual and collective behaviour, cultural values, and local organisational capacity (Fowler, 1996, p. 59).

The expansive understanding of RBM (incorporating flexibility and adaptation) acknowledges that in the past the "M" in RBM has often been overlooked, and seeks to bring the "management" back into the discourse at the level of first principles, such as "ensuring that development interventions lead to effective development and a positive change in people's lives" and "seeking to make programmes more responsive to the environment within which they operate" (UNDG, 2011, p. 24). Such flexibility to change activities and strategies when needed, in collaboration with a range of different stakeholders is all the more important in an environment of complexity.

Though capacity development is of its nature complex and intangible to some degree, the extent to which its outcomes are measurable (and where the RBM approach is most

applicable) is most pronounced at the "means" end of this spectrum, where, for example, training might be delivered to operate a new health centre, or an emergency feeding scheme, or provision of a major piece of infrastructure, conversely, the further that the capacity development content of the programme approximates towards "processes" and "ends", the less appropriate is a heavy reliance on RBM at the expense of a wider contextual and adaptive approach to the assessment of overall programme effectiveness,

## CAS – relevance for capacity development?

The development of common concepts and ideas enables the development of cross-disciplinary work within the wide field of CAS. CAS thinking tends to seek an integrative and multi-disciplinary understanding of social reality, as distinct from the rationalistic and deterministic underlay of much of the project management body of knowledge, and the good practice guides deriving therefrom (Palmberg, 2009).

The value of CAS lies in its ability to explain how and why human systems unfold as they do. Its analytical approach tends to view capacity as emerging from multiple processes that are complex and unpredictable, and that evince qualities of non-linearity, emergence and adaptation through feedback, with a large number of elements interact in a dynamic way with much exchange of information (Rhodes *et al.*, 2011).

In the discussion on capacity development earlier in this paper, four key attributes were identified: systems, emergence, feedback and context. These four attributes are remarkably congruent with the key attributes found in the literature on CAS. This congruence, and the consequent potential value of the CAS approach to understanding the phenomenon of capacity development, has been recognised by Land *et al.* (2009):

> Systems Thinking, and the concept of Complex Adaptive Systems (CAS) in particular, offers a perspective that can help us better to understand how capacity develops within organisations and large systems. In so doing, the concept of CAS suggests what external partners need to do differently to improve their support for endogenous capacity development processes (p. 2).

CAS thinking has begun to permeate into the discourse on international development and capacity development, and a significant commensurability between the two is to be found by probing the capacity development attributes, namely, systems, emergence, feedback and context.

### Systems

CAS is predicated on systems thinking. In what now seems a prophetic tone, Senge (1993, p. 8) commented that "systems thinking is needed more than ever because we are becoming overwhelmed by complexity, the scale of which is without precedent. All around us are examples of systemic breakdowns – the credit bubble, global warming – problems that have no simple local cause". Senge points out however that systems thinking need not be a "dismal science": small, well-focused actions can sometimes produce significant and enduring improvements, provided they are carried out properly. Systems thinkers refer to this as "leverage" – seeing where actions and changes in structures can lead to significant, enduring improvements. Systems thinking encourages us to look in a holistic way for patterns of interaction and underlying structures in the social world, enabling patterns of change to be discerned as a continuum, rather than as an amalgam of discrete elements. Katz and Kahn (1978) captured the application of "open" systems theory to organisation theory, in describing its emphasis on relationships, structure and inter-dependence. Kast and Rosenweig (1972) refer to this as synergism, whereby the whole can only be satisfactorily explained as a totality and is not just a sum of its parts.

In this context of the present discussion, an important distinction is to be drawn between complexity theory and systems theory; in spite of the common terminology, there are important conceptual differences between the two (Phelan, 1999).

*Emergence and feedback*
These two attributes combine to produce the "adaptive" dimension of CAS: organisations and networks (including those engaged in capacity development initiatives) sustain themselves through constant adaptation to emergent realities and to new or unexpected circumstances. This process of change is only partially open to explicit human direction and, importantly, cannot be pre-determined (Land *et al.*, 2009); it represents a non-linear dynamic which if plotted on a graph would portray step changes and oscillating peaks and troughs, rather than a smooth gradient (Johnson, 2009).

*Context*
A CAS is typically "open", that is at least partially contingent on factors in the ever-changing external societal environment and economic and political context. The teams or individuals who act within that system are interdependent agents. Fowler (1996) has translated this into the development context as follows:

> […] human development results from a complex mix of non-linear processes which are largely determined by non-project factors. This means that the actual change in people's lives is contingent: it is an open system, determined by and dependent on many things […] Projects are not the cause of development: far greater forces are in play (p. 59).

**Discussion and synthesis**
Reflecting on the incidence of project failure – however this may be adjudged – Cicmil *et al.* (2009) detects a general failure of orthodox approaches to project management to engage with the environmental complexity when setting the key performance indicators against which projects are conventionally evaluated. She further contends that the consequential adverse impact on the lives and livelihoods of those affected by project underperformance tends to go unnoticed, unreported and often suppressed. Adherence to project management "good practice" methods does not eliminate project failures, nor does it guarantee project success. But just because a CAS view requires a nuanced context analysis and more adaptive way of working does not render it incompatible with functionalist planning and workflow management. On the contrary, the CAS approach recognises that planning – preferably of a participatory kind – is part of good project management practice:

> […] in a complex worldview, contingency and indeterminism matter, but they do not necessarily preclude dedicated efforts to effect change that endures over time […]. What it cautions, among other things, is that any desired form of social change will eventuate from a set of planned, incremental efforts, because the efforts themselves alter the initial conditions (Fowler, 2008, p. 14).

Applying the same analysis to capacity development, no single factor or constituent element – incentives, leadership, financial support, trained staff, knowledge, structure – can in isolation constitute the development of capacity:

> The endogenous change processes that are termed "capacity development" are usually complex, multi-layered, dynamic and long-term, which means that their outcomes can only be planned to a limited extent (German Federal Ministry for Cooperation and Development, 2008, p. 2).

This implies a need to take account of a broader range of approaches when addressing capacity development, seeing the interlocking elements as part of a "whole-of-system" view. Instances of failure of capacity development efforts, as we have noted above, have given rise to dissatisfaction and disappointment among donors (De Grauwe, 2009) and has tended to be attributed to poor execution, externalities or inadequate expertise. While these factors are plausible explanations for some instances of alleged failure, it may also be the case that practitioners engaged in the evaluative processes leading up to the verdict of success or failure, are unconsciously confined within the conventional parameters of "good practice" protocols of RBM with its attendant presupposition of linear causality. If indeed capacity development is characterised by the four attributes of systems, emergence, feedback and context, that linear rational-analytic mode of thinking is of limited applicability to normative judgements about effectiveness or otherwise of capacity development interventions or outcomes.

The CAS perspective (with its emphasis on the multiple factors and agents at play in the development process) commands powerful ontological cogency, as a way of better understanding the phenomenon of "capacity for development". Alertness to context, adaptability and learning are of value in assessing all projects (whatever the degree of intensity of their capacity development element). The rational-analytic perspective, which underlies the commonly used project planning tools and frameworks, is primarily of instrumental value, providing a practical methodology at project level, to help clarify and crystallise aspirational ambitions for change into costed operational work plans.

There is rich potential in all of this for future research that could yield a longer term benefit for both scholars and practitioners. Possible areas for future research are: first, models for leadership aligned with the Global Compact Principles; and second, studies to give richer context toward softer dimensions of development practice, e.g. sustainability, and Green Project Management based on Global Compact Principles[3]. Undoubtedly, the area between CAS and the design and management of capacity development projects would appear to provide fertile ground for empirical research that would inform professional project bodies, and exploration of both theories and methodologies that could be developed toward a more adaptive, reflective and eclectic approach to project management.

## Conclusion

Development projects range across a wide scope of activity, from infrastructure to essential service delivery to direct interventions for poverty alleviation to social transformation (through processes such as community self-help, advocacy and attitudinal change). Capacity development features in some form within most projects – as "means" (typically, skills training, vocational and professional development), as "process" (fostering micro- and meso-level change) and as "ends" (focusing on organisational objectives and macro, system-level outcomes).

In bringing the CAS lens to bear on the practice of designing and managing capacity development programmes, a number of observations emerge.

First, the need is evident for a more open, system focused and holistic approach in designing and managing these types of international projects. Assumptions about seemingly plausible causal relationships between planned interventions and expected development outcomes need to be subjected to critique and risk analysis. During the project life-cycle, ongoing monitoring and evaluation requires not only the collection of data according to pre-determined targets and indicators, but continual horizon-scanning

to elicit early warning signs of emergent factors affecting project performance, as well as potential unintended benefits of the intervention. Alertness to unintended benefits and unforeseen consequences associated with the project should also feature explicitly in the terms of reference for any ex-post project evaluation, in order that the widest possible perspective will be taken in gauging project performance. To this end, there would seem to be opportunities to open up dialogue between the parallel developments in the area of programme management and the nascent research on project management in international development projects. Although projects and programmes are sometimes used interchangeably (Streeton, 2009), programmes amount to more than scaled-up versions or agglomerations of projects. A functionalist, instrumentalist rationality underlies the conceptualisation of projects and project management, the latter having a coherent set of prescribed processes and techniques encapsulated in bodies of knowledge which have grown into a formal management discipline transcending its origins in engineering, construction, aerospace and defence with their well-established techniques of work breakdown structures, critical path analysis, schedule tracking and Gantt charts, etc. (Pellegrinelli, 2011). In contra-distinction to projects, the conceptualisation of programmes advanced by Pellegrinelli (2011, with which the present authors concur), identifies them as essentially emergent in nature, inspired by a vision or outcome of desired change, yet sustained and shaped through ongoing interaction with their stakeholder community. Programme management thus offers:

> [...] a distinct, conceptual and practice-oriented alternative to the functionalist instrumental model of project management rather than a variant or extension of it (Pellegrinelli, 2011, p. 238).

Second, to posit CAS and RBM/LFA type analysis as mutually incompatible would be unduly adversarial and arguably futile. Practitioners engaged in capacity development initiatives need to continue to avail of the standard tools and conventions of development project design and evaluation (including RBM techniques), but in so doing they also need to subsume these within a wider-angle view of project benefits and emergent learning, which though not easily quantifiable are nonetheless real. The reconciliatory position on the contestation about the role of RBM, mooted earlier in this paper, is reinforced by bringing the CAS lens to bear on the complementarity between the two perspectives. Such complementarity is both feasible and productive, provided that the linear "chain of causality" mode of thinking is qualified by an over-arching recognition of complexity and multi-dimensionality as core characteristics of capacity development interventions.

Third, with regard to evaluation of project performance, adaptive approaches are necessary, as a countervailing consideration to the linear results chain construct. Valuable project benefits and learning may thus be captured that might otherwise be overlooked: first, because they have yet to emerge; second, because unintended benefits have displaced the ones originally foreseen; or third, because the project has perforce undergone adaptation to fit in with an operating environment that has changed beyond recognition. New evaluation techniques drawing on systems thinking and complexity theory are gradually being embraced. An example is the outcome mapping methodology used by the Evaluation Unit of International Development Research Centre in Canada. Outcomes are understood as changes in behaviour, relationships or activities of direct participants in a project (individuals or organisations), logically linked to project activities, although not necessarily directly caused by them. The approach takes a learning-based view of evaluation, grounded

in participation and iterative learning, and encourages evaluative thinking throughout the programme cycle by all team members. This shift of perspective significantly alters the way a programme understands its goals and assesses its performance and results.

Fourth, well-focused actions by NGOs and donor agencies can produce significant and enduring improvements, provided that they consciously link the individual and organisational levels of capacity development. The individual level nurtures knowledge, skills and attitudes, helping to build social capital and trust. Scaling this up to organisational level fosters an organisational culture which is conducive to organisational learning, and consequently to an adaptive, problem-solving orientation to managing capacity development interventions.

## Notes

1. The World Bank has estimated that each year aid donors spend more than $20 billion on products and activities designed to enhance the capacity of developing countries to make and carry out development plans (Otoo *et al.*, 2009, p. 1).

2. This paper utilises the terms "South" and "Southern" to denote the Global South, comprising countries of sub-Saharan Africa, Latin America, and developing Asia including the Middle East.

3. *Blueprint for Corporate Sustainability Leadership within the Global Compact* (Otoo *et al.*, 2009), www.unglobalcompact.org/library/229

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