What is adaptive management and how does it work?

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About

This paper is part of the BetterEvaluation Monitoring and **Evaluation for Adaptive Management** working paper series, which focuses on using monitoring and evaluation to support adaptive management.

The series can be accessed at www.betterevaluation.org/evaluation_for_adaptive_management_ series

While focused especially on international development, this series is relevant to wider areas of public good activity, especially in a time of global pandemic, uncertainty and an increasing need for adaptive management.

Defining adaptive management

Implications of different definitions

The different ways that the term 'adaptive management' is understood and used reflect both the different sectors and contexts in which it has been used and the widespread lack of understanding that there is a history of using it that refers to a specific type of practice.

For example, USAID has used a very broad definition that focuses on the use of evidence to inform decisions:

> "an intentional approach to making decisions and adjustments in response to new information and changes in context". USAID, 2020.

By comparison the roots of adaptive management in natural resource management focused specifically on using evidence to inform action in conditions of ongoing uncertainty:

> "a structured process that allows for taking action under uncertain conditions based on the best available science, closely monitoring and evaluating outcomes, and re-evaluating and adjusting decisions as more information is learned." California Department of Fish and Wildlife, 2009.

The broader framing of adaptive management is useful in terms of focusing on actually using evidence from monitoring, evaluation and research to inform decisions and action, and in reminding us that, to some extent, all management needs to be adaptive – not simply implementing plans but modifying them in response to changes in circumstances or understanding. However, using the term loosely to apply to all levels of adaptation obscures the very real changes needed in planning, management, monitoring and evaluation for high-level adaptive management.

Therefore this paper focuses on adaptive management as a systematic response to ongoing uncertainty which avoids the two extreme options of either giving up trying to plan in conditions of uncertainty or rapid change, or trying to use tools and processes that are designed for more well understood, stable and predictable contexts.

This way of thinking about 'adaptive management' focuses on what the GLAM initiative (Global Learning on Adaptive Management) has referred to as "complex problems that will always demand contextual learning, and … problems where the challenges faced and/or the interventions are novel and untested, and where there is little evidence for what will work in a particular context" (Ramalingam, Wild & Buffardi, 2019).

While effective ongoing collaboration and learning are essential features of successful adaptive management (as we explore later in this paper), what distinguishes adaptive management from usual adaptions are the level of adaptation and the use of model-informed adaptation. Adaptive management can go beyond changing the details of how activities are implemented, to include changes to the types of activities, the strategies and even the intended outcomes and how the theory of change is understood. It uses an iterative process of adaptation that is informed by indicative theories of change and contributes to revising them.

This means that adaptive management differs from:

- **Traditional single-loop learning use of data** - Adaptive management goes beyond using data to detect and correct errors and gaps in implementation.

- **Learning from atheoretical trial and error** – Adaptive management uses conceptual models to inform trials and revises models based on the results of these trials.

- **Ad hoc decisions** - The label should not be used as a way of excusing inadequate planning that has not made use of available evidence.

Adaptive management will be appropriate in circumstances of uncertainty and ongoing unpredictable change. It is therefore relevant for certain types of interventions and certain types of implementation environments, including the current global pandemic. It might be that, after a period of adaptive management and increasing knowledge and learning, there is less uncertainty and more traditional approaches to planning, management, monitoring and evaluation can be used. Or it might be that ongoing changes in circumstances mean that it is never possible to be sure 'what works' in terms of certain types of interventions, and ongoing adaptive management will be needed, at least for some elements of the intervention.

What can be learned from the origins of adaptive management?

The concept of adaptive management is not a new one, nor did it begin in international development. Its origins can be traced back to adaptive environmental assessment and management and adaptive management of renewable resources in the late 1970s and early 1980s (Stankey et al, 2005) and iterative and incremental development (IID) and agile software development from the 1950s and increasingly from the 1970s (Larman and Basili, 2003).

The key elements of adaptive management in natural resource management include:

- the importance of design and experimentation,
- the crucial role of learning from policy experiments,
- the iterative link between knowledge and action,
- the integration and legitimacy of knowledge from various sources, and
- the need for responsive institutions.

There are three important lessons from adaptive management in natural resource management.

Firstly, while the term has been used in varied ways, many of them refer explicitly to **managing under conditions of ongoing uncertainty**. Evidence is not just gathered and used in an ad hoc way but in a way to maximise its utility, while recognising its limitations.

Secondly, adaptive management involves **learning from systematic tests**, not from ad hoc trial and error. Adaptive management is different to "muddling through":

> *".. in which some learning inevitably results from whatever management experience is undertaken. There is no purposeful direction to it and one simply reaps whatever benefits derive from earlier experiences,"* (Stankey et al., 2005).

This contrasts with some of the versions of adaptive management discussed in international development – for example PDIA refers explicitly to 'muddling through' (Andrews, 2013).

Systematic adaptive management involves sequential learning from experiments over time, parallel learning from simultaneous experiments, and processes for reflection and 'double-loop' learning – not simply adding facts into identified gaps but rethinking models and assumptions. A key component of this was effective processes for connecting the learning of scientists, managers and the public.

Thirdly, the process of adaptive management includes **explicitly building, using and testing dynamic models** of likely impact of alternative policies:

> *… this step performs three key functions:*
> - *Problem clarification and enhanced communication among scientists, managers, and other stakeholders.*
> - *Policy screening to eliminate options unlikely of doing much good because of inadequate scale or type of impacts.*
> - *Identification of key knowledge gaps that make predictions suspect.* (Stankey et al, 2005)

The implications of this for adaptive management in development are significant. It suggests a need for clear theories and models about how a situation is understood to work – which would include a problem theory and a program theory of how one or more interventions might address the problem and/or capitalise on opportunities. It also requires structured engagement with different groups, and active reflection processes.

The 2009 US Department of the Interior guide to adaptive management, still widely used and cited, makes it clear that adaptive management is intended to both draw from and contribute to wider knowledge as well as make tangible, local improvements:

> *"Adaptive management promotes flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood. Careful monitoring of these outcomes both advances scientific understanding and helps adjust policies or operations as part of an iterative learning process. …*
>
> ***It is not a 'trial and error' process, but rather emphasizes learning while doing.*** *… Its true measure is in how well it helps meet environmental, social, and economic goals, increases scientific knowledge, and reduces tensions among stakeholders,"* (National Research Council, in Williams et al, 2009).

The other source of ideas about adaptive management is agile software development and the associated iterative and incremental development (IID) approach. The parallels between project planning and implementation for large technology projects and large development projects are striking.

The roots of this approach can be traced back to the use of a series of "plan-do-study-act" (PDSA) cycles for quality improvement in Bell Labs in the 1930s, Deming's promotion of this in the 1940s, and the use of IID approaches in the development of the X-15 hypersonic jet, and Project Mercury, the NASA program that put the first American astronauts into space, and the command and control system for the first Trident submarine.

By comparison the 'waterfall' approach, developed in the 1970s, involved a linear and top-down cascade from requirements analysis, design and development phases. While the originator expected there would be at least two cycles, involving an initial pilot phase, the waterfall approach was implemented widely on a 'single pass' approach requiring completion of each stage before moving on. The waterfall approach was widely taken up in software development and more broadly until its limitations became evident in analyses of failures in software development (Larman & Basili, 2003).

During the 1970s, 1980s, and 1990s development of various forms of IID continued, including adaptive software development and scrum. In 2001 a number of these practitioners developed the "Manifesto for Agile Software Development" based around 12 principles and four comparative values:

- *Individuals and interactions over processes and tools,*
- *Working software over comprehensive documentation,*
- *Customer collaboration over contract negotiation, and,*
- *Responding to change over following a plan.*

Agile software development, and its antecedents, focused on developing early working versions and iterating them to improve them, with considerable end-user engagement throughout.

One version of IIR called 'evolutionary project management' provided this rationale for the approach:

> *"'Evolution' is a technique for producing the appearance of stability. A complex system will be most successful if it is implemented in small steps and if each step has a clear measure of successful achievement as well as a 'retreat' possibility to a previous successful step upon failure. You have the opportunity of receiving some feedback from the real world before throwing in all resources intended for a system, and you can correct possible design errors…"* Gilb (1976) Software Metrics, cited in Larman & Basili, 2003.

The following barriers identified in successfully implementing the rational linear approach to software development have broader relevance as well:

> *1) In most cases the people who commission the building of a software system do not know exactly what they want and are unable to tell us all that they know.*
>
> *2) Even if we knew the requirements, there are many other facts that we need to know to design the software. Many of the details only become known to us as we progress in the implementation. …*
>
> *3) Even if we knew all of the relevant facts before we started, experience shows that human beings are unable to comprehend fully the plethora of details that must be taken into account in order to design and build a correct system. …*
>
> *4) Even if we could master all of the detail needed, all but the most trivial projects are subject to change for external reasons ...*
>
> *5) Human errors can only be avoided if one can avoid the use of humans…*
>
> (Parnas and Clemens, 1996)

There are considerable lessons to be learned from the long history of using adaptive management ideas and practices – in particular being clear about the contexts in which is particularly appropriate and when a hybrid approach might be used, the importance of iterations between planning, action and review, the use of conceptual models and the importance of wide stakeholder engagement throughout.

What is adapted and by whom?

The focus of adaptive management can be an element of a project, an entire project, or a program made up of a portfolio of projects (such as a facility). Adaptation can refer to improving the quality of implementation of the same activities, or implementing different activities while keeping the same overall strategies, or changing strategies or objectives.

Adaptation at the level of changing objectives, or the understanding of the problems and opportunities, might be appropriate in situations where conditions are rapidly changing and new types of interventions are being planned quickly in response to urgent needs.

In terms of who is involved in adaptive behaviour, this depends on the level of adaptation involved. Adaptive management in terms of improving implementation of existing activities or implementing different activities for the same overall strategy can be implemented by managers at all levels, including front-line delivery and project managers. But adaptation that involves changing strategies or objectives is likely to require involvement of higher levels of management, including those making decisions about which projects to invest in.

The following sections provide some examples of how adaptive management has been described in terms of:

- Changing intended causal pathways (and hence actions) but not goals

- Changing both intended causal pathways and goals

- Changing intended causal pathways, goals and the understanding of the problem

Adaptation in terms of changing intended actions (causal pathways) but not goals

The USAID Discussion Note on Adaptive Management (2018b) was clear that adaptive management does not involve changing the goals:

"Adaptive management is not about changing goals during implementation, it is about changing the path being used to achieve the goals in response to changes."

The accompanying diagram (Figure 1) does not make it clear which decisions and actions are intended to be informed and influenced by learning and adapting.
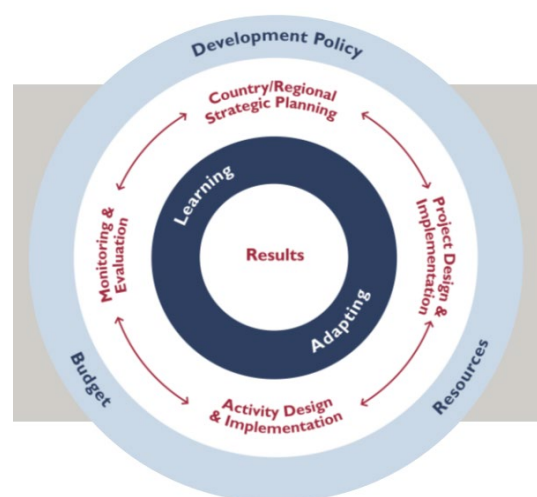

Figure 1 : USAID (2018b) Discussion Note on Adaptive Management

Adaptation in terms of changing both actions and goals

Another representation of adaptive management, seen frequently in natural resource management, shows adaptive management as informing both long-run changes to planning and shorter-run changes to actions.

A representation from the Tasmanian Parks and Wildlife Service (Figure 2) spelled out the different levels of adaptation that are intended – changes to strategies and actions in addition to the longer cycle of making changes to plans.
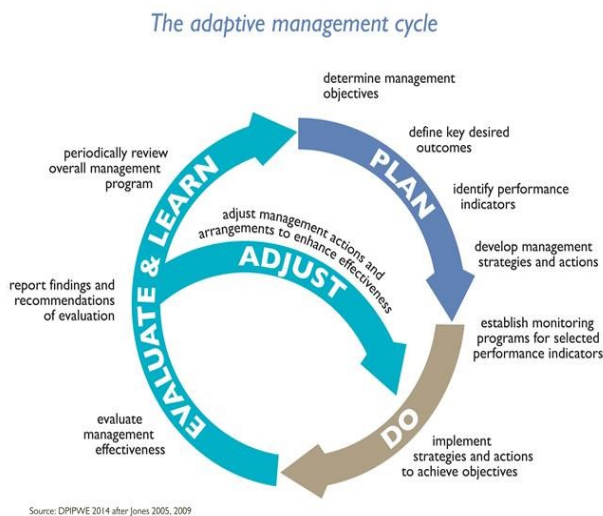

Figure 2: The adaptive management cycle with iterative adjustments to implementation (DPIPWE 2014; Jones

A Queensland Government report, which used the same representations, defined adaptive management as:

> *Adaptive management involves continually monitoring a process to evaluate its effectiveness, and improving the process based on this evaluation. It requires transparent planning systems and implementation strategies, and a strong emphasis on monitoring and reviewing to ensure emerging information is reflected in future planning.* Qld Department of State Development, Manufacturing, Industry and Planning, 2015

Adaptation in terms of changing actions, plans and understanding of the problem

A further representation shows an even greater range of adaptations, including changing the objectives and even the understanding of the problem or situation being addressed.

The following diagram (Figure 3) from the Californian Department of Fish and Wildlife (no date) illustrates this level of change and Figure 4 from ecological management (Schreiber et al, 2004) includes explicit development and use of a model.
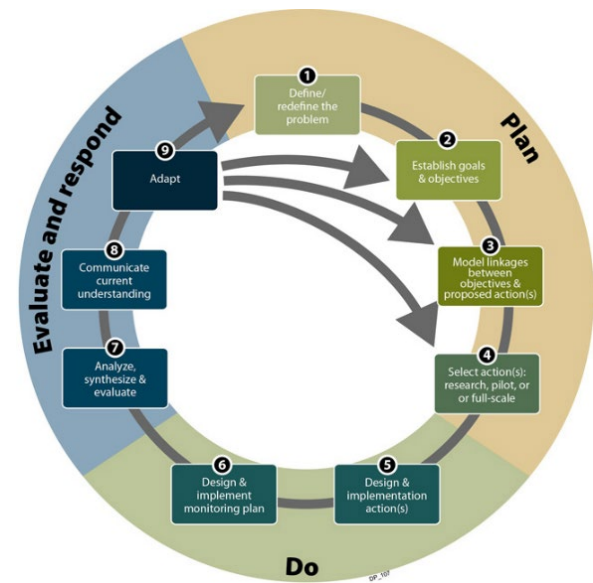

Figure 3: The adaptive management cycle with three levels of adaptation. Californian Department of Fish and Wildlife (no date)
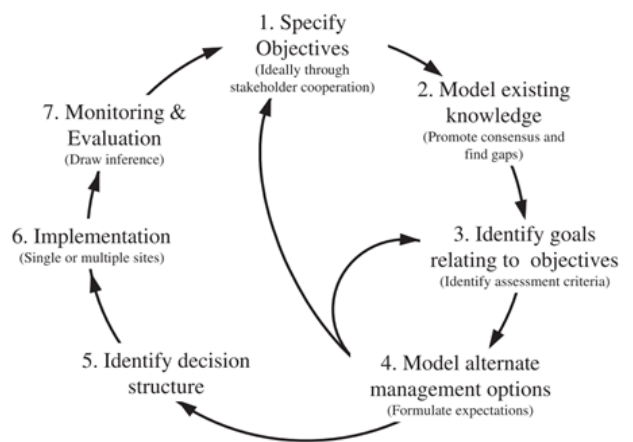

Figure 4: The adaptive management process with an emphasis on development and use of modelling options Schreiber et al, 2004

Different approaches to adaptive management in international development

In the context of development, adaptive management under a number of approaches and labels is applied to the work being done by development practitioners.

Thinking and Working Politically (TWP) originated from a Community of Practice formed in Delhi in 2013 that brings together a group of researchers and senior officials from leading development organisations with the aim of moving from simply 'thinking politically' to 'working politically' (TWP CoP, 2013).

Sidel and Faustino (2019) cite the emergence in the 2000s of new ideas about how development should work as one of the trends which fed into the TWP CoP's establishment, stating that these ideas "emphasized politics, institutions, leaders, elites, and coalitions in the making of effective development programs" (p.10). One example of TWP in practice which emphasises these facets is the Pacific Leadership Program, which has a strong focus on developmental leadership and reform coalitions to work towards its goals (Denny and McLaren, 2016).

Problem Driven Iterative Adaption (PDIA) is an approach developed by the Building State Capability faculty at Harvard Business School which aims to facilitate the emergence of local solutions to local problems through a process of problem construction and deconstruction, experimentation and adaption (Building State Capability, no date.).

Collaboration, Learning and Adaption is an approach introduced by USAID's Bureau for Policy, Planning and Learning (PPL) in 2012 to operationalize adaptive management throughout USAID's Program Cycle (USAID 2017b).

Doing Development Differently is a community built around the DDD Manifesto that arose from an initial meeting in 2014 that aimed to bring together practitioners who were engaged in development practices that were dynamic and appeared to have impact – the DDD manifesto has over 400 signatories from 60 countries (Doing Development Differently Manifesto, 2014).

While there are differences in emphasis in each of these, when their central elements are compared, they all address four components:

- Attention to political analysis and engagement at multiple levels
- Adaptation to local conditions and local ownership
- Framing work around problem solving
- Adaptation to changing conditions and new information

Aspects	Possible implications for monitoring and evaluation
Attention to political analysis and engagement at multiple levels	Who is involved in the process of monitoring and evaluation – including changes over time How to make the processes of evaluation, including decisions about the evaluation plan and sensemaking, accessible to all those engaged Processes of developing theories of change that engage with and challenge stakeholders' existing mental models Theories of change that incorporate network analysis and the actions of independent actors in helping or hindering intended changes
Adaptation to local conditions and local ownership	Theories of change which explicitly and coherently incorporate context, change theories and action theories Explicit analytic extrapolation to answer predictive questions – what is likely to happen if we do this in a different time or place?
Framing work around problem solving	Framing evaluation around specific issues rather than generic reporting in terms of OECD-DAC evaluation criteria
Adaptation to changing conditions and new information	Timely data that can be accessed and used to make changes Iteratively revised theories of change that incorporate changes to needs and opportunities (including engagement of additional stakeholders) and understanding

The summary presented below compares the key features of these approaches under four components, drawing on and adapting the three principles associated with TWP – political insight and understanding, responsiveness to local context and flexibility and adaptability (Thinking, Working Politically CoP, no date), and adding a fourth dimension related to problem-framing.

	Attention to political analysis and engagement at multiple levels	**Adaptation to local conditions and local ownership**	**Framing of problem**	**Adaptation to changing conditions and new information**
Doing Development Differently *(Doing Development Differently Manifesto, 2014)*	"legitimised at all levels (political, managerial and social)" "work through local conveners who mobilise all those with a stake in progress (in both formal and informal coalitions and teams)"	Important for initiatives to be "'locally owned' in reality (not just on paper)"	"focus on solving local problems that are debated, defined and refined by local people in an ongoing process" Focus on sustainability by focusing on "real solutions to real problems"	"rapid cycles of planning, action, reflection and revision (drawing on local knowledge, feedback and energy) to foster learning from both success and failure." Use of "'small bets': pursuing activities with promise and dropping others."
Thinking and Working Politically *(Thinking, Working Politically CoP, no date)*	Focus on "power dynamics, interests, incentives and institutions" "Understand the network of stakeholders involved and facilitate coalitions of different interests, rather than relying on a 'principal-agent' relationship"	"Ensure as far as possible that locally-defined problems and proposed solutions are accepted as legitimate by all relevant stakeholders, thereby ensuring ownership"	"Focus on problems identified and articulated by local actors, not outsiders"	Allows "for sufficient flexibility and iteration in the day-to-day efforts to make progress towards goals." "continue to assess the local context, test original assumptions, and adapt programs based on new information and opportunities" "series of small 'experimental' or 'incremental' steps and monitor results."
Problem-Driven Iterative Adaptation *(Andrews et al., 2017)*	"Engaging champions across sectors and organisations who ensure reforms are viable, legitimate and relevant."	"Locally driven, where local actors define, debate and refine the problem statement through shared consensus."	Avoiding "predetermined solutions" to focus on "local nomination, articulation and prioritisation of concrete problems" "emphasis on the *process* of solving problems"	"Promoting active experiential (and experimental) learning with evidence-driven feedback built into regular management that allows for real-time adaptation."
Collaboration, Learning and Adaptation *(USAID, 2017)*	Need to "think more strategically about collaboration: who should we be collaborating with, why and what form should that collaboration take"	Locally-led approach: "Facilitate, rather than create, development"	(no explicit focus on problem-framing)	"Continue to build in time and budget space for adaptation through pilot/inception phases of projects that enable a range of strategies to be tested in 'small bets.'"

What is needed for adaptive management to work?

Essential elements for adaptive management

Underpinning adaptive management approaches to development are explicit or implicit theories of change which explain why working in this way is understood to contribute to better development outcomes.

These can be thought of in terms of particular changes in behaviour, especially:

- **More effective** collaboration – working with other individuals, groups and organisations

- **More effective learning** – finding, retaining, making sense of and using information to think or act differently

More effective collaboration

Explicit theories of change for interventions using adaptive management often revolve around bringing together the right people to work on a problem. Strategies for effective collaboration are therefore an important part of adaptive management.

More effective learning

It's important to note that learning does not take place in a vacuum – it must be guided and supported. Effective theories of change for adaptive management should explicitly include theories of building, sharing and using knowledge.

Theories of change for adaptive management can include explicit attention to different types of learning, including:

- **single-loop, double-loop and triple-loop** learning (Argyris and Schön, 1978)

- **adult learning** (Knowles, 1984)

Single loop learning refers to identifying and correcting discrepancies with targets and plans; double-loop learning refers to questioning the rules and targets and the assumptions on which

they are based; triple loop learning refers to learning about learning itself, and which processes are being effective.

Adult learning refers to adults' needs for autonomy and to connect what they are learning to what they already know. It suggests a need for more engaged processes for making sense of data and its implications rather than passively accepting findings from evaluation.

Factors which support or hinder these behaviour changes

Michie et al. (2012)'s meta-model of behaviour change (COM-B model) can be useful here. This considers three components which influence changes in behaviour:

- **capacity** (human capital such as skills and knowledge, social capital, organisational capital)

- **motivation** (including incentives and disincentives) and

- **opportunity** (including identifying and removing barriers).
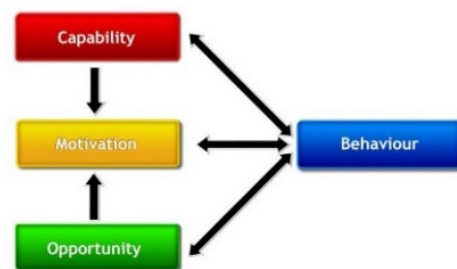
Michie et al (2011) Implementation Science

These different elements can be brought together into the overall theory of change of an adaptive program – as in this description of Coalitions for Change program, a partnership between the Australian Embassy and The Asia Foundation in the Philippines, which focused on key policy reforms to improve lives of Filipinos and promote their economic well-being:

CFC creates spaces for collaboration and brings together motivated groups, organisations and individuals – whether they be politicians, scholars, reform advocates or civil society members – to build the demand for better governance. With the right people, sound evidence, and valuable connections, these coalitions and networks are well-positioned to successfully influence policies. The Asia Foundation, no date.

The USAID theory of change about adaptive management refers to **capability** (developing improved knowledge through intentional learning), **motivation** (through incentives for learning and managing adaptively) and **opportunities** (through removing barriers that prevent program modification)

For example, the USAID program cycle operational policy includes attention to supporting adaptive management, referring to the need to be able to adapt in response to changes in context and to new information.

Manage Adaptively through Continuous Learning Facilitating international development inherently requires that USAID work in countries with evolving political and economic contexts. USAID is increasingly working in countries that are unstable or in transition and even in the most stable environments, it is difficult to reliably predict how events or circumstances will evolve and impact programs. Therefore, USAID must be able to readily adapt programs in response to changes in context and new information. To do this, the Agency must **create an enabling environment that encourages the design of more flexible programs**, *promotes intentional* **learning, minimizes the obstacles** *to modifying programs, and* **creates incentives for learning and managing adaptively.** *Learning can take place through a range of processes and use a variety of sources such as monitoring data, evaluation findings, research findings, analyses, lessons from implementation, and observation.* (USAID (2018a): ADS Chapter 201 Program Cycle Operational Policy, pp 11-12. Emphasis added.)

Monitoring and evaluation can contribute to, or fail to contribute to, each of these aspects, either directly or indirectly. The 3rd paper in this series, '**Monitoring and evaluation methods, processes and approaches for adaptive management'** provides more detail on these.

Capacity

Capacity can be understood to refer to different types of capital - **human capital** (knowledge and skills), **social capital** (networks and relationships and norms of trust and reciprocity), and **organisational capacity** (e.g. IT equipment and access to data sets).

Personality and skills

Staff involved in adaptive management need strong technical skills, including critical thinking, problem-solving and political analysis skills (Teskey and Tyrrel, 2017; Mercy Corps, 2015; BOND, 2016). They also need an 'adaptive mindset' – which involves a tolerance for measured risk-taking and adaption (Bain et al., 2016).

Other desirable traits include being inquisitive and being able to ask the right questions, think on their feet, and spot opportunities, as well as being able to empathise with colleagues (Dexis Consulting Group, 2017). It's also noted that a deliberate effort to create diverse teams with a variety of backgrounds and expertise is important.

Leaders need a strong interest and enthusiasm for the task of adaptive programming, including willingness to accept failure and uncertainty (Goeldner, Byrne et al., 2016; BOND, 2016) and a strong sense of direction, perseverance and determination (Faustino and Booth, 2014). They also need to be willing to step back and let others take the lead in decision making, such as local actors and frontline staff (Booth and Unsworth, 2014). Leaders are also important to building a culture that celebrates learning, embraces failure, and encourages a positive risk culture of informed risk-taking.

Networks and relationships

The networks and relationships of individuals are key to the success of locally-led, adaptive approaches such as TWP, PDIA, DDD and CLA, and the ability to convene and facilitate external parties is important (Laws and Marquette, 2018; Bain, Booth, and Wild, 2016; USAID 2018b). This capacity is often equated with the role of a "political insider", though it is often acknowledged how difficult it is to find true insiders (Teskey and Tyrrel, 2017; Wild, Booth, Cummings, Foresti, and Wales, 2015; Faustino and Booth, 2014).

Time and resources are needed to build and strengthen trusting relationships with external networks and partnerships. For managing

contractors, an effort should be made to ensure teams are made up of individuals with strong local networks, where possible. Donors and funders also have a role to play in terms of their ability to convene and facilitate linkages across groups.

Trust

An important point in terms of both internal and external relationships is that it is not just the *existence* of the networks that is important, but that trust is a vital element to cement these. This includes trust between implementers and external actors, as well as between external parties and groups (Laws and Marquette, 2018; USAID, 2015; USAID, 2017c). Trust has been widely identified as important to facilitating adaptive behaviour (Honig and Gulrajani, 2017; Wild, Booth, and Valters, 2017) and it is important to have the ability and processes in place to build trust. Trust is important on multiple levels – between the donor and managing contractor; between the managing contractor and staff; and between staff. Communication and early wins can help in building trust (Teskey and Tyrrel, 2017); as can informal opportunities for information sharing and encouraging social sensitivity (USAID, 2017c). The ability to convene and facilitate external parties is important here.

Time and workload

Adaptive management practices take time to do well. This needs to be factored into workplans and efforts made to reduce administrative burdens where possible in order to "free up managers to manage" and allow program staff time for reflection, learning and planning. How this is managed would be expected to change over time:

Once there is a better balance of work programmes and a 'good enough' understanding of the organisation's new, lighter bureaucratic burden, it should be possible have a candid discussion about performance and accountability, in light of the weight being given to new soft skills through the new core competencies. Bain et al. (2016)

Contextual knowledge

Local and contextual knowledge of staff and managers is important for successful adaptive management (USAID, 2018b; Goeldner Byrne, Sparkman, and Fowler, 2016). This is often something that organisations will need to specifically hire for in order to create teams with diverse backgrounds and which include local staff.

Knowledge of rules, systems and processes

Knowledge of internal systems was also important, including staff knowledge of organisational rules and budget flexibility and procedures around decision-making (Goeldner Byrne et al., 2016). This is important as while a program team might have a solid understanding of what changes need to be made to improve implementation, a lack of understanding of organisational policy will very easily delay or even block this. In an implementation context that relies on rapid experimentation and timely adjustments, this can be a major stumbling block to effective adaptive management.

Knowledge management

Quality knowledge management systems are highly important to effective learning and adaption. This is noted in USAID's CLA literature review (USAID, 2017c) and is also found as a key recommendation by the independent review of KOMPAK (Whitelum, 2018), a facility funded by the Government of Australia (GoA) to support the Government of Indonesia (GoI) in achieving its poverty reduction targets and addressing inequality. Knowledge management systems can come in many forms. It's important to think about user needs, resources and motivations when designing these.

Learning culture

USAID's literature review of the CLA literature found the following features of organisational culture to be important: collaborative teams, encouragement of honest discourse and debate, encouraging a learning culture, group tolerance for risk taking and high levels of trust between team members (USAID, 2017c). An enabling environment for adaptive management includes attention to improving communication practices and creating more learning opportunities, face to face and virtual, as well as opportunities for coaching and mentoring which can "build organizational culture and resilience for adaptive management" (Desai et al., 2018). It's also important to build dedicated learning and reflection time into contracts and roles (USAID, 2017c). Formal roles can help support learning, e.g. regional advisors, periodic reviewers, communities of practice (Goeldner Byrne et al., 2016)

Motivation

Motivation can be understood in terms of both the positive and negative incentives to behave in particular ways, either because of observed or assumed consequences. In practice, the actual incentive system might encourage behaviours that are different to the stated norms and desired behaviours.

Positive incentives

Clear signals from leadership about the value of adaptive behaviours, and tying rewards and milestones to these, is an important element of incentivising adaptive management. This is important at the donor-implementor relationship, as well as within implementing teams (Laws and Marquette, 2018).

Teskey and Tyrell (2017) suggested several ways in which donors can do this:

> *focusing performance incentives at the outcome level;*
> *focusing performance milestones in the first 12-18 months of the program on operational system quality;*
> *rewarding number of changes to result from R&R exercises, rather than simply rewarding the number of R&R exercises;*
> *encouraging and rewarding reporting on failure.*

In addition, BOND (2016) suggested donors should adopt results frameworks that

> *"better recognise 'success' in complex, adaptive programmes, for example through menus of indicators, inclusion of good learning and adaptation practice as a result in its own right, and seeking and expecting a contribution to change, rather than results that can be attributed solely to one intervention."*

Bain et al. (2016) in a paper for ODI note that incentives are needed at multiple levels, recommending rewards and promotions at the individual, team and manager level be linked to evidence of learning, adaption, critical thinking, partnership and debate.

To encourage behaviour within and across program teams, managing contractors should introduce formal and informal mechanisms (Mercy Corps, 2015; Bain et al., 2016; USAID, 2017c; BOND, 2016).

This includes incentives to share ideas, encourage internal sharing, and maintain sustained engagement and communication (Andrews, Pritchett and Woolcock 2016a; USAID 2017; Desai et al., 2018).

BOND (2016) noted incentives need to be aligned across the organisation: "adaptive management requires multiple teams and parts of the organisation to work in concert: programmes, operations, MEL, finance, HR, communications, etc. If those different teams and functions have incentives and drivers that are in tension with one another, progress on adaptation will be painfully slow."

Negative incentives

As important as providing positive incentives is the removal of negative incentives that actively work against staff displaying adaptive behaviour. These disincentives can include:

hostile or high-profile political environments – political environment, particularly surrounding projects with high spend and high political visibility, can create additional pressures that disincentivise adaptive behaviours (Goeldner Byrne et al., 2016; Teskey and Tyrrel, 2017; Mackenzie and Hearn, 2016). It's been noted that not all programs may be suitable for adaptive management due to their high-profile (Teskey and Tyrrel, 2017); Mackenzie and Hearn, 2016).

inflexible M&E systems and reporting requirements – e.g. Inherited log frames that have limited room for flexibility and adaption (Goeldner Byrne et al., 2016) and reporting requirements with the potential to create incentives to "measure the measurable" and under-resource the unmeasurable (Honig and Gulrajani, 2017).

inflexible or inadequate finance and procurement systems – Budgetary and accountability practices were cited widely as a disincentive for adaptive behaviours. While flexibility in budgets is widely seen as supporting adaptive practices, this frequently comes up against a need to spend money (Bain et al., 2016; Booth, 2013; Goeldner Byrne et al., 2016).

inflexible or inadequate procurement systems Procurement systems can also disincentivise adaptive behaviour by requiring a high level of specificity from the very outset, which can set the tone for how much adaption is possible (Goeldner Byrne et al., 2016).

isomorphic solutions – solutions designed to satisfy external funders but which lack sustainability (Laws and Marquette, 2018).

evidence preferences – top-down preferences for certain types of evidence (such as quantitative information), which is noted by staff at both USAID and DFID staff as an issue (Goeldner Byrne et al., 2016).

unaligned priorities – Such as donor priorities being seen as more important than those of partner governments (Teskey and Tyrrel, 2017), or having prescribed targets or partner organisations (Laws and Marquette, 2018).

Opportunity

Having skills, knowledge and motivation to manage adaptively is not enough. The systems used to manage interventions and investments need to provide opportunities for responsive, flexible decision making.

Flexible funding

Including a reserve fund for learning and adaption can be a valuable mechanism to support the ability to adapt when needed. Algoso (2017) suggests flexible funding features might include dedicated funding for innovation and risk-taking or triggering mechanisms for funding increases or other budget changes. Desai et al. (2018) suggest sharing of budget targets and centralised 'rainy day' funds for needs-based adjustments can be useful tools.

Flexibility in planning

Adaptive log frames and broad but defined indicators, leaving room for adjustments, are more useful tools for flexibility than traditional log frames. Desai et al. (2018) note that communication and trust between donors and implementors is key to flexible planning, as is training staff to understand flexible systems and processes.

Innovative contract mechanisms

Mechanisms such as payment by results, agile grants and fixed price mechanisms can improve adaptive behaviours by incorporating new incentive structures (Goeldner Byrne et al., 2016).

Inception periods

Inception periods that allow time for strategic design and experimentation also help enable adaptivity (Dexis Consulting Group, 2017; Goeldner Byrne et al., 2016; Mercy Corps, 2015; Bain et al., 2016; BOND, 2016). Desai et al (2018) cite a DFID example of an inception period for the SWIFT program that allowed SWIFT's stakeholders to innovate and refocus activities after trial and error, while Teskey and Tyrell (2017) suggest inception periods should be built into donor expectations for large facilities.

> The other papers in this series **'Monitoring and evaluation for adaptive management: An overview'** and **'Monitoring and evaluation methods, processes and approaches for adaptive management'** provide further references and resources.

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