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## **Systems Thinking and Institutional Performance: Retrospect and Prospect on USAID Policy and Practice**

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A working paper of the  
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## Systems Thinking and Institutional Performance: Retrospect and Prospect on USAID Policy and Practice

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**ABBREVIATIONS**

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CDCS	Country Development Cooperation Strategy
CLA	Collaborating, Learning, and Adapting
CCM	Office of Conflict Management and Mitigation
DRG	Center of Excellence on Democracy, Human Rights, and Governance
E3/MPEP	Bureau for Economic Growth, Education and the Environment/Office of Microenterprise and Private Enterprise Promotion
FSRE	Farming Systems Research and Extension
FTF	Feed the Future
G2G	government to government
HFA	Health for All
MEL	monitoring, evaluation and learning
NGO	non-governmental organization
ODI	Overseas Development Institute
PEPFAR	President's Emergency Plan for AIDS Relief
PFMRAF	Public Financial Management Risk Assessment Framework
PHC	primary health care
PMI	President's Malaria Initiative
PPL	Bureau for Policy, Planning, and Learning
PPL/LER	PPL/Office of Learning, Evaluation, and Research
SOW	scope of work
USAID	United States Agency for International Development
WHO	World Health Organisation

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**ABSTRACT**

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One of the debates in the international development community is how best to match the resources available through foreign assistance with the nature of the development challenges that countries face. Over the years, analysts and practitioners have drawn upon a body of work under the rubric of systems thinking to increase effectiveness and impact; the latest iteration of this work focuses on complex adaptive systems. This paper examines how the U.S. Agency for International Development (USAID) has applied this thinking to strategy and programming, reviewing selected examples from past applications and summarizing current initiatives. Drawing on key informant interviews and a variety of documents, the study identifies how Agency staff view systems, how systems thinking has influenced policy and operations, what enablers and barriers exist in introducing changes to incorporate systems thinking, and what the prospects for sustaining changes appear to be. Among the findings of the study are that USAID staff see the holistic perspective that systems thinking facilitates as valuable for developing country strategies and crafting project designs, and that the emphasis on flexibility, feedback loops, and adaptation improves implementation success. Enablers of systems-based reforms include the growth of staff interest in systems concepts and an emerging community with shared language, Agency leadership support for changes at multiple levels, and expanding pockets of expertise and experimentation. Some of the barriers staff noted are time demands and work overload, expenditure pipeline pressures, congressional and presidential earmarks, and bureaucratic stovepipes. The paper concludes that some of the systems-based innovations USAID has recently introduced are likely to be sustained, though the ultimate test will be whether those reforms lead to changed practices on the ground in the countries where USAID programs are located. USAID finds that incorporating changes that would fully align its policies and programs with complex systems confronts faces limits given its status as a federal government agency. Nevertheless, the Agency has managed to create some change space that has supported integration of systems thinking into its business practices.



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## INTRODUCTION

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A recurring refrain in much international development and institutional reform design and practice is to decry the blinders of linear causality, input-output logic, and blueprint models. These traditional lines of thinking are often manifested in strategic plans, results frameworks, identification of “best practices,” and monitoring and evaluation routines. In response, critics have at various times explored the application of complex adaptive systems thinking to development programs, policy reform, and capacity building in developing countries (Brinkerhoff et al. 1990, Rihani 2002, Morgan 2005, Ramalingam et al. 2008, Ramalingam 2013). Today, there is renewed interest in such systems approaches as donors and countries concentrate on sustainability, country ownership, and resilience.

This paper focuses on the U.S. Agency for International Development’s (USAID’s) evolution and latest applications of systems thinking to strategy and programming. The paper examines how central bureaus and country missions are employing systems thinking, and offers reflections on the operational utility of various systems concepts, models, and associated tools. Attention to systems is not new for USAID; this paper concentrates on the Agency’s current experience. We explore the following questions, drawing on a set of targeted interviews with USAID staff for answers:

- What Agency staff consider to be the core elements of systems thinking/approaches
- How systems approaches have changed how USAID operates
- The enablers and barriers to USAID’s adoption of systems approaches
- The future prospects for institutionalizing systems approaches in Agency policy and practice.

The paper begins with a brief, and admittedly oversimplified, treatment of the intersection between systems thinking and international development. It next provides an overview of USAID’s application of systems thinking and approaches, selectively tracing past efforts and identifying recent and current ones. The paper then turns to the findings from our interviews, organized according to the questions listed above. The discussion next interprets the findings through several lenses that have been applied to organizational analysis. Finally, the paper offers some observations and conclusions related to institutionalizing systems approaches in USAID.

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## SYSTEMS THINKING AND INTERNATIONAL DEVELOPMENT

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In the biological and physical sciences, in medicine, and in engineering, systems approaches to knowledge building and application have had a long history. The post-World War II period saw the increasing emergence of systems as a distinct field of study and associated analytic tools design. One strand of early systems thinking, for example, grew out of modeling such problems as the long-range bombing of Germany and Japan in the last years of the war.<sup>1</sup> During this same time period, international development similarly arose as an academic discipline, as well as an operational policy arena and set of programmatic interventions. In international development, Rostow’s stage model of economic take-off and growth is a prime early example of thinking of development in systems terms (1960). The initial systems focus during this period was on identifying the connections and relationships among the

phenomena, processes, institutions, social groups, resources, and people deemed necessary to achieve a socioeconomic development outcome.

As various observers have noted, the concepts of interconnectedness and interrelationships remain among the most commonly understood and applied features of systems thinking, showing up visually as depictions of system subcomponents as boxes/circles connected by lines and arrows (e.g., Williams 2009). Systems are defined as the set of subcomponents and their interrelationships that “go together” and demonstrate regular interaction patterns that persist over time. Critical to maintaining those patterns are feedback loops among subcomponents, as well as between systems and their environments. These exchanges enable systems to self-correct, self-regulate, and adapt so as to continue to sustain themselves.

Because early conceptions of socioeconomic development favored mechanistic, engineering models, applications of interconnectedness tended toward reductionist simplification of development processes and identification of linear sequences of cause-and-effect, with associated feedback mechanisms. International development assistance, perceived as technology and knowledge transfer, meshed easily with rational planning tools predicated on the assumption that systems relationships and components could be fully described, understood, modeled, and manipulated. So-called “hard” systems thinking postulated clear objectives and specified input-output chains that would lead to their accomplishment. These chains could be treated as hypotheses to be tested, and the results would reveal regular, reoccurring, and predictable systemic patterns that would hold across a range of settings and lead to the identification of transferrable “best practices.” Arguably, the most well-known hard systems application in international development is the Logical Framework, originally developed by a USAID contractor in the late 1970s, and still widely used today by a number of international donor agencies.

Accumulated experience with applying hard systems thinking across a wide range of sectors revealed to donors and analysts alike that reductionism oversimplified the complexity and uncertainty inherent in socioeconomic development. In contrast, the salient systemic interrelationships tend to be dynamic, frequently nonlinear, unpredictable, and highly sensitive to context. Further, given that socioeconomic development involves human motivations, perceptions, and agency, the notion of systems as objectively “real” was challenged by an alternative view that systems are socially constructed, and represent multiple “realities.” Social construction means that systems are defined by people’s varied perspectives on the goals of the system, its constituent elements and linkages, and its boundaries. This view is reflected in what is called “soft” systems thinking (Checkland and Scholes 1990).

Soft systems thinking opened the door to considering the relevance of stakeholder perceptions, motivations, and behaviors for characterizing systems and understanding their dynamics. As opposed to hard systems, which applies a model at the start of problem formulation, soft systems thinking starts with investigation of the problem situation, as seen from a variety of perspectives, and then models the system. Subsequent investigations test the model, and iteratively adjust it in response to learning (see Wilson and Morren 1990, Ch. 3). In the international development arena, a classic application of soft systems is the participatory rural appraisal technique that engages local communities in developing visual models of their realities (Chambers 1994). Which perspectives prevail in characterizing a system and—especially—

in determining its boundaries influences who/what is deemed relevant and important, and who/what is not (Williams 2009).

Crossing the hard to soft systems divide brought to the fore issues of power, politics, and values. Determinations of system boundaries and elaboration of system components affect donor agency decisions regarding what projects to design and fund, so these issues have had real consequences for international development assistance. Similarly they influence developing country policies, programs, and decision-making. In line with the question, “whose reality counts?” (Chambers 1997), one strand of systems thinking has focused on political and power dynamics, which stimulated the elaboration of a variety of analytic tools aimed at identifying and understanding these forces.<sup>2</sup>

As international development scholars and practitioners wrestled with the implications of the core features of systems overviewed above—interconnectedness, reductionism, stakeholder perceptions, and specification of boundaries—several of them turned to a body of theory and concepts referred to as complexity science (see Chambers 1997, Rihani 2002). These concepts have intersected with systems thinking under the umbrella label, complex adaptive systems.<sup>3</sup> As Ramalingam et al. (2008) elaborate, complexity science seeks to understand and characterize systems that exhibit unpredictability, non-linearity, emergence, adaptation and double-loop learning.<sup>4</sup> The application of these concepts produces a very different picture of the systems phenomena of interest to international donor agencies from their more conventional depiction. The following table presents a stylized comparison of these two systems paradigms as they apply to socioeconomic development; the oppositions are somewhat exaggerated for purposes of illustration.

**Table 1. Conventional versus Complexity-Aware Systems Thinking**

	Conventional systems thinking	Complexity-aware systems thinking
Systems & system dynamics	<ul style="list-style-type: none"> <li>• Closed, static, reductionist, &amp; linear</li> <li>• System &amp; subcomponent boundaries are relatively fixed, subcomponents are linked in predictable patterns</li> <li>• System tends toward steady-state equilibrium</li> </ul>	<ul style="list-style-type: none"> <li>• Open, interactive, non-linear</li> <li>• System &amp; subcomponent boundaries are permeable &amp; fluid, subcomponents are unstable</li> <li>• Equilibrium is temporary, subject to irregular shifts</li> </ul>
Human agency & behavior	<ul style="list-style-type: none"> <li>• Actors' decisions are rational with little bias/error; resulting behaviors are stable, predictable within a narrow range of options</li> <li>• Actors are homogeneous within identifiable categories</li> <li>• Actors practice single-loop learning, limited adaptive behaviors</li> <li>• Interests and behaviors are subject to manipulation &amp; control to achieve externally predetermined outcomes</li> </ul>	<ul style="list-style-type: none"> <li>• Actors combine inductive &amp; deductive reasoning, subject to bias/error; resulting behaviors are imperfectly predictable</li> <li>• Actors are heterogeneous, defy simple categorization</li> <li>• Actors exhibit double-loop learning, adapt and co-evolve</li> <li>• Interests and behaviors resist external manipulation, actors self-organize</li> </ul>
Social structures & institutions	<ul style="list-style-type: none"> <li>• Formal structures &amp; processes are paramount</li> <li>• Institutional forms &amp; functions are invariant/transferrable across contexts, amenable to design, ahistorical</li> </ul>	<ul style="list-style-type: none"> <li>• Informal and formal structures &amp; processes are important, interconnected</li> <li>• Institutional forms &amp; functions are path-dependent, subject to cultural factors, historically grounded</li> </ul>

	Conventional systems thinking	Complexity-aware systems thinking
	<ul style="list-style-type: none"> <li>Actors are independent, loosely connected/coupled</li> </ul>	<ul style="list-style-type: none"> <li>Actors are interdependent, connected through multiple interlocking relationships</li> </ul>
Nature of change	<ul style="list-style-type: none"> <li>Predictable, proportional, results directly from deliberate and planned action</li> <li>Identifiable, linear cause-effect chains</li> </ul>	<ul style="list-style-type: none"> <li>Non-linear &amp; disproportionate, results are unpredictable, sensitive to initial conditions</li> <li>Emergent, cause-effect disjunctures</li> </ul>

Source: Adapted from Ramalingam (2013: 142)

For the international development community today, the discourse and debates regarding complexity revolve around three sets of questions (Sarriot and Kouletio 2014):

- What is the true nature of the phenomena associated with socioeconomic development and systems?
- How can donors, development partners, and country actors best intervene to solve socioeconomic development problems and maximize positive impacts?
- How can these phenomena and their associated problem-solving interventions best be understood and assessed?

The literature, policy seminars, blog posts, and social media abound with discussions related to these questions. Key points in the debates focused on praxis concern the extent to which donor bureaucracies are capable of adapting their policies and practices to match more effectively the responses necessary to confront socioeconomic development as viewed through the conceptual lens of complexity and complex adaptive systems.<sup>5</sup>

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## USAID’S SYSTEMS AGENDA: PAST AND PRESENT

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The evolution of the application of systems thinking in USAID has tracked relatively closely with the summary presented immediately above. USAID has over the years supported the development of a number of systems approaches and tools, as well as sought to apply them through its policies, operations, and programming. This section offers a selection of these approaches and tools from the past, and then reviews current initiatives. Several initial observations are in order. First, USAID is a large bureaucracy, with numerous units, both in Washington and around the world. It fulfills a variety of functions and carries out a wide range of programs. Systems thinking is not applicable to everything that USAID does or has done in the past, nor has systems thinking permeated equally all corners of the Agency where it could be relevant. Second, for the purposes of this study, we have organized the examples from the past as illustrative of systems thinking. However, this framing should not be mistaken for a consciously designed Agency strategy. The examples serve to underscore the point that today’s attention to systems within parts of USAID has not emerged *ex nihilo*. Rather, it has grown as a function of prior Agency policy and programming choices, and of the initiatives of particular units and individuals. In turn, these efforts have been influenced by the broader evolutionary shifts within the international development policy, practitioner, and academic communities in response to greater recognition of the complexities involved in effectively supporting countries to promote socioeconomic development, deal with humanitarian crises, and recover from conflict and violence.

## A selective retrospective

We select four examples of systems thinking and systems approaches from USAID's past; two concern systems and management issues, and two are sectoral applications. These include: institution building and public sector management, program sustainability, farming systems, and health systems.<sup>6</sup>

### *Institution building and public sector management*

In the 1960s and early 1970s USAID invested in research to understand the factors associated with effective public-sector organizations. The institution-building approach focused on enumerating the organizational essentials that lead to performance, and much of this literature took a systems approach that identified the elements of organizational performance and examined interactions between organizations and their environments.<sup>7</sup> Building institutional capacities required attention to the following (see Blase 1986, Esman 1972):

- Leadership: the people who direct, guide, and plan strategies and actions
- Doctrine: the organization's mission, purpose, and values
- Program: what the organization produces, e.g., goods and/or services
- Resources: the organization's inputs, physical, financial, and human
- Structure: the procedures and practices established to accomplish the organization's purpose and produce its intended outputs.

Regarding interactions with its environment, the organization needed to pay attention to four types of linkages: enabling, functional, normative, and diffused.

The institution building framework's systems model was largely silent about what to do to facilitate and support organizations to address these organizational subcomponents and environmental linkages. However, on the practical application side, USAID's institution-building investment funded the development of a toolkit drawn from classic project design and management, which was directly reflective of the hard systems perspective. The toolkit included, among others: Logical Frameworks, objective trees, PERT charts, benefit-cost analysis, and a variety of systems mapping techniques (Delp et al. 1977).

This framework and the associated toolkit informed a large portfolio of public administration projects that focused on administrative technology transfer and training. However, evaluations found that these projects had difficulty achieving concrete improvements in organizational performance, and in demonstrating a link between better public administration and socioeconomic development. In light of these findings, USAID reduced its funding for stand-alone public administration projects. However, the toolkit and the reductionist model of institutional capacity live on, and are reflected in widely applied project planning and organizational assessment tools. Results Frameworks and Logframes are key elements in USAID's program cycle, reflecting the enduring impact of hard systems thinking on the Agency's strategy and programming (see USAID 2013a).

### *Program sustainability*

In the mid to late 1980s, USAID and other donors discovered what was called at the time, the sustainability gap. Studies showed that donor-funded project benefit flows diminished or stopped soon

after external investment concluded (USAID 1988). Several reasons were discovered. First, management-intensive projects could generate short-term successes, but were too costly for developing countries to continue in the long-term. Second, resource-rich donor projects lured energy and talent out of resource-poor governments and local organizations. Third, projects tended to reflect what the donors wanted to do, rather than what country actors considered their priority issues. Fourth, the context for donor projects was unsupportive or negative for a variety of reasons, such as weak management capacity, obstructive and deleterious policies, political and economic instability, and so on.

USAID sought to reorient its projects to concentrate more directly on sustainability, with an explicit systems focus that included elements of soft systems thinking, particularly regarding the importance of contextual factors, the effects of multiple perspectives on development problems, and the process aspects of intervention design and implementation.<sup>8</sup> The Agency launched a series of impact evaluations on projects that had terminated at least five years prior to being evaluated to uncover whether lasting impacts had been produced, along with analysis of why or why not. USAID's project designs began to incorporate more sophisticated sociopolitical analyses of country dynamics than the often relatively short and pro forma social soundness sections of earlier design documents.

In systems terms, the fit (or lack thereof) between USAID projects and their environments became a key focal area for sustainability analysis. Did the project's objectives and activities reflect the needs and desires of country stakeholders such that they would support and continue them? Which stakeholders were critical for project success, and what were their perspectives and interests? Was the project's implementation approach integrated within country policies and institutions? Were there features of the project's operating environment that would negatively affect sustainability prospects and could USAID do anything about them? Answering these and other related questions incorporated systems considerations regarding how projects were affected by stakeholders differing perspectives, and raised the salience of clarifying the boundaries of interventions, seen systemically. Sustainability has remained a key concern for USAID and has become a core component of Agency policy, planning, and programming.<sup>9</sup>

### **Farming Systems**

In the 1970s and 80s, USAID adopted an approach to agricultural research aimed at benefitting smallholder farmers that would serve as an alternative to conventional commodity-based agricultural research and technology transfer through top-down scientist-driven research and extension services. The effort took a systems approach that integrated technical, economic, and social perspectives on smallholder farmers. Farming systems research and extension (FSRE) focuses on the farm as a system, incorporating farm family attributes (e.g., skills, resources, preferences, gender composition), production activities, and crop management practices. FSRE identifies the interdependencies among the system components that family members are able to control, and highlights the interactions of these components with physical, biological, and socioeconomic factors in the farm family's operating environment (Byrnes 1989). In the period, 1978-1988, USAID funded 76 bilateral, regional, and centrally managed FSRE projects, of which 45 were in Africa (Norman 2002).<sup>10</sup>

Besides building on the basic systems concepts of interconnectedness and system-environment linkages, these projects exemplified the soft systems principle of recognizing the importance of the



perspectives of those actors within the system, which resonated with the policy pressures on USAID at the time that prioritized participation and interventions to assist the rural poor. FSRE is a client-based approach to agricultural research and technology; and the USAID projects sought to reorient national agricultural research institutions to take farm families as the starting point for their activities. Critical to the awareness of multiple perspectives on agricultural production and livelihoods in FSRE was an interdisciplinary approach to project design and implementation. Early projects faced the challenge that agricultural economists and agrobiological scientists dominated FSRE teams; later, more rural sociologists and anthropologists were included. FSRE applied soft systems methodologies, emphasizing iterative learning through on-farm trials with active farmer participation, leading to technologies appropriate for the particular situation, development of extension packages, and cycles of monitoring and evaluation (Vaughn et al. 1989).

The holistic perspective on smallholder farming promoted by FSRE revealed that farmers operated in uncertain, complex, and dynamic environments; farmers' decision-making was rational given the constraints they faced; and farmers exhibited adaptive behaviors and willingness to experiment. The history of FSRE efforts from the late 1980s through the 1990s showed a trend toward increasing farmer engagement and empowerment (often through farmers' associations and NGOs) in agricultural research and technology development. Both the network of international agricultural research centers and countries' national agricultural research systems increasingly built FSRE and farmer participation into all phases of the research and technology development process. The system boundaries for FSRE expanded in the late 1990s into the 2000s with the introduction of sustainable livelihoods frameworks that paid explicit attention to social relations, equity, vulnerability and risk, political economy, and ecology (Norman 2002). These expanded boundaries saw the application of many of the elements of complex adaptive systems thinking, such as non-linear feedback loops, the interplay between formal and informal institutions, and the role of emergence in shaping system outcomes. FSRE's broad systems conceptualizations that encompass livelihoods helped to inform the U.S. government's Global Hunger and Food Security Initiative, launched in 2009, and led by USAID.<sup>11</sup>

## **Health Systems**

USAID programs in the 1960s and into the 70s focused on disease eradication (e.g., smallpox, malaria), training for medical staff, facilities infrastructure, and provision of medicines and equipment. These programs aimed at achieving the immediate objectives of providing treatment and saving lives. Then, as now, USAID aligned its approaches to health sector policy and programming with the perspectives of the World Health Organisation (WHO). By the mid-70s WHO was increasingly concerned that developing countries were failing to provide basic health services that were available to, and utilized by, the majority of their populations. WHO's director-general, Halfdan Mahler, who had previously been director of the Project Systems Analysis unit, crafted a strategy for primary health care (PHC) that explicitly applied a hard systems lens, and called for health systems research (Litsios 2002). Mahler's vision, the "Blueprint for Health for All", in modified form became the basis for the Alma-Ata declaration of Health for All (HFA) (Mahler 1977, cited in Litsios 2002).<sup>12</sup> HFA influenced all donor agencies' health programming, including USAID's, which launched numerous PHC projects around the world.

For USAID, the HFA declaration reinforced the aims of the US Foreign Assistance Act of 1973, the so-called “New Directions” mandate, which stated that the purpose of foreign assistance should be to alleviate the conditions of poor majorities in developing countries. USAID Missions designed PHC projects to extend health services to the underserved in rural areas. Concurrently, USAID developed centrally funded analytic and technical support projects intended to improve the capacities of countries to manage service provision, family planning and pharmaceutical supply chains, human resources and logistics management, and monitoring and evaluation. All of these projects applied hard systems concepts and tools in framing their particular sets of activities and objectives, and recognized that success in achieving objectives was influenced by a variety of environmental factors. For example, an evaluation of 52 USAID-funded PHC projects noted a number of systems-related problems without necessarily framing them as such (Parlato and Favin 1982). These included: weak government capacity, issues with community participation and use of voluntary health workers, financing and sustainability, and project implementation problems.

USAID health specialists were active participants in the debates in the 1980s around sustainability, summarized above, and their reflections and research contributed to the increasing concern in the international health community with the limited results achieved by donor investments in the health sector. WHO’s World Health Report 2000 paved the way for expanded attention to health systems as a core construct in understanding how countries address the health needs of their populations and in designing interventions to improve health by observing that failure to achieve better results is “due more to systemic failings than to technical limitations” (WHO 2000, 1). USAID could take some credit for the substantiation of that observation, having spent the 1990s investing in analytic tools and associated interventions to address some of these failings, most notably in the area of health financing and the separation of payment from provision of services.<sup>13</sup>

Several years later, WHO published its model of health systems as comprised of six “building blocks:” service delivery, health workforce, health information, medical technologies, health financing, and leadership and governance (2007). In terms of systems thinking, the model is both static and reductionist; as many critics have pointed out, the missing elements are the interactions and linkages among the building blocks. Without these, the model has limited descriptive or analytic power.<sup>14</sup> Yet despite these drawbacks, the model has become the equivalent of an “industry standard” for the international health community, and for USAID.<sup>15</sup> However, the model leaves wide latitude to interpret, and add detail to, what is meant by a health system. So its dynamics remain to some extent vague and/or contested with flexible and fuzzy boundaries, leading some to question the extent to which systems concepts are more than rhetorical window dressing for standard disease-specific programs (Marchal et al. 2009).

## Current systems-based initiatives

A major impetus behind current applications of systems thinking and approaches was a set of organizational and business process reforms that USAID Administrator Rajiv Shah introduced in 2010 under the rubric of USAID Forward.<sup>16</sup> Two reforms in particular laid the groundwork for renewed attention to systems approaches. The first was organizational: the re-establishment of a capability for autonomous policy, budgeting, planning, and evaluation, which led to the creation of the Bureau for

Policy, Planning, and Learning (PPL).<sup>17</sup> The second reform concerned business processes; originally called Implementation and Procurement Reform (IPR), it was relabeled Local Solutions in 2013. This reform emphasized directly supporting, and working with, host country institutions, private sector partners and civil society organizations, while reducing USAID's use of U.S.-based contractors and grantees. We briefly review several initiatives underway as a result of these reforms that reflect systems thinking and approaches.

### **The Program Cycle**

A major component of reintroducing the policy function in USAID was a redesign of the basic framework for Agency business processes.<sup>18</sup> PPL staff created guidance for a new Program Cycle that links Agency strategies and policies with implementation through two process steps: the Country Development Cooperation Strategy (CDCS), and the Project Design and Implementation process. The Program Cycle aims to better match USAID's operational procedures with the task environment of international development through "greater appreciation for the complexity and contingency of development. [It] ...acknowledges that development is not static and is rarely linear" (USAID 2102b, 3). PPL sought to achieve this match in two ways. First, by using the CDCS process to investigate, describe, and assess their country's development needs, challenges, and priorities, Missions would devise five-year strategies that both reflect country actors' and development partners' perspectives and identify where USAID resources can best achieve results.<sup>19</sup> Second, the Project Design and Implementation process would pay increased attention to monitoring and evaluation, related both to performance indicators and to a broader set of indicators that would enable assessment and adaptation of the Mission strategy over time.

The Program Cycle demonstrates several features of systems thinking. The CDCS process employs a soft systems methodology, as summarized above, that begins with situation and problem analysis, incorporating multiple stakeholder perspectives, and models the system (or systems) as relevant to framing the Mission's country program. System boundary determinations become key, in that they have an impact on setting development objectives that lie with the Mission's manageable interest and in deciding what features of the task environment require ongoing tracking and assessment. The Program Cycle marries soft systems thinking with the traditional hard systems tools that establish logic chains of objectives embodied in the CDCS's Results Framework and the Logical Frameworks that structure individual projects. Solidifying the marriage are ongoing iterations of experimentation, learning and adaption.

The new Program Cycle stimulated changes in Mission roles and tasks, emphasizing more investment in environmental scanning and analysis to inform a clear and holistic picture of the nature of the development challenges in the country (simple, complicated, complex, or chaotic).<sup>20</sup> Project design also introduced a third mandatory analysis to precede approval to issue solicitations (the existing two are environmental and gender analysis): sustainability analysis. Mission staff have been encouraged to take part in the CDCS scanning exercises themselves, as a way to ensure that Agency staff act as development officers rather than just as contracts or grants managers. Supporting this role shift has been more focus on donor coordination and staff direct engagement with country counterparts. The increased emphasis on rigorous evaluation, data collection, and ongoing learning further encourages staff to engage more

actively in thinking systemically. The changes in the Agency's business model instituted by the Program Cycle are still being digested, but they represent a significant injection of systems thinking.

### **IPR/Local Solutions**

IPR introduced a number of policy and rule changes to enable USAID to work directly with country governments, local civil society groups, and the private sector. IPR set an aspirational target for 30 percent of USAID Mission-programmed funds to flow directly to local country organizations. IPR's rationale included increasing aid effectiveness and contributing to country capacity development as well as reducing dependence upon what the USAID administrator perceived as overly expensive US-based nonprofit and private-sector development organizations (see Dunning 2013). Several cross-Agency working groups were set up to support IPR through training, technical assistance, and promotion of peer learning among Missions.<sup>21</sup>

Although not originally framed as a systems-based initiative, IPR quickly confronted systems issues given its objective to provide direct funding to country governments (G2G, government-to-government, in USAID parlance). Questions arose immediately regarding the capacities and integrity of government budgeting and financial systems, leading to the creation of an assessment tool to determine "readiness:" the Public Financial Management Risk Assessment Framework (PFMRAF).<sup>22</sup> The PFMRAF focused on fiduciary and financial systems directly relevant to a potential USAID investment, but over time field applications expanded the focus to include a broader analysis of country public financial management. At the same time as the PFMRAF was being developed and carried out in candidate countries, USAID commissioned research from the Overseas Development Institute (ODI) on the extent to which donor utilization of country systems did in fact, or could, result in capacity building or other development outcomes (Glennie et al. 2012 and 2013, McKechnie and Davies 2013). These studies highlighted, among other factors, the complexity and uncertainty inherent in the multitude of systems that are subsumed under the general conceptual umbrella of a country system, as well as the need to take a systems lens to address sustainable development.

In 2013 USAID relabeled IPR as Local Solutions. The shift from IPR to Local Solutions built on the findings and recommendations from the three ODI studies on localizing aid, practical experimentation that Missions had undertaken in the field to contract with local organizations and transfer funds through country governments' financial systems, as well as a 2012 conference on experience with country systems strengthening.<sup>23</sup> The shift also reflected a greater emphasis on how project designs and associated localized aid contracting modalities could enhance capacity and prospects for sustainability. New tools were developed to help Missions map the private-sector and civil-society terrain to identify appropriate, and potentially low risk, local partners. These mapping exercises incorporate systems approaches to environmental scanning, partner identification, and capacity assessments of potential partners.<sup>24</sup>

Local Solutions has adopted an explicit systems orientation, and takes the Local Systems Framework (see below) as its underlying rationale, which directly connects to systems thinking. The Local Solutions coordinator and the various staff working with her are concentrating on embedding the business process reforms in Agency operations. In addition, they are gathering and sharing evidence about the interconnections among sustainability of development results, local ownership and capacity, and projects that use localized aid mechanisms.

## **Local Systems Framework**

As a result of the IPR/Local Solutions initiative and the conferences, seminars, and research papers associated with it and the Program Cycle, PPL wanted to produce a policy document that would provide both a foundation and guidance for USAID programming aimed at achieving sustainable development. The result was the Local Systems Framework (USAID 2014a). The Framework situates Agency policy within the context of the aid effectiveness principles enumerated in the Busan Partnership Agreement and accumulated experience on capacity development, sustainability, and contextual specificity. It offers ten principles for working effectively with country actors: 1) Recognize that there is always a system, 2) Engage local systems everywhere, 3) Capitalize on USAID's convening authority, 4) Tap into local knowledge, 5) Map local systems, 6) Design holistically, 7) Ensure accountability, 8) Embed flexibility, 9) Embrace facilitation, and 10) Monitor and evaluate for sustainability.

These principles reflect the core elements of soft systems thinking, along with some of those from complex adaptive systems. They focus attention on defining a relevant local system as an analytic construct built around the result to be achieved and sustained, and arrived at through the participation of local stakeholders. Besides serving as a source of general guidance for USAID programming, the Local Systems Framework is also an aspirational document: it outlines several next steps to "identify, nurture, reward, and spread good practice" (USAID 2014a, 14). These include changing internal incentives by redefining results to encompass systems characteristics that enhance prospects for sustainable results, and better matching risk assessment with programmatic choices.

To fulfill those aspirations, various USAID staff have taken up the steps proposed in the Framework. The Local Solutions leadership team has emphasized the importance of the Framework as guiding Local Solutions' policies and practices, and as a yardstick for assessing the fit between localized aid modalities and country contexts. PPL reenergized an existing informal community of practice around systems thinking. This group is primarily headquarters based, and meets on a regular basis (weekly or biweekly since the start of 2014). It offers an opportunity to share staff experiences and exchange views with external thought leaders to offer insights into employing systems thinking in project design and in implementation. PPL has also supported training and seminars over the past several years to amplify systems thinking and emphasize sustainability.

## **Collaborating, Learning, and Adapting**

Another reform initiative that relates to systems thinking is the Collaborating, Learning, and Adapting (CLA) model that staff from PPL's Learning, Evaluation, and Research Office (PPL/LER) disseminated along with the launch of the Program Cycle. CLA is comprised of a set of interlinked processes and practices that emphasize monitoring and using periodic reflection periods (such as through semi-annual or annual portfolio reviews) to regularly adapt programmatic direction. It seeks to operationalize one of the principles associated with managing complex adaptive systems, which refers to rapid iterations of trial-and-error and adaptation when dealing with uncertainty and dynamic change: fail early, fail smart. In the field, the USAID Mission in Uganda was the first to include CLA as a component of its CDCS to make it a "living strategy," providing guidance and reference points not only for implementation but also for learning and course correction as needed.<sup>25</sup>

CLA takes the hard-systems thinking behind the causal pathways in the CDCS and the program designs intended to reach its desired outcomes, and adds a strong dose of feedback and adaptation to adjust program activities as necessary in the face of changing circumstances, complexity, and uncertainty to make mid-course corrections.<sup>26</sup> Several Missions have created and filled Learning Advisor positions, and at present more than 30 Missions have incorporated CLA formally into their strategies and decision-making.

A related tool that PPL/LER has introduced is complexity-aware monitoring (Britt 2013).<sup>27</sup> This tool builds on elements of complex adaptive systems thinking and the continuum of program operating environments from simple to complicated, complex, or chaotic. It extends the single-loop learning associated with standard monitoring of Logical Frameworks to enable double-loop learning and adaptation through stakeholder participation in impact tracking, identification of what various actors see as the most significant changes achieved, and qualitative story-telling to surface multiple local perspectives on results and achievements.

### **Systems-based sectoral initiatives**

Other initiatives incorporating systems thinking are less broad reforms or policy changes than they are sector-specific approaches focused on analytics intended to inform more effective program designs. Many of these approaches have built iteratively upon recycled versions of past ideas. As noted above, in the health sector, USAID has long considered health in systems terms, from perspectives on the social determinants of health to the WHO health system building blocks model prevalent today.

As USAID has been tasked with intervening in fragile and conflict-affected countries as part of whole-of-government stabilization and reconstruction operations, the levels of uncertainty, complexity, and chaos that the Agency has confronted have led to a search for better tools. The Office of Conflict Management and Mitigation (CMM) has incorporated systems thinking into its country assessments, experimenting with systems mapping (see Ricigliano and Chigas 2011, Ricigliano et al. 2012). These assessments have influenced both State Department policy in fragile and conflict-affected states as well as USAID program designs and their management.

The Democracy, Human Rights, and Governance (DRG) Center of Excellence (and its predecessor offices) similarly has analytic, design, and implementation toolkits that are informed by systems thinking in various ways (see USAID 2013b). The DRG Center's latest example is the development of a political economy analysis tool. The Office of Food for Peace also has had an appreciation of wider systems dynamics built into its frameworks and approaches for some years, albeit with less theoretical grounding in the discipline of systems thinking. And the practice of market facilitation as supported by E3/MPEP (Bureau for Economic Growth, Education and the Environment/Office of Microenterprise and Private Enterprise Promotion) builds much of its approach to supporting market systems and value chains on tools and analysis that are derived from systems thinking. While all of these offices support the application of systems thinking, practitioners often understand those as the technical approaches inherent and appropriate to their sector and the nature of their work, and the lineage (explicit or implicit) to systems thinking as a discipline is not commonly drawn.

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## IMPLEMENTING SYSTEMS THINKING AND APPROACHES WITHIN USAID

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In this section we present the findings from our key informant interviews with USAID staff. We conducted 20 interviews in the period January-March 2015, mostly with USAID staff based in Washington, though over half had significant field experience. We included the views of five Mission-based staff who participated in a focus group at a regional training meeting in Bangkok, supplemented by five responses from Asia region Mission staff to an on-line survey version of our interview protocol. Our data derive from a convenience sample of Agency staff with a high preponderance of early adopters of systems thinking. Therefore our results may overstate the extent to which Agency personnel consider systems thinking and approaches as relevant to their activities and responsibilities. Nevertheless, the interviews provide a window into the progress USAID has made in adopting some of the conceptual elements identified by both analysts and practitioners as associated with doing development differently, as well as shining some light on the obstacles.

### **How Agency staff view systems**

Agency staff perspectives in our sample were fairly diverse, even among a cohort that generally had some inclination towards, and experience with, systems thinking and approaches. The most commonly mentioned core feature of systems thinking was interconnectedness; feedback, adaptation, and learning were cited as well, and more than half of our sample brought up the link between systems and sustainability. Rarely noted were the features associated with complex adaptive systems, such as emergence or self-organization (see Ramalingam et al. 2008). Several interviewees alluded to unpredictability, noting how it characterizes much of international development, yet observed that USAID business processes tend to ignore this feature and push for predictable and quantifiable results. Often mentioned were systems tools, from both hard systems (e.g., Logframes) and soft systems (e.g., participatory engagement with stakeholders in problem analysis and design), though they were not explicitly identified as such.

### ***The value of a holistic view***

In general, interviewees indicated that the most salient characteristic of systems thinking as applied to their work was an appreciation of development challenges as bigger, more complex, and more interconnected than typically defined. As one informant said, “Systems thinking is about looking beyond the specific outcome you need to achieve to identify influencing factors on that outcome and take a broader look at who else matters, roles and interactions of others who affect the outcome.” Based on their field experience, several staff mentioned interconnectedness of challenges, and a tendency for that interconnectedness to be concealed or downplayed in typical sectoral framings of problems. Almost all acknowledged that it was simultaneously rewarding and difficult to adopt a perspective that took into account those wider connections and tried to parse their implications for the particular program objective under consideration. Operationally, they suggested that the value of a holistic view is mixed in that it becomes difficult to establish system boundaries that accommodate links to the factors deemed relevant for success while simultaneously demarcating a viable and worthwhile development intervention. Several interviewees cited staff discouragement when confronted with a systems perspective.

## **Systems thinking as refinement or critique of current practice?**

Building on the notion of holism as a mixed blessing, interviewees offered alternative views on the programmatic implications of interconnectedness. On the one hand, systems thinking could shape the refinement of already specified development objectives by taking the wider system into greater account in pursuing particular development results. On the other hand, it could inform a fundamental reconsideration of what USAID's key objectives should be; in this sense systems thinking would reshape Agency goals based on a new understanding of the development challenges involved. A few informants favored this latter orientation, and expressed a desire for systems approaches to stimulate a major reorientation in USAID. More common, though, was the former perspective, seeing the value of systems thinking as contributing to more effective design and implementation of current programs and objectives.

Relatively less attention was given to the ideas of nonlinearity or the unpredictability of outcomes. Some respondents referenced these, particularly those working in fragile or conflict-affected contexts, who noted that CMM's conflict assessment mapping tool enables analysis of these system dynamics. Those who did address nonlinearity tended to do so as a critique of standard planning and design tools: "this is part of what makes the systems concept hard—that progress is not linear... It puts limitations on our ability to predict how much we will accomplish over a set period with a set amount of funding."

Some interviewees noted how CDCSs, although they are intended to be integrative, are conducted in a siloed fashion, where technical specialists focus only on those aspects of the strategy related to their sectors or disciplines, and ignore interconnections in the country context. This practice replicates Agency stovepipes within country strategies and undermines taking a systems perspective. Others observed the absence of systems thinking in certain tools as they are typically applied, such as Logframes, and how the linearity of those tools forced staff to plan in ways that ignored development realities on the ground. However, one interviewee suggested that, "a Logframe can be made useful and can even incorporate dynamic thinking, but the way we use it tends to be the least common denominator of simplicity."

A substantial portion of respondents mentioned the connection between systems and sustainability, and a slightly smaller number also associated the idea of systems with questions of local ownership. Many respondents suggested that questions of how systems thinking is applied at USAID should be based in how the Agency understands and strives for sustainability.

## **How systems approaches have changed how USAID operates**

The responses from interviewees varied in the extent to which they described systems approaches as having changed USAID operations. Most of them situated their conversations around the potential of systems thinking and approaches to affect the Agency: how new ideas would or could change USAID operations if adopted. Most of the commenters were relatively vague on this topic, stating that adoption of systems approaches would make USAID less bound by the strictures of rigid designs and plans, more nimble, and/or better able to confront realities on the ground.



## **How the Agency plans and engages with country counterparts**

More specific comments tended to emphasize the embrace of systems as stimulating a different relationship with local stakeholders and advancing country ownership; for example, through the consultation and joint target-setting that is sometimes part of CDCS development with partner government and other host country stakeholders. In this vein, several respondents mentioned Local Solutions (or referred to local partnerships as a part of IPR or USAID Forward) as motivating a shift in USAID's local engagement, with a stronger focus on ownership and sustainability, which systems approaches could deepen or promote. This emphasis was strongest among field staff, who were more familiar with Local Solutions than with systems approaches and tended either to conflate the two, or to view systems approaches as an outgrowth of more local engagement.

As noted above, the two most common articulations of how systems approaches represent a change for USAID were around how the wider context is considered in planning, as well as how the specific objectives of a given effort are defined and measured. A plurality of respondents cited the project design process as central to the changes a system approach brings, in several ways. Some cited a systems approach as inherent to USAID's project design guidance, and suggested that the re-establishment of project design as a formal process, culminating in a project appraisal document (PAD), in essence operationalizes a systems approach because it requires disciplined attention to the connections between the project and its broader environment, and to external factors likely to influence the chances for sustainability (see USAID 2011). For many others, the systems approach, as reflected in the project design guidance is more aspirational than operational. In their view, the project design process laid out in the guidance represents a critical point at which a systems approach could be made manifest, in terms of shaping how a project is defined and what activities are included within its scope; however, that point has yet to be reached.

The emphasis on relationships was also cited by several respondents as a significant change. As one interviewee noted,

*We haven't been labeling it as such, but any time a Mission has been doing effective problem analysis, they have probably reflected a systems thinking approach to some extent. The part that has been missing, as we shift from linear to more systemic analysis, is the emphasis on relationships. We have often looked at different levels—for example, governance across institutions, civil society, individual citizen action—but have less insight into how the pieces interrelate and how interventions might need to be adjusted in terms of how systems interconnections operate.*

## **Systems thinking as continuity with past and current practice**

Those who did not see the Agency's embrace of systems approaches as representing a sizable or significant change, on balance, tended to approach the issue from sectoral perspectives. Even among this audience, there was a common refrain that the present moment represents one of interest in, and potential gain for, systems approaches across the Agency. However, they were more likely to point to ways in which systems approaches were an extension of earlier approaches rather than a novel way of thinking about development challenges. Interviews revealed some diversity of opinion regarding whether the

terminology and frameworks in the systems literature, as gleaned from USAID training event presentations or readings, were qualitatively different from earlier approaches to appreciating interconnectedness or holistic perspectives on development issues. Practitioners cited analytic frameworks, publications, and practical applications from disciplinary fields such as conflict studies, environmental resilience, and health systems as supporting the view that today's systems thinking is essentially a continuation of how development specialists have been conceiving of their work for decades. Some Mission staff indicated that they saw a systems approach as a label for aspects of day-to-day management of programming that they considered to be simply "good development practice."

### ***A shifting USAID role in development***

One person suggested that the Local Systems Framework has advanced the Agency's ability to operationalize systems thinking, observing that USAID staff are very good at thinking about context in a general sense and as background, but not as strong at taking it into account in programmatic choices and structures. The importance of looking systemically is recognized and acknowledged, but then deliberately downplayed in the process of drilling down from wider background analysis toward specific interventions. The Local Systems Framework was cited as offering ways to mitigate that behavior. Indeed, several respondents working in different sectors mentioned the Framework and its normalization of systems language as an important step forward in integrating systems concepts with Agency objectives, and processes, and sectoral programs.

Another interviewee articulated that adoption of systems approaches responds to a shift in USAID's relative position in many countries. When Agency staff expected to take the lead in defining the critical development investments and strategies in a country they felt less of a need to think about the constraints imposed by systemic factors. However, with the shrinking of USAID's footprint and resources relative to other actors, and the increasing appreciation that USAID is not in the driver's seat, the need to pay attention to systems grows. This formulation links to the aid effectiveness agenda, and also cited by those who champion thinking and working politically. In the words of an additional respondent,

*Within programming and project design, the critical aspect of change is the awareness that there is always a system, whether it is functional or not. I see a persistent trend within the Agency that starts from the resources we have, sets goals based on those resources, and then identifies what we can do – it does not start from what is going on in the country – and this ability to go with the grain of what has traction within a country is a major shift that embracing systems approaches promises to support.*

### **Adopting systems approaches: enablers**

Interviewees identified several factors that they saw as encouraging the adoption of systems thinking and approaches. These include: the growth of interest in systems and the sharing of a common terminology, support for systems thinking from Agency leadership at various levels, new guidance for project design that mandates inclusion of systems concepts, expanding pockets of expertise and experimentation with systems approaches, and the resonance that systems thinking has with the experience of staff in the field.

## Shared interest and common language

The most commonly cited enablers of the adoption of systems approaches are that there is significant and sustained attention to issues of systems thinking at high levels of the Agency, which is opening space and facilitating linkages among working staff around different ways to support systems thinking and apply it. Both the adoption of the Local Systems Framework and the broader role of PPL in project design and monitoring, evaluation and learning (MEL) were noted as manifestations of this opening. A few informants also cited other events such as a one-day Global Health workshop on systems and sustainability, incorporating inter-Agency participation of staff to design sustainability approaches for PEPFAR programming. Some informants also mentioned the openness to new approaches among the influx of newer staff at the Agency. As one informant said, “Many areas of the Agency are doing similar efforts but staff do not have a shared vocabulary for it; as they recognize a common language, there is a bridging of sector barriers.”

Several informants cited as an enabler the Local Systems Framework because it is both tangible and offers a broader conceptualization than just a collection of sectoral boxes, and so it is helpful in adding a different perspective. Of the internal reforms, this was probably the most commonly noted as an enabler, both because of its conceptual clarity and because it deliberately seeks to address the internal incentives in the Agency and outlines relatively clear steps to be taken to adopt systems thinking.

## Distributed leadership

The sources of high-level leadership for systems thinking, and the perception that leadership cares, was an important facet of the greater attention to systems approaches more generally. As one informant from the Global Health Bureau said,

*In terms of enablers, high-level focus on the concept of sustainability has been useful; the more you can think about the systems components, the better success you'll have in embedding sustainability and getting sustained results. Timing is ripe on that topic. Also there is something exciting about trying to push our Agency to think about these topics in a more cutting-edge manner, to more deliberately think about complexity... Our desire to be seen as more cutting edge, part of the wider development discourse, and the very clear support from above... was instrumental in getting the Global Health Front Office invested in a systems work plan and making time for what is seen as an Agency priority.*

Multiple interviewees noted the leadership of PPL, and the expansion of the systems thinking community of practice, as a source of both expertise and advocacy for incorporating systems thinking into Agency programs and processes. PPL has connected with advocates in other bureaus, who have helped to introduce systems approaches, largely through conducting training workshops and various peer-learning events. Field staff interviewed cited the regional Local Solutions experience summits as concrete manifestations of senior-level encouragement to try new ways of doing business and as enablers of practical learning, especially for newer staff. Relatedly, several staff indicated that significant buy-in from senior staff in various bureaus and at a number of Missions was important both for signaling how staff should spend their time and by embodying the idea that the embrace of systems was given permission by

long-tenured career staff and not seen as only a high-level priority of political appointees in senior leadership positions.

### **Project design**

The space and processes afforded by the project design process, mentioned above as an example of how systems thinking has changed USAID, were cited with some frequency as enablers. In particular, because the guidance added sustainability analysis as a new mandatory requirement of all project designs (USAID 2011), this was seen as forcing a discussion and creating space for the relevant analysis and documentation to incorporate systems approaches as a part of sustainability. However, a few interviewees made the point that Mission staff may see the sustainability analysis mandate as yet another headquarters-imposed requirement, thus limiting its enabling potential.

### **Learning**

Several informants cited the CLA model as an enabler, noting how this process has given permission to Missions for some experimentation and has provided a unifying label to the use of a variety of approaches already found in pockets of Agency practice. The Uganda Mission's monitoring, evaluation, and learning program was repeatedly noted as an example of applying CLA. As one interviewee put it, "CLA broadens dialogue, gets you out of your office, out of the Mission, out of your sector, to understand more about what is working in a relevant context." The emphasis on learning is seeing lots of recognition, and besides Uganda, other Missions have hired learning advisors or dedicated staff time to that role. Some Missions, Liberia for example, had tremendous interest – often from the perspective of working in fragile environments and insecure states – and have been strongly convinced of the need to attend to broader issues beyond their sector and programmatic areas.

### **Rings true to staff experience**

Almost all respondents noted that the firsthand experience of staff being in the field and working on development programming makes the underlying ideas of systems thinking resonate as "correct" in important ways. The felt experience of staff, and the realities they face on the ground when managing and implementing programs, confirmed that systems interactions, and the emergence of change from those interactions, play a critical role in almost every area of USAID's programming. Several respondents suggested that the adoption of systems approaches makes sense or fits what staff understand to be how the world works, and more than one said that its appeal would come simply from staff who encountered systems ideas finding them compelling.

Citing a specific example, one informant noted (somewhat grimly) that the Ebola crisis was an enabler. It pushed Congress to recognize that a lack of investment in health systems contributed to the crisis. As a result, Global Health has gotten supplemental funding for health system strengthening in West Africa, about \$126 million, half for rebuilding health systems, and half for maintaining essential services. Another result is that USAID has become more involved in the global health security agenda. Four other interviewees echoed the Ebola example, and noted how it clarified for policymakers the need to pay attention to the linkages among the geography of the outbreak, capacity and human resources, cultural and behavioral factors, poverty, and governance.

A comparable frustration with recurrent food insecurity and drought was seen as one of the drivers of the resilience policy, and in general, those who expressed more frustration with the results achieved by typical programming were also likelier to point to those frustrations as driving toward a systems approach (USAID 2012a). Similarly, a DRG sector informant noted that Mission Directors have highlighted the lack of DRG budgets as a challenge to their achievements: “We’re getting Mission Directors saying, ‘our sector programs are failing because of political and governance problems.’ I see this as indicative of an increasing desire to pay attention to the wider system.”

### **Adopting systems approaches: barriers**

There was almost complete uniformity on four common constraints to adopting systems thinking and approaches: demands on staff time leading to overload, pipeline pressures to keep up expenditure rates, congressional or presidential earmarks, and stovepipes and silos. Besides these familiar barriers, interviewees also cited the limiting effects of staff incentives and rotations, and for some, a sense that systems approaches are too theoretical and disconnected from practice.

#### ***Time demands and overload***

Two barriers were repeatedly mentioned: the pressure of limited time compared to tasks to be accomplished by Mission staff, leading to overload. Almost every respondent noted that systems analysis and also achieving sustainable results through a systems approach took more time than staff typically have to design their programs, or to show demonstrable results that will lead to securing additional funding to continue a given programmatic direction. Staff engagement with stakeholders, consideration of wider systems dynamics, and the learning, reflection, and adaptation once programming is underway were all cited as fundamental challenges because they either require staff time or introduce delays in how quickly provided funds can be expected to translate into tangible results. As one interviewee said, “in the Missions, people are so busy that it’s hard to find the time to step back and think holistically about what you’re doing and what you want to accomplish.”

Respondents with Mission experience repeatedly observed that, despite recent staff additions, Missions personnel remain overstretched and spend too much time dealing with internal processes and responding to information and reporting demands from Washington to devote sufficient time to systems approaches in their program design and management. A few interviewees questioned whether systems approaches could be effective, especially within the timespans typical of programming. They saw such approaches as incapable of addressing the issues that systems thinking and analysis might identify and spotlight, given the realities of USAID’s operating environment. The sense of frustration is evident in this quote,

*... [In] our project cycle, five year chunks aren’t long enough to take a systems view. You won’t see systems results in five years; you’ll have barely learned the system, then it’s time to recompute and you start all over again... You don’t build a picture of how the system has changed over time. Your M&E supports reporting, but doesn’t address learning.*

## Pipeline pressures

Managing project and program pipelines was the most commonly cited issue by field staff around challenges to adopting a systems approach or putting it into practice. One informant noted that,

*it is unclear that USAID is willing to have difficult conversations with the Hill and other key stakeholders on needing relief from quarterly targets, pipeline build up, and overall issues over the time that it takes to implement systems approaches. We're rewarded for burn rates at present, creating very counter incentives for systems thinking. Missions trying to use the Local Systems Framework are being targeted because they have fuller pipelines. Pipeline spending is a terrible proxy for long-term systems results.*

Washington-based staff echoed the issue of pipeline pressures too. "Systems approaches are slower, so you don't see progress in the standard indicators and targets that we need to report to Congress on," said one person.

## Earmarks

Funding earmarks and the associated guidance on how such funds may be spent served as barriers in several ways. First, many types of funding are tied to particular activities and intended outcomes. Respondents frequently cited health sector funding as being tied to progress on specific diseases such as malaria or HIV, or particular categories of health outcomes, for example, maternal and child health, and not for general health system improvements that might benefit many causes of lack of health, as emblematic of this barrier. Some funding streams seemed to have more of these constraints than others, with limitations ranging from a broad sense of what sorts of programming are seen as appropriate to very narrow guidance specified over the types of inputs that certain funding can be used to procure. These earmarks thereby serve to restrict the value of systems approaches by preventing a full response to the diagnosis of the systems issues, and also limit the ability to engage with local stakeholders for joint ownership by making USAID unable to respond to certain country priorities that did not fit with available funding to the Mission.

The programming guidance that accompanies funding earmarks was also cited as a barrier because of the common practice of specifying expected targets and reaching down to output levels. This exercise, and the need to achieve specified target numbers within the first year or two of implementation and thereafter on an annual basis, was seen as reducing Missions' ability, and incentives, either to use approaches that might not achieve predetermined numeric targets, or to make investments where attribution of results to USAID-funded interventions are unclear. Several interviewees noted a snowball effect where the cumulative result of multiple actors seeking to respond to their particular earmark targets and reporting requirements, gradually introduced over-specification in an effort to eliminate uncertainty. While no single actor was necessarily opposed to taking systems concepts into account, the collective weight of these individual pressures grew to push holistic thinking aside in favor of reductionist concentration on discrete earmarked priorities and activities.

Sectorally, multiple respondents noted (with some irony) that although Global Health is a thought leader in applying systems thinking, it is also the sector most constrained by the barriers outlined above. As one informant said,

*We're not doing project design in a systems way. I was recently in the field as part of project design team, and although we had specialists from various disciplines, each of us did our part of the design mostly on our own, component by component; there was no thinking about the bigger picture. If you can't show how what you're proposing fits their results agenda, then they're not interested. Focus on "line of sight" impacts: they say, regarding systems approaches, we don't see the line of sight to our results.*

### **Stovepipes and silos**

Another commonly-cited barrier was the structural divides within USAID's bureaucracy, both in Washington but present in most Missions as well. Offices and staff are divided by sectors, and/or by specific results categories, which reinforces the stovepiping associated with dedicated funding streams. In the words of one interviewee, "We're so siloed. Occasionally we cross the lines, but AID has a strong 'turf' culture. I've been purposeful in building friendships across offices so people don't think I'm stepping on their turf or trying to take their funding." Where systems approaches were seen as requiring greater cross-sectoral collaboration or joint efforts, many staff suggested that engaging in these ways was harder due to structural issues and that the organization of offices in missions created multiple veto points at which systems approaches could be delayed or arrested.

### **Incentives and rotations**

Another barrier that interviewees noted is the incentive structures that govern how staff are rewarded and promoted. These often put an emphasis on short-term results achievement, management of large volumes of funding, and efficient spending. Such demands cut against the grain of systems approaches, which emphasize facilitation, iteration and adaptation, and supporting contingent results such as improved resilience or capacity, or results that would appear over longer time horizons, such as local ownership. Reinforcing the weak incentives, some interviewees observed, is the relatively frequent rotation of foreign service officers. Short country assignments limit the motivation to develop a deep understanding of the local context and relevant systems, and disrupt institutional memory.

Interviewees mentioned lack of funds that could be used to implement a systems approach as another disincentive.<sup>28</sup> One respondent said, "there are no rewards for doing systems thinking and flexible approaches to project design. You don't get more money or more time to do stakeholder consultations. There are no incentives; although some people are personally motivated."

### **Not yet practical or applied**

Among the other barriers cited, another highlighted issue was that most of the conversation around systems was at an abstract and theoretical level that staff did not see as directly connected to, or meaningful for, their day-to-day work. This gap was often framed as "lots of good conversations happening in Washington, but not translating to Missions yet." Another interviewee said, "People [in USAID] 'get it' in theory, but practice is another story. They want to know, so what do I tell my implementing partners to do differently?"

A related barrier is that staff are not sufficiently familiar with systems approaches to enable them to make them practical. Many lack skills in soft systems methodologies, such as facilitating, convening

and brokering, as well as analytic skills to investigate political economy or sustainability issues. Some staff noted that the training of staff and their hiring generally do not emphasize cross-cutting issues or systems thinking, but focus more on specific technical skills – as one noted, “AORs and CORs are trained to do projects and one-offs, not trained to look at holistic areas.” Thus, the perceived “exoticism” of systems ideas – particularly when not converted into specific tools or approaches that could be easily used – represents a barrier to a fuller embrace of systems approaches.

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## PROSPECTS FOR INSTITUTIONALIZING SYSTEMS THINKING AND APPROACHES

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To interpret the findings from our interviews, we turn to several of the analytic lenses that have been applied to institutional and organizational analysis in developing countries and focus them on USAID. These lenses shed light on the experience and perspectives of USAID staff, and offer some insights into the fate of systems thinking and approaches in the Agency and their prospects for contributing to USAID’s potential for doing development differently. They seek to explain how and why organizations behave the way they do. USAID belongs to a class of organizations termed bureaucracy, so we look to some of the literature on bureaucratic behavior and organizational reform to guide our interpretations.

### Principal-agent dynamics

Among the frameworks to explain bureaucratic behavior, principal-agent theory is one of the most prevalent. The core dynamics in principal-agent interactions derive from the fundamental divergence of interests between principals and agents, and the actions that both parties engage in to deal with the costs of monitoring and shirking.<sup>29</sup> For USAID, as an agency of the US federal government, a key principal is the Congress. Numerous academic analyses, as well as conversations in the halls of the Ronald Reagan Building, have identified the dysfunctions in USAID programming and management that arise from Congressional oversight and demands. Natsios (2010) expands on those relationships in his historical recounting of USAID’s struggle to achieve effective development results subject to the actions of a set of principals with strong compliance and regulatory authority. Our interviewees’ observations regarding earmarks, pipeline pressures, reporting overload, and results-based management as barriers to systems thinking and approaches are all illustrations of problematic principal-agent relationships.

However, USAID does not answer only to a dominant legislature and regulatory bodies in Washington, but has other principals that exert varying degrees of control and influence, and thus are participants in principal-agent relationships. Additional principals for USAID have emerged from presidential initiatives, such as PMI (President’s Malaria Initiative), PEPFAR (President’s Emergency Plan for AIDS Relief), and FTF (Feed the Future). In these cases, USAID is a participant in interagency networks where it simultaneously shares a co-principal role as well as serving as an agent responding to the demands of the various principals within the US government.

As a number of interviewees remarked, the Local Solutions agenda introduces country actors into USAID’s programming as partners who, though they may not be principals in a formal sense, nonetheless have been accorded an important role in influencing strategy (through the CDCS) and operations (through



direct funding). Several of the quotes above indicate the differences between perceptions of Missions versus AID/Washington as to which constituencies and which “local” systems are paramount. Further, as the interviewee who noted that in many countries USAID is no longer the primary donor, the Agency is pushed to pay more attention to what other donors are doing, which can serve as an additional source of influence on strategy and programming.

A thread running through most of the interviews concerns perceptions of whether systems thinking and approaches can contribute to changing the conversation between USAID’s funders and overseers. Optimists in our sample see that greater recognition of the complexities and uncertainties of USAID’s task domain can gain acceptance for more flexibility and for reduced short-termism regarding results reporting; the Ebola crisis is one example. Pessimists view the incorporation of systems thinking into Agency standard practice as destined to sink under the weight of key principals’ insistence on measurable outcomes and strict financial accountability.

### **Bureaucratic structures and processes**

Among the rationales for strong external oversight focused on compliance and regulation is the popular perception that bureaucracies are inherently inefficient, unresponsive, monolithic, and hidebound. Indeed, critics of USAID, and international development agencies more generally, have advanced such arguments.<sup>30</sup> However, as Wilson (2000, 10) states, “bureaucracy is a complex and varied phenomenon, not a simple social category or political epithet.” Barnett and Finnemore (1999) delve into that complexity and variety in their analysis of international organizations, including international development agencies, to demonstrate that far from being hapless victims of their principals, international organizations have substantial leeway define what they do, create categories of actors (and related constituencies), generate social knowledge, and transfer models and practices based on that knowledge to other countries.

Our interviews provide a window into the variety present within USAID’s bureaucracy, and into the efforts of a committed cohort of innovators to pursue incremental change. Within its boundaries, USAID comprises multiple types of organizations. Mostly closely resembling the mechanical bureaucracy of popular perception, USAID is a contracting and procurement entity. As an instrument of US foreign policy, USAID is a planning, programming, and service delivery organization. As a technical agency, USAID is a repository of expertise, experimentation, and learning in a range of international development sectors. Since its creation, USAID’s balance among these three broad kinds of organizations has shifted. Much of the external criticism and internal frustration directed at the Agency derives from the view that the bureaucratic imperatives of contracting, procurement, and reporting—exacerbated by staffing cuts—have over time overshadowed the other two organizational rationales, creating dysfunctions in USAID’s ability to effectively promote international development.<sup>31</sup>

Almost all interviewees commented on the disconnects, tensions, and problems created by these three organizational rationales coexisting within the Agency. The divide between optimists and pessimists shows up in the wide range of responses to the questions about the prospects for institutionalizing system thinking in USAID. However, in our view, the more salient findings on systems thinking and bureaucracy in USAID relate to two features that emerge from the interviews. First, while some of the systems thinking that USAID has recently introduced is new, much of it is grounded in past Agency experience and investment in knowledge building (e.g., Brinkerhoff 2012). In this instance, bureaucratic path

dependence is a positive, not simply a source of rigidity. Several interviewees referred to USAID's long history of attention to systems issues in sectors, such as health and agriculture, as contributing to current initiatives that incorporate systems thinking, such as the Local Systems Framework, and to staff recognition of the link between systems approaches and good development practice.

Second, practically every interviewee mentioned the various pockets of systems thinking, and experimentation with systems approaches, throughout the Agency, both in Washington and in Missions. Analogous to Leonard's (2010) pockets-of-excellence paths to improving performance in developing country organizations, these nodes in USAID can serve as innovation promoters, disseminators, and supporters. As systems thinking becomes more entrenched and systems concepts become incorporated in Agency policy, rules, and programming tools, the likelihood of more widespread adoption increases. Interviewees highlighted PPL, CMM, E3, the Bureau for Food Security, the Global Development Lab, and some Missions (e.g., Uganda) as exemplary pockets.

Interviewees cited CLA as an example of how systems elements are filtering into Mission practices; signs include more willingness to acknowledge programming that is not working and to move to adjust it quickly, as well as soliciting multiple technical views and stakeholder perspectives in assessing how a given project is proceeding. These all reflect soft systems methods. Even on the contracting side, there is some evidence of experimentation with adapting procurement mechanisms to accommodate systems thinking. An example is an effort by a team in the Office of Acquisitions and Assistance, with support from PPL and members of the systems thinking community of practice members, to incorporate more adaptive methods of structuring awards. Mission contracts officers want to increase the flexibility of USAID's contracting instruments to fit dynamic country contexts. The team has developed new guidance on adapting Indefinite Quantity Contracts for single-country, single-holder application, and has looked at other US federal government instruments that USAID has not used, such as Broad Agency Announcements.<sup>32</sup>

## Organizational change and leadership

Along with our interviewees' identification of pockets of systems thinking, most of them also referred to organizational change actions that they were aware of, or had taken part in, to encourage USAID to integrate systems approaches more fully into policy, programming, and operations. These include: awareness raising events, seminars, training workshops, guidance frameworks, new rules and regulations, and technical support. Although our interviewees did not frame all of these as components of a coherent and managed strategy, we see them as reflecting what Andrews et al. (2010) call leadership through the creation of change space. These authors argue that change space is necessary for organizational reform to take hold and be sustained, and that creating that space requires leadership.

Change space is a function of three factors: acceptance, authority, and ability. Acceptance refers to a combination of belief that change is necessary along with commitment to take action in support of change. Authority concerns the mandate and the power to pursue change; authority can be formal, informal, or a mix of the two. Ability derives from the resources to make change happen, financial, human, and organizational. This latter category includes supportive structures, policies, processes, and procedures. Where these three factors converge determines the available change space, so to the extent that leaders can take steps to expand the three factors and facilitate convergence, that space can expand.

Our interviewees made numerous comments about the expressed commitment of senior Agency leadership, in both Washington and some Missions, to exploring the application of systems thinking to CDCS preparation, programming, and management. USAID Forward, Local Solutions, and the Program Cycle provided authority, which enabled the pockets of systems thinking to have the space to pursue systems approaches. The expertise in PPL and CMM, along with the training and support they and other offices have provided, and reinforced through the community of practice, have built capacity to move ahead with applying systems thinking. The discussions of systems approaches at various peer learning events have further augmented capacity as well as reinforced the perceived authority for staff to adopt systems thinking and approaches. Leadership in central bureaus and in the field has reinforced these three factors to expand the change space for incorporating systems thinking. However, as the interviewee comments related to barriers reveal, earmarks, pipeline pressures, reporting demands, and silos unite to restrict both the authority and ability factors in the change-space model. These countervailing forces place limits on the opportunities for the adoption and spread of systems thinking and approaches, and constrain the available change space, despite increased acceptance. A couple of respondents stated that one way of maintaining such space was to mask efforts to apply systems thinking by describing those efforts using the terminology of accepted formal procedures and tools.<sup>33</sup>

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## CONCLUSIONS

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What can we conclude from this snapshot of where USAID's incorporation of systems thinking and approaches into its policies, practices, and programming currently stands? Our interviewees' assessment of their prospects varied tremendously, from strongly positive to bleak, though most views fell on a continuum between these extremes, reflecting the classic bell curve. Two major factors account for the variation: first, differing perceptions of what constitutes systems thinking and consequently what degree of change is needed to apply it; and second, varying opinions regarding the magnitude of the barriers to change.

At the most positive end are those who have been involved in developing systems tools or applying concepts and approaches; these architects of change see an upbeat future for systems thinking because it increases the likelihood that USAID can contribute to achieving sustainable development results. At the same time, some in this group, whose orientation to systems tilts toward the full menu of complex adaptive systems concepts summarized in Table 1, consider USAID's operating environment and its need to respond to powerful principals as major roadblocks. This realization tempers their optimism that systems thinking will be effectively institutionalized in the Agency's business processes, given the changes required, which moves them closer to the center of the bell curve. Those interviewees who see systems thinking as an extension of what USAID has been doing for years also see encouraging prospects, since the necessary degree of change in their eyes is not particularly large. Towards the middle to the negative side of the curve are those who view the barriers to change, whether the needed reforms are big or small, as largely insurmountable. The most negative are the skeptics, who rate the prospects of moving from the rhetoric of systems thinking to serious translation into practice as dim. However, in our sample, this latter was a minority perspective.

Based on our study, we see enough signs of adoption of systems concepts and tools to suggest that the innovations that we review here are sufficiently “sticky” to inject meaningful changes into USAID business processes and programs. We can think of those changes as taking place at different, nested levels within the Agency. At the highest level are Agency-wide policies and business process reform initiatives, launched in Washington; e.g., Local Solutions, and the Local Systems Framework. At the mid-level are operational changes that extend to Missions and influence how programs are designed and managed; e.g., CDCSs, CLA, and sector-specific systems applications. Here is the level where USAID begins to engage with local systems.

At the lowest level is project implementation in the field. Given that the majority of USAID programs are carried out through contracts and cooperative agreements, these changes in processes and programs must filter into scopes of work (SOWs), and into the implementation plans and activities of contractors and grantees (international and local). Investigating the translation of systems thinking into SOWs was beyond what this study could address. We see the long-term prospects for systems thinking and approaches as hinging importantly upon what happens in the field, where country actors (government, private sector, civil society), implementers, other donors, and Mission staff interact. Change space is not Washington-centric, but will depend on the distributed leadership of actors working in local systems in the countries where USAID is active.

Complex adaptive systems theory posits that uncertainty and emergence characterize the underlying realities of most international development dynamics, which lie somewhere between complexity and chaos. However, a key underlying assumption driving the application of systems thinking in international donor agencies, including USAID, is that by better understanding systems and incorporating that understanding into programming and operations, they will be in a stronger position to assure that the results they seek will be achieved. In this sense, systems thinking risks becoming the handmaiden of the results-driven development managerialism that many critics decry (Mowles 2010). As the vast majority of our interviewees stressed, USAID’s main principal, the US Congress, reinforces the orientation that the Agency’s primary task is to deliver solutions to development problems that can be quantified, measured, and reported on. These pressures encourage reductionist systems thinking to drill down to a level where the challenge is sufficiently bounded such that USAID’s interventions constitute a “fix.”<sup>34</sup> However, reductionism is not effective in complex environments, where results are an emergent property of the system, not the outcome of a discrete intervention.

The political aspects of development account for a large part of the emergence and uncertainty in country systems. As various analysts and experienced practitioners have pointed out, donors have not often dealt effectively with the political side of development (Carothers and de Gramont 2013). Incorporating complex adaptive systems thinking is one avenue for addressing politically-induced complexity, and several of USAID’s reforms are aimed at bettering the Agency’s track record in working with country actors as partners, and enabling its programs to accommodate flexibility, learning, and adaptation. In a recent paper, Kleinfeld (2015) draws on systems concepts and characterizes the needed changes as shifting from a train to a sailing metaphor in recognition that the route to results through attention to politics is unlikely to be a direct line.

The seeds of today's systems thinking in USAID were sown in previous iterations of policy and practice, as our selective sampling of past approaches reveals. Although it is not always apparent, some USAID staff have been sailing against the wind for years, taking advantage of the nooks and crannies of change space available with the USAID bureaucracy. We see several differences, however, between how systems thinking was applied in the past versus today. First, while the older systems concepts and tools remain applicable in many respects, they have been joined by a new, increasingly sophisticated generation of tools, particularly those that enable systems mapping and the identification of multiple dynamic feedback loops. Second, USAID recognizes that the systems relevant to sustainable development are much more complex than previously considered. Third, the scope of what USAID seeks to capture through systems thinking is in many cases much broader than earlier efforts; for example, holistic perspectives that bring together sustainability, resilience, and country stakeholder engagement while still aiming for measurable results.

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## NOTES

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<sup>1</sup> There is a connection here to international development. Robert McNamara served in the US Air Force during WW II as a member of an operations research team that planned bombing raids. In his later positions in the automobile industry and as defense secretary in the Vietnam War era, he continued to apply systems analysis tools and approaches, most notably performance-based budgeting. He later became president of the World Bank. For a discussion of his impact on managing foreign assistance, see Natsios (2010).

<sup>2</sup> Key among these are DFID's drivers of change analytic approaches (<http://www.gsdrc.org/go/topic-guides/drivers-of-change>) and the World Bank's political economy analysis tools (Fritz et al. 2009).

<sup>3</sup> For more on complex adaptive systems thinking applied to a broad range of issues, see the website of the Santa Fe Institute, <http://www.santafe.edu/about/mission-and-vision/>.

<sup>4</sup> Ramalingam et al. (2008) offer a comprehensive and accessible overview of the core concepts associated with complexity science and their applicability to humanitarian and international development assistance, available at <http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/833.pdf>. Ramalingam expands the discussion in the paper into an insightful and informative book (2013). Double-loop learning refers to the ability of a system to interrogate and modify its goals as a function of problem-solving experience; single-loop learning is a simple feedback mechanism that pursues the same goal in an invariant way (the classic example is a thermostat). See Argyris and Schön (1978).

<sup>5</sup> A robust cottage industry of donor critics takes international development agencies to task for a multitude of shortcomings and sins; foremost among them are William Easterly, Dambisa Moyo, and Bill Cooke. These critics focus largely on the politics and power aspects of international assistance and what they see as its pernicious impacts, not so much on the systems questions. Ramalingam (2013) stands out as a leading thinker engaging in the debates from the systems perspective. Others include Andrews et al. (2012), Booth and Cammack (2013), as well as an emerging community of practice: Doing Development Differently (<http://buildingstatecapability.com/the-ddd-manifesto/>).

<sup>6</sup> The first two examples draw from Brinkerhoff (2012).

<sup>7</sup> The core of this research took place through the Midwest Universities Consortium for International Activities (MUCIA), headquartered at Michigan State University, and through the Program of Advanced Study in Institutional Development and Technical Assistance Methodology (PASITAM), at Indiana University.

<sup>8</sup> USAID's Asia Bureau funded an applied research project that created a model of institutional sustainability, incorporating systems theory, organizational contingency theory, and political economy. The University of Maryland's International Development Management Center carried out the research in cooperation with an Agency sustainability working group (see Brinkerhoff et al. 1990).

<sup>9</sup> See, for example, USAID's guidance on resilience (USAID 2012a).

<sup>10</sup> The centrally-funded Farming Systems Support Project (FSSP), coordinated by the University of Florida with 21 university and four private sector partners, played a major role in promoting FSRE and in supporting country programs to design and implement interventions that applied the systems methodology to the agricultural research community (see Waugh et al. 1989).

<sup>11</sup> See: [www.feedthefuture.gov](http://www.feedthefuture.gov).

<sup>12</sup> Litsios (2002) provides a detailed and entertaining tale of Mahler's introduction of systems thinking to WHO and the politics behind the Alma-Ata Declaration. We are indebted to Robert Emrey, in USAID's Office of Health Systems, for pointing out Mahler's influential role.

<sup>13</sup> USAID centrally-funded projects from the 1990s and early 2000s that investigated health systems issues, and provided technical assistance in the field, include: the Health Policy Initiative (HPI), Leadership, Management and Sustainability (LMS), Health Financing and Sustainability, Latin America and Caribbean Health and Nutrition Sustainability Project, Data for Decision Making (DDM), Partnerships for Health Reform (PHR), and Partners for Health Reform II (PHR*plus*).

<sup>14</sup> A number of efforts to address these conceptual weaknesses have been undertaken. See de Savigny and Adam (2009) for an application of complex adaptive systems thinking and soft systems methods to the WHO building blocks model. See also Peters (2014).

<sup>15</sup> In 2013, USAID-Washington's Global Health Bureau created a stand-alone Office of Health Systems in recognition of the importance of systemic perspectives on health. See USAID (2014b) for a listing of the Global Health Bureau's offices and the projects that they manage. All of the WHO health system building blocks find one or more projects related to each block.

<sup>16</sup> See <http://usaidlearninglab.org/library/usaids-forward-strategic-overview-presentation>.

<sup>17</sup> This function had been removed from USAID in the mid-2000s as part of a consolidation of foreign assistance planning in the State Department (see Natsios 2010). The need for USAID to have these core capacities was highlighted in President Obama's Presidential Policy Directive on Global Development and the Quadrennial Diplomacy and Development Review to elevate development as a core component of US foreign policy.

<sup>18</sup> See <http://usaidlearninglab.org/library/usaids-program-cycle-101>.

<sup>19</sup> The CDCS process reinstated the kind of decentralized Mission-level strategic planning that USAID had undertaken prior to the centralization of the Agency's planning and budgeting in the State Department under the George W. Bush administration (see Natsios 2010).

<sup>20</sup> This categorization of problems comes from the Cynefin framework (Kurtz and Snowden 2003). PPL has introduced it in a number of training courses for USAID staff on systems thinking. See the discussion of the framework in Britt (2013).

<sup>21</sup> See <http://usaidlearninglab.org/sites/default/files/resource/files/USAID%20ward%20IPR%20sept%202011.pdf>.

<sup>22</sup> The PFMRAF uses a four stage approach, with Stage 1 being a rapid appraisal, and each subsequent stage consisting of a deeper-level and more targeted analysis, with Stage 4 focusing on design of an activity and associated contracting modalities and risk mitigation actions. See Dunning (2013) for a useful summary.

<sup>23</sup> For more information on the conference, see: <http://usaidlearninglab.org/events/strengthening-country-systems-experience-summit>.

<sup>24</sup> See the USAID guidance for local capacity development mapping: [http://pdf.usaid.gov/pdf\\_docs/Pnady074.pdf](http://pdf.usaid.gov/pdf_docs/Pnady074.pdf). Regarding an individual local organization's readiness for USAID funding, see, for example, the NUPAS tool; <http://www.usaid.gov/sites/default/files/documents/1868/303sam.pdf>. NUPAS stands for Non-US Organization Pre-Award Survey.

<sup>25</sup> See <http://usaidlearninglab.org/library/uganda-cla-annex-0>. ADS 201, the policy chapter for USAID on project design, includes discussion of learning and encourages missions to develop learning plans, and mentions Uganda's CLA model specifically.

<sup>26</sup> PPL/LER and the Global Development Learning Lab support CLA through a virtual community of practice, training courses, webinars, and peer support from staff in various Missions and Offices. See, for example: <http://usaidlearninglab.org/library/cla-dialogue-missions-and-partners-share-experiences-and-best-practices>.

<sup>27</sup> See <http://usaidlearninglab.org/library/complexity-aware-monitoring-discussion-note-brief>.

<sup>28</sup> The Global Development Lab conducted a survey in 2014 on systems thinking that confirms this point. The survey of over 50 staff found that lack of funding for systems approaches was the foremost issue identified. Another finding was that lack of cooperating partners in the field with interests in systems thinking was also cited as a barrier.

<sup>29</sup> The classic reference is Pratt and Zeckhauser (1985).

<sup>30</sup> See endnote #5.

<sup>31</sup> Administrator Rajiv Shah's USAID Forward initiative responded to the criticism that the Agency had been hollowed out, becoming largely a contracting organization with limited in-house development expertise. Shah intended, in his words, to "re-establish USAID as the premier global bilateral development agency." Among USAID Forward's provisions, beyond what is summarized earlier in this paper, included hiring significant numbers of foreign service staff for the first time in many years.

<sup>32</sup> Other donors are pursuing procurement reforms. See Dunning (2013), who reviews recent changes at the United Kingdom's Department for International Development (DFID). See also DFID's broader efforts at business process change, "Smart Rules:" <https://www.gov.uk/government/publications/dfid-smart-rules-better-programme-delivery>.

<sup>33</sup> These comments offer echoes of the points Eyben (2010) makes. She discusses behavior patterns of international development agency staff who hide the ways in which they address the complexity and process dimensions of effective aid so as to conform to the results-based management demands of their agencies.

<sup>34</sup> Such views are not restricted to the Congress. The American public's support for international development is dependent upon demonstrated results and impacts. See, for example, the 2013 survey of public perceptions of international global health programs that the Henry J. Kaiser Foundation conducted: <http://kff.org/global-health-policy/poll-finding/2013-survey-of-americans-on-the-u-s-role-in-global-health/>.

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**REFERENCES**

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- Andrews, M., J. McConnell, and A. Wescott (2010) *Development as Leadership-led Change. A Report for the Global Leadership Initiative*. Washington, DC: World Bank
- Andrews, M., L. Pritchett, and M. Woolcock (2012) *Escaping Capability Traps through Problem-Driven Iterative Adaptation*. Working Paper No. 299. Washington, DC: Center for Global Development.
- Argyris, C. and D. Schön (1978) *Organizational Learning: A Theory of Action Perspective*. Reading, MA: Addison-Wesley Publishing.
- Barnett, M.N. and M. Finnemore (1999) The Politics, Power, and Pathologies of International Organizations. *International Organization* 53(4): 699-732.
- Blase, M.G. (1986) *Institution Building: A Source Book, Revised Edition*. Columbia: University of Missouri Press.
- Booth, D. and D. Cammack (2013) *Governance for Development in Africa: Solving Collective Action Problems*. London: Zed Books.
- Brinkerhoff, D.W. (2012) A Selective Review of USAID-Funded Development Management Research and Practice: Relevance for Strengthening Country Systems. Background Paper, Experience Summit on Strengthening Country Systems, U.S. Agency for International Development, Bureau for Policy, Planning, and Learning, Washington DC, November.
- Brinkerhoff, D.W., A. Goldsmith, M. Ingle, and S.T. Walker (1990) Institutional Sustainability: a Conceptual Framework. In D.W. Brinkerhoff and A. Goldsmith, eds. *Institutional Sustainability in Agriculture and Rural Development: a Global Perspective*. New York: Praeger Publishers, 19-49.
- Britt, H. (2013) Complexity-Aware Monitoring. Discussion Note, Monitoring and Evaluation Series. Washington, DC: USAID, December.
- Bryne, K.J. (1989) A Review of A.I.D. Experience with Farming Systems Research and Extension Projects. Washington, DC: USAID, Evaluation Special Study No. 67, October.
- Carothers, T. and D. de Gramont (2013) *Development Aid Confronts Politics: The Almost Revolution*. Washington, DC: Carnegie Endowment for International Peace.
- Chambers, R. (1994) The Origins and Practice of Participatory Rural Appraisal. *World Development* 22(7): 953-969.
- Chambers, R. (1997) *Whose Reality Counts? Putting the First Last*. London: Intermediate Technology Publications.
- Checkland, P. and J. Scholes (1990) *Soft Systems Methodology in Action*. Chichester, UK: John Wiley and Sons.



- Delp, P., A. Thesen, J. Motiwalla, and N. Seshadri. (1977) *Systems Tools for Project Planning*. Bloomington: Indiana University, Program of Advanced Studies in Institution Building and Technical Assistance Methodologies.
- de Savigny, D and T. Adam, eds. (2009) *Systems Thinking for Health Systems Strengthening*. Geneva, Switzerland: Alliance for Health Policy and Systems Research, World Health Organization.
- Dunning, C. (2013) *Is Local Spending Better? The Controversy over USAID Procurement Reform*. Washington, DC: Center for American Progress, November.
- Esman, Milton J. (1972) *Administration and Development in Malaysia: Institution Building and Reform in a Plural Society*. Ithaca, NY: Cornell University Press.
- Eyben, R. (2010) Hiding Relations: The Irony of ‘Effective Aid.’ *European Journal of Development Research* 22(3): 382-397.
- Fritz, V., K. Kaiser, and B. Levy (2009) *Problem-Driven Governance and Political Economy Analysis: Good Practice Framework*. Washington, DC: World Bank, September.
- Glennie, J., with A. Ali, M. King, A. McKechnie, and G. Rabinowitz (2012) *Localising Aid: Can Using Local Actors Strengthen Them?* London: Overseas Development Institute, Working Paper No. 352, August.
- Glennie, J., A. McKechnie, G. Rabinowitz, and A. Ali (2013) *Localising Aid: Sustaining Change in the Public, Private, and Civil Society Sectors*. London: Overseas Development Institute, March.
- Kleinfeld, R. (2015) *Improving Development Aid Design and Evaluation: Plan for Sailboats, Not Trains*. Washington, DC: Carnegie Endowment for International Peace.
- Kurtz, C.F. and D.J. Snowden (2003) *The New Dynamics of Strategy: Sense-making in a Complex and Complicated World*. *IBM Systems Journal* 42(3): 462-483.
- Leonard, D.K. (2010) “Pockets” of Effective Agencies in Weak Governance States: Where are They Likely and Why does it Matter? *Public Administration and Development* 30(2): 91-101.
- Litsios, S. (2002) *The Long and Difficult Road to Alma-Ata: A Personal Reflection*. *International Journal of Health Services* 32(4): 709-732.
- Mahler, H. (1977) *Blueprint for Health for All*. *WHO Chronicle* 31: 491-498.
- Marchal B., A. Cavalli, and G. Kegels (2009) *Global Health Actors Claim To Support Health System Strengthening—Is This Reality or Rhetoric?* *PLoS Medicine* 6(4), DOI:10.1371/journal.pmed.1000059.
- McKechnie, A. and F. Davies (2013) *Localising Aid: Is it Worth the Risk?* London: Overseas Development Institute, June.

- Morgan, P. (2005) *The Idea and Practice of Systems Thinking and their Relevance for Capacity Development*. Maastricht: European Center for Development Policy Management, March.
- Mowles, C. (2010) Post-Foundational Development Management—Power, Politics and Complexity. *Public Administration and Development* 30: 149-158.
- Natsios, A. (2010) *The Clash of the Counter-bureaucracy and Development*. Washington, DC: Center for Global Development, Essay, July.
- Norman, D.W. (2002) *The Farming Systems Approach: A Historical Perspective*. Paper presented at International Farming Systems Association, 17<sup>th</sup> Symposium. Lake Buena Vista, FL, November 17-20.
- Parlato, M.B. and M.N. Flavin (1982) *Primary Health Care: Progress and Problems, an Analysis of 52 AID-assisted Projects*. Washington, DC: American Public Health Association.
- Peters, D.H. (2014) *The Application of Systems Thinking in Health: Why Use Systems Thinking?* *Health Research Policy and Systems* 12:51, DOI: 10.1186/1478-4505-12-51.
- Pratt, J. and R.J. Zeckhauser (1985) *Principals and Agents: The Structure of Business*. Boston: Harvard Business School Press.
- Ramalingam, B. (2013) *Aid on the Edge of Chaos: Rethinking International Cooperation in a Complex World*. Oxford, UK: Oxford University Press.
- Ramalingam, B., H. Jones, T. Reba, and J. Young (2008) *Exploring the Science of Complexity: Ideas and Implications for Development and Humanitarian Efforts*. London: Overseas Development Institute, Working Paper No. 285, Second edition, October.
- Ricigliano, R. and D. Chigas (2011) *Systems Thinking in Conflict Assessment: Concepts and Application*. Washington, DC: USAID, November.
- Ricigliano, R., D. Chigas, and J. Maloney (2012) *Project Report: Support for Developing Systems Tools for Use in Conflict Assessment*. Washington, DC: USAID, CMM, January.
- Rihani, S. (2002) *Complex Systems Theory and Development Practice: Understanding Non-Linear Realities*. London: Zed Books.
- Rostow, W.W. 1960. *The Stages of Economic Growth: A Non-Communist Manifesto*. New York: Cambridge University Press.
- Sarriot, E. and M. Kouletio (2014) *Community Health Systems as Complex Adaptive Systems: Ontology and Praxis Lessons from an Urban Health Experience with Demonstrated Sustainability*. *Systemic Practice and Action Research* DOI: 10.1007/s11213-014-9329-9, August.
- Waugh, R.K., P.E. Hildebrand, and C.O. Andrew (1989) *Farming Systems Research and Extension*. In J. L. Compton, ed. *The Transformation of International Agricultural Research and Development*. Boulder, CO: Lynne Rienner Publishers, 207-227.

- Wilson, J.Q. (2000) *Bureaucracy: What Government Agencies Do and Why They Do It*. Second Edition. New York: Basic Books.
- Wilson, K. and G.E.B. Morren, Jr. (1990) *Systems Approaches for Improvement in Agriculture and Resource Management*. New York: Macmillan Publishing Company.
- USAID (U.S. Agency for International Development) (1988) *Sustainability of Development Programs: a Compendium of Donor Experience*. Washington, DC: USAID, Program Evaluation Discussion Paper No. 24.
- USAID (2011) *Project Design Guidance*. Washington, DC: USAID, December.
- USAID (2012a) *Building Resilience to Recurrent Crisis: USAID Policy and Program Guidance*. Washington, DC: USAID, December.
- USAID (2012b) *USAID Program Cycle Overview*. Washington, DC: USAID, August.
- USAID (2013a) *Developing Results Frameworks*. Technical Note. Washington, DC: USAID, Bureau for Policy, Planning and Learning, July.
- USAID (2013b) *USAID Strategy on Democracy, Human Rights and Governance*. Washington, DC: USAID, June.
- USAID (2014a) *Local Systems: A Framework for Supporting Sustained Development*. Washington, DC: USAID, April.
- USAID (2014b) *Users Guide to USAID/Washington Health Programs, Fiscal Year 2014*. Washington, DC: USAID, May.
- WHO (World Health Organization) (2000) *World Health Report 2000*. Geneva: WHO.
- WHO (2007) *Everybody's Business: Strengthening Health Systems to Improve Health Outcomes, WHO's Framework for Action*. Geneva: WHO.
- Williams, B. (2009) *Thinking Systemically*. *Capacity.org* Issue 37, September: 4-6.
- Williams, B. (2015) *Prosaic or Profound? The Adoption of Systems Ideas by Impact Evaluation*. *IDS Bulletin* 46(1).