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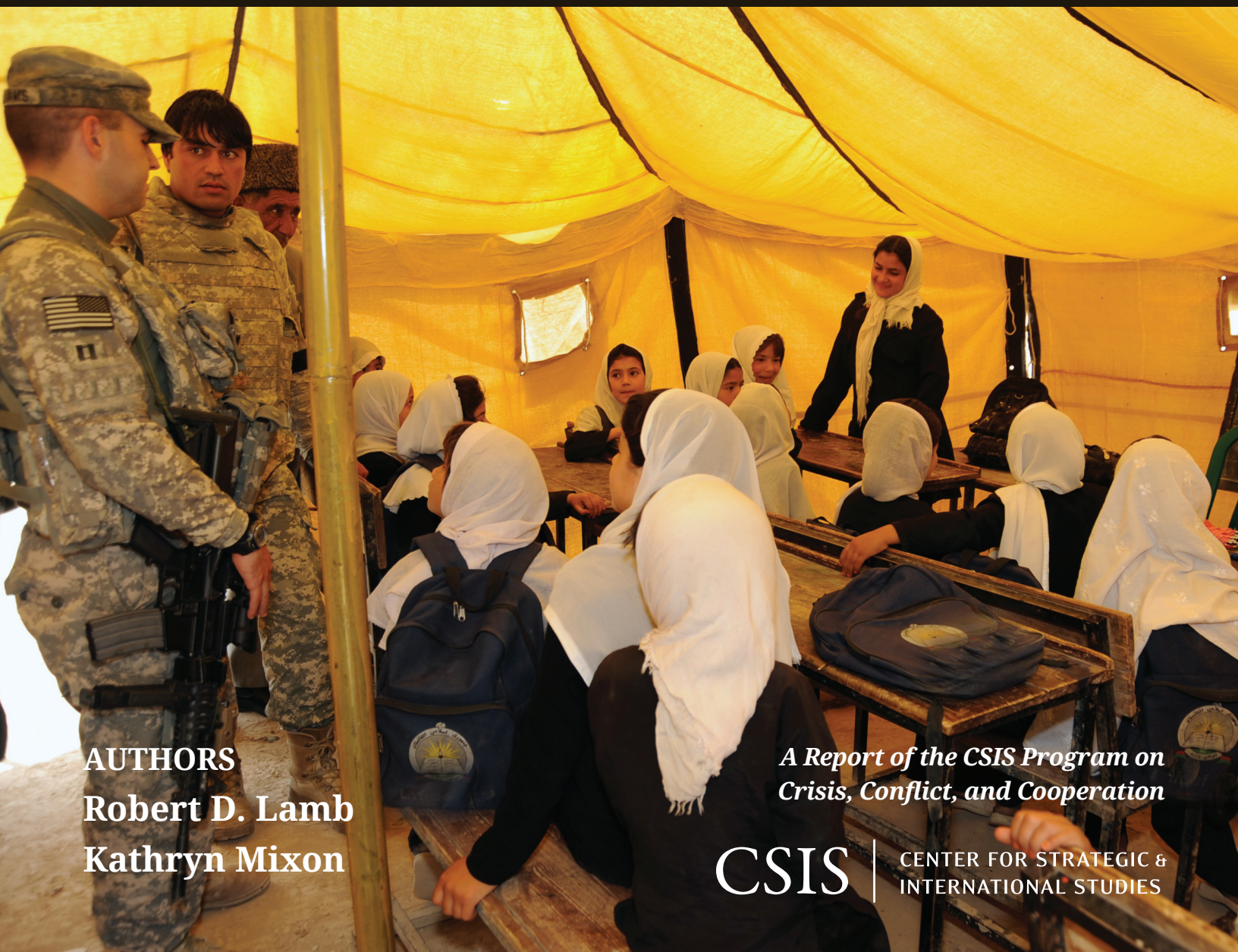
June 2013

Rethinking Absorptive Capacity

A New Framework, Applied to Afghanistan's Police Training Program



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Kathryn Mixon

A Report of the CSIS Program on Crisis, Conflict, and Cooperation

CSIS | CENTER FOR STRATEGIC & INTERNATIONAL STUDIES

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Preface

I've had a standing offer since 2011: if anyone can furnish evidence that a single goal in the 2006 Afghanistan Compact has been achieved as written, I will buy them a round of the most expensive beer in Washington. Only once has somebody taken up the challenge. After I made the offer in Tampa, as a panelist for Central Command's Afghanistan-Pakistan Center conference in 2011, a young man pointed out during the question-and-answer session that the Afghanistan National Police (ANP) force had exceeded the compact's target size of 62,000 people, implying I therefore owed him a beer. If I'd had a copy of the compact in front of me, I might have responded by quoting what that section of the compact actually promised:

> By end-2010, a fully constituted, professional, functional, and ethnically balanced Afghan National Police and Afghan Border Police with a combined force of up to 62,000 will be able to meet the security needs of the country effectively and will be increasingly fiscally sustainable.[1]

The goal for the police force was not limited to its size but included performance benchmarks as well, and the ANP was nowhere close to meeting them. Nonetheless, I later offered to buy the man a cheap beer the next time he was in town.

This is not meant to denigrate the ANP; some progress has been made, although it is probably still a generation away from achieving the compact's benchmarks. Rather, I offer this anecdote to illustrate a larger problem with the Afghanistan effort: a widespread failure to account for absorptive capacity. The amount of aid entering Afghanistan, and the ambitions for what it could achieve, clearly exceeded that country's capacity to use the aid for its intended purpose. The consequences have included a distortion of the Afghan economy, including the housing and labor markets, and the needless enrichment and empowerment of corrupt politicians, organized criminals, and warlords, who collectively expropriated billions of dollars, much of which ended up in private bank accounts in Dubai. In my research on Afghanistan over the past three years, many Afghan, U.S., and international officials have told me that the Afghanistan stabilization and development effort would have been far more effective if there had been far less funding available for it. (To be fair, some disagree, suggesting it was the mismanagement, not the amount, of funds that distorted those efforts. I believe it was both.)

1. "The Afghanistan Compact: Building on Success—The London Conference on Afghanistan," London, January 31–February 1, 2006, p. 6, http://www.nato.int/isaf/docu/epub/pdf/afghanistan_compact.pdf.

The question of absorptive capacity has also arisen in the international response to the 2010 earthquake in Haiti, a country whose already weak state institutions were further weakened by the devastation of that natural disaster—then utterly overwhelmed by international aid. Hundreds of millions of dollars have been offered to rebuild the country's educational system alone, for example, and yet Haiti has been able to spend only a fraction of that amount, with comparatively little to show for the investment. One should not necessarily blame the Haitian government exclusively for the shortfall; the donor community certainly bears some responsibility as well, for making such heroically unrealistic demands, although certainly they have meant well.

Absorptive capacity is not an issue that appears only in enormous international responses to natural disasters and wars. It appears any time international development or stabilization resources are brought to bear upon a problem that local institutions cannot resolve alone and there is a poor "fit" between the donor's understanding of how such problems get resolved and what is actually possible (or desirable) in the local context. Absorptive capacity becomes an issue any time a communiqué from an international donor conference lays out an ambitious vision for a country's development or post-conflict reconstruction that is admirable as an aspiration but useless (and sometimes even harmful) as a guide to policy. Most commonly, perhaps, absorptive capacity appears whenever a well meaning aid organization defines a project goal without really considering whether the desire, resources, or capabilities exist to achieve it locally—a far more common occurrence than one might expect.

In this report, we present a new framework for thinking about and measuring absorptive capacity. The common approach—which can perhaps unfairly be characterized as "why can't poor people spend our money better?"—is not very helpful from the perspective of improving the capacity to spend aid productively. The simplest measure of absorptive capacity—dividing how much donor money the recipients accountably spent in a given year by how much money the donors had offered—has the virtue of yielding a number ("the recipient's absorptive capacity is 27 percent"). But it is not clear how that can guide policy, beyond either offering less money the following year or "building capacity" to spend the money the way the donor thinks it should be spent. (Other approaches to measuring absorptive capacity are only somewhat less simplistic.) This is not to disparage capacity building as such, only to suggest that perhaps another way of thinking about absorptive capacity could offer a less donor-centered view of what capacity—and whose capacity—should be built.

There is an important intellectual trend in the development and stabilization fields, particularly regarding countries often described as fragile, to recognize that donors should bear more of the responsibility for shortcomings. Our reconceptualization of absorptive capacity is consistent with this current of thought. The framework we offer is intended to provide a more systematic way not only to identify obstacles to program success but also to diagnose the sources of those obstacles, both in the field and within the donor institution itself. In our view, absorptive capacity is a by-product, essentially, of the donor–recipient

relationship. As such, a framework for analyzing that relationship, for the purpose of finding potential obstacles to success, can be a useful addition to any process for planning, monitoring, and evaluating development and stabilization efforts. Our framework is intended to do just that.

No standard assessment tool for absorptive capacity exists. We believe that the framework introduced in this report represents a major step toward providing a tool that not only identifies barriers to absorption but does so by testing development plans against local conditions. Technical requirements, the political economy and adaptive capacity of recipient societies, and the delivery capacity of donor institutions all are taken into account in this framework. And the simplicity of the overall approach—model a plan's underlying theory of change, identify the model's prerequisite structure, and do field research to see whether those prerequisites exist locally—makes it viable for inclusion in existing planning, monitoring, and evaluation processes. We intend to demonstrate its use in context as we continue developing this framework into a final assessment tool over the next few years.

The Carnegie Corporation of New York has supported our program's work on stabilization and reconstruction for many years. The problem of absorptive capacity in Afghanistan emerged during the course of our research on the possible paths to stability in the region. Carnegie's support for that project enabled us to do some initial research both on the concept and on the ANP (see Chapter 4). I am extremely grateful to Steve del Rosso at Carnegie for his support over so many years and in particular for enabling us to pursue this line of research during our final grant from his highly regarded States at Risk program.

Near the end of that project, a grant from the United Kingdom's Department for International Development (DFID) enabled us to develop that line of research more fully and to test a new approach against more security and justice sector cases than just Afghanistan's police training program. The results of DFID's support are this report and a volume of cases on security and justice sector programs to be published separately. I want to thank the Security and Justice team of DFID's Conflict, Humanitarian, and Security Department for supporting this research with a grant from DFID's Policy Research Fund. In particular, Mike Hollis, Macha Farrant, and Peter Diston have provided us much-appreciated support and feedback over the past year.

I want to acknowledge the intellectual contributions and research support provided by my coauthor, Kathryn Mixon, who began this project as an intern (now research assistant) but who has contributed to it more like a colleague. Andrew Halterman was our research intern for last phase of this project and deserves credit for his intelligence and hard work as well, particularly on the companion volume of cases. Any errors of fact or omission are mine.

Feedback on this work would be welcomed, as we plan to continue developing this framework into an assessment tool and applying it in the field. Any parties interested in an

absorptive capacity assessment for new or ongoing projects may therefore contact me at rdlamb@csis.org to discuss the possibilities.

Robert D. Lamb
Washington, D.C.
April 2013

Executive Summary

This report offers a draft framework for measuring absorptive capacity, or the amount and form of international aid and attention that recipient institutions and societies can receive without suffering significant social, economic, or political disruptions. Donors have at times implemented projects, programs, and other interventions without a realistic understanding of the capacity of recipient societies and institutions to absorb and make productive use of financial aid, technical assistance, or political attention in the form provided by outsiders or an understanding of the indirect effects of external interventions on the recipient society. As a consequence, some donor programs have cost more, achieved less, and been more disruptive than necessary.

The Measuring Absorptive Capacity (MAC) framework introduced in this report should be considered an add-on module to standard assessment, planning, monitoring, and evaluation tools. It is not intended to be used to *design* an intervention (e.g., an aid program); it can, however, be used to *test* the design of a proposed intervention to determine whether that design adequately accounts for constraints on the capacity of the recipient to absorb and make productive use of the proposed intervention's efforts. Similarly, it is intended to be used not as a stand-alone evaluation tool for completed or ongoing interventions but as a supplement to program or impact evaluations, helping identify obstacles the intervention had not adequately accounted for.

The draft framework begins with a standard theory of change, results chain, or logical framework ("logframe") model of the proposed intervention. This report uses a conventional logframe model, a reasonably straightforward and fairly common approach useful here as a proof of concept. The specific tool used for this purpose does not matter—nonlinear or complex models can be used as well—as long as the approach used can accurately model the proposed intervention's intended inputs, outputs, and outcomes. It is useful to include as much quantitative information as possible (e.g., how many staff, how much money, how many participants, how much capacity, and so on) as well as qualitative information indicating how good something is expected to be or how well something is expected to be done.

Whatever tool is used, it is critical to identify the resources, capabilities, knowledge, or conditions that are required for the intervention to work but that are not provided or produced by the intervention itself. These are usually called assumptions, risks, or external factors. Here they are called prerequisites, and the prerequisite structure of the model

is the most important feature of the MAC framework. Any good political economy analysis of the recipient system will help identify these prerequisites; sector-specific or technical assessment tools can also help. A participatory process that involves a range of stakeholders and experts in gathering all of this information or validating the resulting model can be useful, but balance is important: an overly participatory process risks reifying the results, making it difficult to modify the model later if needed, while an inadequately participatory process risks missing information.

To identify constraints on absorptive capacity, the MAC framework internalizes the assumptions or external factors into the intervention model. Any resources, capabilities, or conditions that the *inputs* depend on to produce the outputs are incorporated into the model as *input prerequisites*. In a police training program, for example, input prerequisites might include the availability of qualified recruits and trainers, which are not provided as part of the intervention but are required to grow and train the police force. Any resources, capabilities, or conditions that the *outputs* depend on to generate the outcomes are incorporated as *output prerequisites*. For example, a well armed and trained police force will not do more patrols if they do not get paid; more patrols and arrests will not reduce crime if the police are not arresting criminals; arrests will not reduce crime if prison is not a deterrent or the justice system cannot process them; and a police presence will not reduce crime if the police themselves are criminals or if other criminals begin to wage war against them.

Once the prerequisite structure of the intervention is known, measuring the capacity of the recipient system to absorb and adapt to the intervention is then a matter of determining whether the input and output prerequisites are present in the system at the needed level. This will normally require field research (informed by study of the recipient system's political economy), but missing prerequisites are often discovered during implementation as well. If missing prerequisites are discovered, three options are available:

- First, *modify the intervention* to supply the missing prerequisites (or coordinate with someone else who can supply them). In the example, if it turns out that potential recruits are illiterate and therefore not qualified for training, the intervention can be modified to include literacy as part of the training.
- Second, iteratively *redesign the intervention,* trying different inputs and outputs to find an approach that minimizes missing prerequisites (or allow implementers to do this experimentally during the intervention). If building a formal police force is infeasible but it turns out that society already has "neighborhood watch"-like volunteers, the intervention can be redesigned to build the strength and accountability of those informal institutions.
- Third, *rethink the intervention,* reconsidering whether the objectives are appropriate to the recipient system, whether achieving them would require unprecedented performance, and perhaps whether the missing prerequisites are actually necessary. Has any similar society reduced crime by 50 percent in four years? If so, how? If not, can the objective be changed to reducing crime by 20 percent, or reducing violent

crimes only, or increasing the length of the intervention? Is literacy actually needed, or can locals and field staff find some pragmatic work-around during training? Is an intervention built around enforcement and deterrence the right approach, or can more culturally appropriate mechanisms for mediating conflicts, maintaining order, and disciplining youth be strengthened instead?

In this report, the MAC framework is tested against the police training program that took place in Afghanistan between 2004, when the United States took the lead for that program, and 2010, when a timeline was established to transfer responsibility for security operations from international to Afghan forces. The training program was intended to grow the police force significantly while developing its tactical skills, discipline, and knowledge (e.g., of laws and norms) in the short term. That, it was believed, would enable the ANP to defeat insurgents, enforce laws, and displace nonstate armed actors from policing activities in the medium term, which in the long term would reduce crime, violence, and opium production and thereby contribute to peace and security within Afghanistan. As a proof of concept, the Afghan case demonstrates that the MAC framework can be useful as a systematic structure for identifying overlooked prerequisites.

By helping to structure the identification of prerequisites, the MAC framework helps overcome a significant problem with using logical frameworks as planning tools—namely, the impression they can create that interventions (such as those in international development) are predictable, linear processes and that implementation plans should be inflexible. This misimpression can be reinforced by a planning process than emphasizes a high level of effort to identify inputs, outputs, and outcomes and a comparatively low level of effort to identify and understand the assumptions, risks, and external factors (i.e., prerequisites) that affect what the intervention can achieve. The MAC framework redresses that imbalance by focusing attention specifically on those prerequisites. It discourages inflexibility in planning by encouraging the user to modify, redesign, and rethink the intervention model, repeatedly testing it against the prerequisites on which its success would depend until an approach is found that is feasible according to local conditions.

Future applications of the MAC framework are likely to incorporate social-framework or complex-systems approaches to more explicitly account for networks of influence and accountability among actors, especially the donor–recipient relationship, for adaptability and resilience of recipient systems, and for nonlinear dynamics in general. Meanwhile, this version includes a preliminary structure for assessing the delivery capacity of donor organizations, that is, their capacity to account for absorptive capacity and adapt intervention designs and objectives to local contexts.

1 Introduction

> An industrial dictator, with foresight and knowledge, could hasten the pace [of economic progress] somewhat, but [even] he could not achieve an Aladdin-like transformation of a country's industry so as to reap the fruits of a half-century's ordinary progress in a few years.
>
> —Allyn A. Young (1928)[1]

A sponge absorbs water.

This simple mental image is what the term *absorptive capacity* and all of its variants are intended to evoke. It is apparently a powerful image, as the metaphor of absorption has been applied to phenomena taking place in individual organizations, national economies, and every level in between.

Place a dry sponge on a dry table and pour water onto the sponge from a pitcher. Pour too much water and the table gets wet after the sponge reaches capacity; pour too little water and the sponge does not consume as much water as it could; pour too quickly and the table gets wet even before the sponge reaches capacity. Some sponges absorb more water than others; a dry sponge absorbs water less quickly than does a damp sponge. Most sponges get larger as they absorb the water. All have limits to the quantity and rate of absorption.

Much has been written about absorptive capacity in several academic and policy disciplines, including economic development, learning, organizations, ecological systems, and complexity. In these literatures, the "water" being absorbed has included goods, services, investment opportunities, foreign capital, technical assistance, manufacturing costs, knowledge and information, and external shocks or disruptions.

High absorptive capacity, it seems, enables some system to benefit from the good things it is exposed to or to recover more successfully from the bad things it is exposed to. Having high absorptive capacity means that economic growth is faster, the return on investment is higher, foreign aid is better spent, competitiveness is enhanced, and resilience is high.

1. Allyn A. Young, "Increasing Returns and Economic Progress," *Economic Journal* 38, no. 152 (December 1928): p. 534.

With low absorption, economic growth is stalled, investments are wasted, foreign aid is unproductive or harmful, innovation is unlikely, and fragility is high. In the work of economists, social scientists, and scholars of organizational behavior, complex systems, and international development, the ability to "absorb" is considered to be a good thing. Full absorption is considered productive and efficient. Exceeding the limits to the rate or capacity of absorption is considered to have bad consequences. Not making full use of something's absorptive capacity is usually considered inefficient, a wasted opportunity.

Although much has been written about absorptive capacity, little interdisciplinary research has been done on this topic. The fact that so many different lines of research are reaching for the same metaphor, however, suggests that there might be some structural similarities between and among the phenomena—and this suggests there might be an opportunity to rethink absorptive capacity and find a better way to measure it.

We have spent the past two years taking advantage of that opportunity, and this report presents the results of our efforts. Chapter 2 is an extensive review of the main lines of scholarly research related to the concept of absorptive capacity. Authors writing about it in international development tend to define absorption as the ability of aid-recipient countries to use foreign capital or other forms of foreign assistance in a way that grows their economies, improves the quality of life for poor people, reduces crime and violence, helps a country recover from disasters, or achieves other development objectives. Some authors writing about "resilience" to natural disasters and humanitarian crises refer to the capacity of communities and countries to absorb external shocks (such as natural disasters or inflows of refugees) in a way that enables them to continue functioning or to recover quickly.[2] Other authors on crisis and disaster note that the capacity to absorb and recover from disasters is sometimes undermined by large inflows of resources. Organizational and business scholars refer to absorptive capacity as the ability of businesses to turn external knowledge, information, or technology into innovations that improve their operations or products.[3] When the organizational literature has been applied to international development, it has generally focused on the ability of businesses in recipient countries to absorb foreign technology. Few authors, however, have focused on the institutional capacity of *donor* organizations to absorb knowledge about aid effectiveness and incorporate it into their own operations.[4] Our research begins to redress that oversight.

In Chapter 3, we synthesize our findings from the literature review into a new framework for analyzing absorptive capacity constraints, accounting not only for constraints in recipient systems but for those within donor organizations as well. The framework centers

2. For example, Carl Folke et al., "Resilience and Sustainable Development: Building Adaptive Capacity in a World of Transformations," *ICSU Series on Science for Sustainable Development* 3, International Council for Scientific Unions (2002).

3. Wesley M. Cohen and Daniel A. Levinthal, "Absorptive Capacity: A New Perspective on Learning and Innovation," *Administrative Science Quarterly* 35, no. 1 (1990): pp. 128–152.

4. See Judith Tendler, *Inside Foreign Aid* (Baltimore, Md.: Johns Hopkins University Press, 1975); and Marian Leonardo Lawson, *Does Foreign Aid Work? Efforts to Evaluate U.S. Foreign Assistance* (Washington, D.C.: Congressional Research Service, 2012), pp. 16–17.

on the "prerequisites" for program success, the resources and capabilities that are not provided by the donor directly but would be needed for success. For example, recruits who are illiterate might not benefit from a training program if the training depends on written materials; literacy is a prerequisite for successful training. Some prerequisites have prerequisites themselves (e.g., a prerequisite to a literate population is a functioning education system), some of which can be met by expanding the mandate of the program (e.g., literacy can be added to the training program), others of which can be met only through the efforts of others not involved in the program (e.g., other donors assisting the education system). Studying any particular program's prerequisite structure and determining whether prerequisites are present can help to identify potential sources of failure or diagnose actual obstacles to success. Chapter 4 is intended as a proof of concept, using the framework to structure an analysis of Afghanistan's police training program to see how well the framework can identify overlooked prerequisites.

This report concludes by observing that development and stabilization are adaptive processes and that their outcomes are uncertain. Therefore, any effort to measure progress or identify constraints is bound to be inherently limited. We do not want readers to conclude that we believe this framework can predict or identify all obstacles to development. It is intended simply to offer a more systematic way to try to do so, as an "add-on" module for existing planning, monitoring, and evaluation processes. Existing approaches to technical assessment and political economy analysis can be used as inputs into this framework, because identifying prerequisites to success is a matter of understanding both the technical means through which a program might work and the political economy of the society or institution that the program is intended, somehow, to change.

We believe that the framework we present here can be useful at various stages of development or stabilization programming: first, as a way to model constraints that might prevent a proposed aid program or project from achieving its stated objectives; second, as a tool to diagnose obstacles to success in ongoing programs; and third, as a tool to evaluate a completed program to identify similar obstacles and collect lessons.

2 The Concept and Its Analogues

> Perhaps the most striking lesson the [World] Bank has learned in the course of its operations is how limited is the capacity of the underdeveloped countries to absorb capital quickly for really productive purposes.
>
> —World Bank (1949)[1]

> It does little good to supply money to build plants if there are no skilled workers to operate them, no competent administrators to manage them, inadequate transport to bring in their raw materials and carry away their product, no repair facilities to maintain them, inadequate power to run them, and insufficient purchasing power to buy what they produce.
>
> —Millikan and Rostow (1957)[2]

Like "resilience" or "local ownership," absorptive capacity means different things to different people. In a generic sense, absorptive capacity is the degree to which an organization, an institution, an economy, or a society can make productive use of some external resource, capacity, or event to which they have been exposed. In both popular and scholarly usage, the term is often uttered as if it were an objective property of an economy, a country, or an organization, like "human capital" or "price elasticity" is. But no systematic research has been done that explicitly tests hypotheses about what those objective properties are. When absorptive capacity makes an appearance in research, it is almost always as an independent variable (contributing to some other outcome) or as an antecedent condition (constraining some other process)—rarely as the dependent variable, the phenomenon to be explained.[3]

It turns out that there is a very good reason for this. Our main conclusion after reviewing the relevant literatures is that the concept of absorptive capacity is meaningful only in

1. International Bank for Reconstruction and Development, *Fourth Annual Report to the Board of Governors, 1948–1949* (Washington, D.C.: IBRD, 1949), p. 8.

2. Max F. Millikan and W. W. Rostow, *A Proposal: Key to an Effective Foreign Policy* (New York: Harper and Brothers, 1957), p. 45.

3. An important exception is a draft background paper by Luis Crouch and colleagues testing eight hypotheses about possible sources of absorptive capacity constraints. See Reda Abou Serie, Laban Ayiro, Marlon Brevé Reyes, Luis Crouch, George Godia, and Geraldo Martins, "Absorptive Capacity: From Donor Perspectives to Recipients' Professional Views," paper commissioned for the *EFA Global Monitoring Report 2010: Reaching the Marginalized,* July 24, 2009.

relation to specific objectives, because achieving different objectives requires different sets of resources and capabilities depending on the specific context. The question "What is *X*'s capacity to absorb *Y*?" is meaningless. It becomes meaningful only after specifying what *Y* is intended to achieve: "What is *X*'s capacity to absorb *Y* in a way that will achieve *Z*?" In other words, absorptive capacity is co-determined by *X, Y,* and *Z,* the interactions among the specific characteristics of the recipient system (*X*), the specific elements that are being introduced to that system (*Y*)—including the conditions and requirements that donors impose—and the specific objectives (*Z*) that those elements are intended to achieve in that system.

If *Z,* the thing to be achieved, is a decline in the crime rate, that requires a different set of capabilities and resources than if *Z* were simply an increase in the size of the police force. *X* might have a higher capacity to achieve one objective than the other. Moreover, if the objective, *Z*, is a decrease in hunger, there are different kinds of aid that conceivably could achieve that: *X* might not have the capacity to absorb aid for a job-training program (one type of *Y*), but it might have the capacity to absorb aid for distributing food vouchers to hungry families (another type of *Y*). Or it might have more capacity to absorb aid from one donor (Y_1) than from another (Y_2) due to the particular requirements (e.g., paperwork) that different donors impose. It is important to note—and this fact is too often overlooked in the "best practices" literature—that an aid program (*Y*) that works in one country (X_1) might not work in another country (X_2).

What this implies is that measuring absorptive capacity requires an understanding of the (often implicit) theory about the process through which *Y* leads to *Z in particular contexts*—the process through which aid leads to growth, or knowledge leads to innovation, in a particular place in a particular time. Anything that impedes that particular process in that particular context is, by definition, a constraint on absorptive capacity.

To put it another way, absorptive capacity is an *artifact* of a theory of success (or, more broadly, a theory of change) involving a particular set of relationships among *X, Y,* and *Z*. It does not exist in the wild, as an objective phenomenon waiting to be measured; it comes into being only when somebody decides that some objective needs to be achieved in some place and then finds or contributes some set of resources and activities to achieve it.

Therefore, it is not possible to develop a nontrivial *general* theory of the determinants of absorptive capacity. Absorptive capacity is a function of *particular* theories of change, and the variety of possible theories of change is as large as the variety of possible objectives, multiplied by the variety of possible aid and knowledge-transfer programs, multiplied by the variety of possible recipient systems. A general theory of absorptive capacity cannot be developed in the absence of a general theory of change in human systems—which is to say that a general theory of absorptive capacity is not possible. If this is the case, then a general method for measuring absorptive capacity cannot be developed.

In principle, however, it should be possible to develop a method for measuring—or, more realistically, estimating—absorptive capacity in *specific* contexts, by systematically studying the *X, Y,* and *Z* factors. The next chapter discusses what would be required of such an effort. First, however, it will be useful to review the concept's intellectual history to demonstrate the impossibility of a general theory of absorptive capacity and the need to reconceptualize it for the sake of applying it in real-world contexts.

Early Conceptualizations

Xenophon, the fourth-century BCE Greek soldier and historian, wrote in his pseudohistory of Cyrus the Great that the quality of the Persian emperor's meals was due to the division of labor that went into preparing them: because he was so wealthy, he could afford to hire a large staff to prepare his meals, with each worker specializing in one thing and therefore an expert at doing that one thing. Similarly, the author observed, the larger the city, the greater the division of labor, and the higher the quality of that city's products.[4] Two thousand years later, Adam Smith detailed the process through which labor becomes increasingly specialized as markets expand. His argument was that labor specialization, market growth, and capital investment are interrelated. But because labor specialization played such an important role in his overall argument (namely, its contribution to the creation of money), his main focus was on the way market size limits or increases specialization.[5]

In 1928, Allyn A. Young drew out Smith's point explicitly. For Young, a growing market creates opportunities for new divisions of labor—workers could specialize in discrete tasks, industries could specialize in product components—but these divisions and specializations also create efficiencies that make the workers (and industry as a whole) more productive, which increases returns on investment and grows the market. In other words, "the division of labour depends upon the extent of the market, but the extent of the market also depends upon the division of labour. In this circumstance lies the possibility of economic progress, apart from the progress that comes as a result of . . . new knowledge."[6]

The suggestion that the size of an economy acted as a constraint on the ability of labor to specialize, and that the extent of the division of labor acted in turn as a constraint on the ability of an economy to grow, was a powerful idea. The search for other constraints and interrelationships has historically been a dominant theme in economic research.

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4. Xenophon, *Cyropaedia: The Education of Cyrus,* trans. Henry Graham Dakyns, ed. F. M. Stawell (London: J. M. Dent & Sons, 1914 [ca. 400 BCE]), Book VIII, available from Project Gutenberg, http://www.gutenberg.org/files/2085/2085-h/2085-h.htm. A century earlier, Plato had argued that in a just society labor would be divided according to the character of the worker; two millennia later, David Hume argued that the division of labor came about as a necessity to human survival. See Plato, *The Republic of Plato,* trans. Francis MacDonald Cornford (New York: Oxford University Press, 1945 [370 BCE]), Book II; and David Hume, *A Treatise of Human Nature,* ed. L. A. Selby-Bigge (Oxford: Clarendon Press, 1896 [1739]), Section II, available from Primary Resources in International Affairs, http://www.isn.ethz.ch/isn/Digital-Library/Publications.

5. Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (State College, Penn.: Electronic Classics Series, 2005 [1776]), ch. 2, http://www2.hn.psu.edu/faculty/jmanis/adamsmith.htm.

6. Allyn A. Young, "Increasing Returns and Economic Progress," *Economic Journal* 38, no. 152 (December 1928): p. 534.

It is in those constraints and interrelationships that absorptive capacity is relevant. The growth of a business, an industry, or an economy is constrained by the availability of any particular thing that might be required for its growth: a healthy and available labor pool, access to credit or financing, the knowledge or technology needed for specialization, demand for the goods or services produced, and so on. If any one of these required elements is missing, growth will be constrained. Likewise, if one required element actually is available, that element still cannot be put to productive use—it will not be absorbed into the system—if another required element is missing. In this conceptualization, the capacity of a system to absorb any given "input" is a function of the availability of other required inputs: absorption (of one set of inputs) has prerequisites (the other inputs needed to make them work). For this reason, absorptive capacity problems are often considered problems of "missing inputs" (or, in the terminology introduced in the next chapter, "missing prerequisites").

In what was published before the start of World War II, it seemed fairly well established—to put it in simple terms—that an economy will grow (and that growth will be self-sustaining) as long as there are workers capable of learning new tasks and moving from one job to another; investors capable of buying new machines, building new factories, and finding new market opportunities; customers willing and able to buy the products that are on the market; and innovators willing to learn, experiment, and invent. Each of these elements is an input into the system, where they interact with each other to encourage mutual expansion, influence how the system interacts with the outside world (i.e., via trade), and ultimately increase their collective output.

But what if an economy is stagnant or in decline? What if there are not enough workers, or not enough trained workers, to increase production? Or what if there are far too many unskilled workers for the jobs available? What if investors see too little opportunity for profit or see too much risk—because of crime or violence—to make any new investments? What if the culture punishes innovators, or the political system provides disincentives to innovate or invest? In such circumstances, adding new knowledge might not lead to innovation. Adding new capital might be a waste of money, or it might cause inflation. Adding new customers—through a new trade route, or a population explosion—might not lead to higher demand for locally produced goods. Adding more jobs, or training more workers, might not increase productivity, wages, or buying power. In these circumstances, naïvely introducing any one of the missing inputs could be utterly ineffective or outright harmful (or, by luck, surprisingly productive).

In other words, places where economic growth is stagnant might or might not be able to absorb more money, workers, customers, products, or knowledge than are already in the system. Economic research during and after World War II focused in earnest on answering the questions of how a poor economy can be revived so that its participants might all benefit. Part of that research involved asking what was needed for growth, and part involved asking what constrained that growth.

The field of economic development grew out of the suggestion that outsiders could provide the missing inputs. The concept of absorptive capacity grew out of the observation that some economies did not have the ability to use the missing inputs supplied by outsiders in a way that would lead to self-sustaining growth. Even as the goals of international development shifted over the decades, from economic growth to poverty reduction to human development and back again, the question remained: What is the capacity of aid recipients to use foreign aid in a way that would achieve the intended objectives?

ECONOMIC GROWTH AND CAPITAL ABSORPTION

In 1943, Paul N. Rosenstein-Rodan grappled with the challenge of how to use aid to foster growth. His immediate concern was with the agrarian economies in Eastern and Southeastern Europe, where he estimated that about a quarter of the population was unemployed or underemployed—an "agrarian excess population" of between twenty and twenty-five million people who could not remain idle lest they become a source of instability after the war. His major contribution to development economics was to suggest an alternative to the "Russian model" of industrialization, which at the time was "aiming at self-sufficiency, without international investment." The Russian model required domestic resources to be used for building all the factories and machines needed for a self-sufficient economy, leaving less available for improving the quality of life of an already suffering people. To keep more resources available to meet social needs, Rosenstein-Rodan argued that agricultural countries with high unemployment faced two alternatives, both requiring openness to the world economy. The first would allow the excess labor to flow toward capital—that is, to encourage the unemployed to emigrate to where the jobs are. Finding international migration to be too disruptive, Rosenstein-Rodan suggested the second alternative: to allow capital to flow toward the excess labor. He recommended a massive program of industrialization using foreign capital from the wealthy Western countries, to create jobs in a set of complementary industries that collectively would absorb the excess agricultural labor—"a tremendous task, almost without historical precedent."[7]

At the end of the war, this "big push"—a term that does not appear in Rosenstein-Rodan's 1943 paper, though it has since become attached to his model of encouraging self-sustaining economic growth using foreign capital—started to gain some prominence. The United Nations embraced the big-push approach in 1951 after a group of development experts recommended that wealthy countries increase their contributions (both grants and loans) with a goal of raising annual per capita growth in poor countries to about 2 percent.[8] Arthur Lewis argued in 1954 that capital shortages were among the main contributors to stagnation in places with high unemployment, providing further intellectual support for a foreign aid program focused on capital investment.[9]

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7. Paul N. Rosenstein-Rodan, "Problems of Industrialization of Eastern and South-Eastern Europe," *Economic Journal* 52, no. 210/211 (June–Sept. 1943): pp. 202–211.

8. *Measures for the Economic Development of Underdeveloped Countries: A Report by a Group of Experts Appointed by the Secretary General of the United Nations* (New York: United Nations, 1951).

9. W. Arthur Lewis, "Economic Development with Unlimited Supplies of Labor," *The Manchester School* 22, no. 2 (1954): pp. 139–191.

But overall economic growth requires a wide range of inputs, of which capital investment is only one, as these authors well recognized. If an economy is missing several of those inputs, then logically *all* of the missing inputs will be needed to kick-start growth, as noted in the previous section. Even if a capital shortage is the main contributor to stagnation, it is not usually the only one; foreign capital will be needed, but so will the other missing inputs. If a capital shortage is determined to be the main impediment to growth, as Lewis argued, then international aid should certainly come mainly in the form of foreign capital. In that case, the other missing inputs (human capital, infrastructure, etc.) will act as constraints to capital absorption. But if something else is determined to be the main impediment, such as low productivity due to poor health or low literacy, then the aid program should be designed to improve health or education—and in that case, the other missing inputs (perhaps including capital) will act as constraints to absorption of health care and training.[10]

In other words, according to the earliest conceptualizations, absorptive capacity is determined by the *full set of inputs* needed for economic growth: if an aid program provides one missing input, then the rest of the missing inputs will determine the economy's capacity to absorb it. The inputs that together are needed for economic growth are referred to in the early literature variously as *cooperant factors* or *complementary inputs;* when needed inputs are missing or inadequate, they are called *limitations, constraints,* or *preconditions* (or *binding constraints* if they are particularly stubborn). In this report, they are referred to as *prerequisites*. Generally speaking, these inputs were collectively defined as the determinants of absorptive capacity—regardless of which input is being absorbed. In the classic development literature, capital is being absorbed, and the complementary inputs (e.g., skilled labor) determine the rate and level of capital absorption.[11]

Not all aid in the postwar period came in the form of large capital investments, however. Tens of millions of dollars in technical assistance, institutional development, and infrastructure projects were funded as well. Rosenstein-Rodan himself, who had moved in 1947 to the World Bank,[12] recognized that aid could not contribute to economic growth unless the unemployed and underemployed workers in the recipient countries were first trained in the technical and administrative skills needed to manage and implement the programs—in other words, until the missing prerequisites were supplied and the recipient society's absorptive capacity was thereby increased. Just as a damp sponge absorbs water more quickly than does a dry sponge, technical assistance and infrastructure were considered prerequisites to the productive use of foreign capital. The first phase of a long-term

10. This insight was recently developed into a method for identifying the specific constraints on growth that are most important within a particular context. See Ricardo Hausmann, Dani Rodrik, and Andres Velasco, "Growth Diagnostics," Kennedy School of Government, March 2005, http://www.hks.harvard.edu/fs/rhausma/new/growthdiag.pdf.

11. Hollis B. Chenery and Alan M. Strout, "Foreign Assistance and Economic Development," *American Economic Review* 56, no. 4 (1966): p. 686; John H. Adler, "Absorptive Capacity: The Concept and Its Determinants," *Brookings Staff Paper*, Brookings Institution, June 1965.

12. Formally, the International Bank for Reconstruction and Development (IBRD).

aid program was to take a dry sponge and make it damp, before the second phase—getting the sponge really wet—would begin.[13]

Most of the determinants of absorptive capacity that the World Bank identified in 1949 were human factors, such as poor health, low education, and low administrative and technical competence, all of which seemed fairly straightforward matters for development professionals to address before moving to providing aid for growth. But in a list that will sound depressingly familiar to most readers, the Bank also identified political instability, poor leadership ("will and determination"), inequality, entrenched elite interests, inadequate domestic capital, and "fragmentary and unreliable" data as constraining capital absorption as well—none of which is straightforward to address in the short term. Crucially, however, the Bank's 1949 report made it clear that "the principal limitation upon Bank financing in the development field has not been lack of money but lack of well prepared and well planned projects ready for immediate execution," a limitation due mainly to the "gap" between the "concept of development potentialities" and the "formulation of practical propositions." In other words, what donors believed was possible was based more on theory or aspiration than on practical knowledge about conditions on the ground—a theme that has not faded in the nearly seven decades since.[14]

Yet as aid to developing countries increased in the 1950s and 1960s, the field of development economics exploded with new theories intended to shape strategies for how that aid could best be deployed to improve economic growth. The Rosenstein-Rodan formulation calling for what came to be known as "balanced growth" (investment in multiple industrial sectors at once) competed with calls for poor countries to identify their "comparative advantage" and focus industrial production on those market sectors. Debates emerged about the efficacy of large versus small capital investments, capital assistance versus technical assistance, agricultural investment versus industrial investment, how much foreign aid displaces domestic savings, how much development is driven by foreign versus domestic efforts, and what the actual prerequisites for capital investment were (education, good government, infrastructure, etc.).[15]

PREREQUISITES TO ABSORPTION

By the mid-1960s, absorptive capacity was being treated in many of these theories as if it were, as John H. Adler put it, "a well defined concept with an established technical

13. The concept of phasing aid was advocated by Walt Whitman Rostow during the 1950s in work that was later published as W. W. Rostow, *The Stages of Economic Growth* (Cambridge: Cambridge University Press, 1960).

14. IBRD, 1949, pp. 8–9.

15. For discussions of these controversies, see Roger C. Riddell, *Does Foreign Aid Really Work?* (New York: Oxford University Press, 2007); Henrik Hansen and Finn Tarp, "Policy Arena: Aid Effectiveness Disputed," *Journal of International Development* 12 (2000): pp. 375–398; James M. Hagen and Vernon W. Ruttan, "Development Policy under Eisenhower and Kennedy," *Economic Development Center Bulletin*, no. 87–10, University of Minnesota, November 1987; Patrick Guillaumont, *L'Absorption du Capital* (Paris: Éditions Cujas, 1971); and Ragnar Nurkse, "Some International Aspects of the Problem of Economic Development," *American Economic Review* 42, no. 2 (May 1952): pp. 571–583.

meaning . . . and therefore need not be explained or analyzed any further."[16] In fact, much of the time it was used in a metaphorical rather than a technical sense, or it was mentioned as being important without much further explanation. As a result of this imprecision, efforts to define and measure it had mixed success. Because, as Hollis Chenery and Alan Strout put it, "absorptive capacity for additional investment in any period is limited by the supply of complementary inputs,"[17] one of the main measurement strategies has been to identify the key complementary inputs or the most "binding" constraints on the effectiveness of aid and then to estimate their present and future supply:

- Ragnar Nurske identified domestic savings as a particularly important constraint; measuring the recipient society's propensity to save was therefore key to estimating the economy's capacity to absorb new investments.[18]
- Rosenstein-Rodan identified technical skill, propensity to save, administrative and organizational capacity, and, more generally, "the efforts that the citizens of the recipient countries themselves make [to foster an economic transformation]" as important constraints.[19]
- Chenery and Strout considered managerial, technical, and administrative skills to be the key constraints to absorptive capacity.[20]
- Max Millikan and Walt Whitman Rostow argued that absorptive capacity was a function of "education, skills, and attitudes, and basic transportation, communication, and power facilities" and of "reasonably effective government and civil order."[21]
- Adler identified knowledge, skills, management experience, institutional effectiveness, and culture as the most common determinants of absorptive capacity that had appeared in the literature before 1965.[22]
- Patrick Guillaumont, in a 1971 review of the literature, identified human capital, preexisting physical capital, information, and politics as the main determinants of absorptive capacity.[23]

Most of these prerequisites (preconditions, determinants, constraints, factors, etc.) do not lend themselves to quantification, so modeling the processes through which they constrain the effective use of capital was done only rarely; usually, qualitative descriptions have sufficed for these authors. For those who have needed a quantitative value for

16. Adler, "Absorptive Capacity."
17. Chenery and Strout, "Foreign Assistance and Economic Development," p. 686.
18. Ragnar Nurkse, *Problems of Capital Formation in Underdeveloped Countries* (New York: Oxford University Press, 1953).
19. Paul N. Rosenstein-Rodan, "International Aid for Underdeveloped Countries," *Review of Economics and Statistics* 43, no. 2 (May 1961): pp. 107–138.
20. Chenery and Strout, "Foreign Assistance and Economic Development," p. 686.
21. Millikan and Rostow, *A Proposal: Key to an Effective Foreign Policy*, p. 45. See also Rostow, *The Process of Economic Growth* (New York: Norton, 1952); Rostow, *The Stages of Economic Growth*.
22. Adler, "Absorptive Capacity."
23. Guillaumont, *L'Absorption du Capital*.

absorptive capacity, the estimate has usually been indirect. For example, Chenery and Strout defined absorptive capacity as the "skill limit" on the "ability to invest" but admitted that they had no way to estimate the limits to skills growth directly. Instead, they estimated absorptive capacity by using historical rates of new-investment growth as a proxy, assuming that the highest rate of investment growth over any five-year period in the previous decade was attributable to growth in skills.[24] The danger of using such indirect measures, of course, is that one cannot be certain that something *other* than skills growth (in this case) did not drive the growth in new investments.

Indeed, every theory for how economies develop has some caveat about what constrains that development. Every study of the effect of international aid on developing economies likewise has some caveat about what constrains aid effectiveness. Adler's characterization of how absorptive capacity was understood in 1965 remains applicable today: "determining the rate of return (and of absorption capacity at a given rate of return) depends very much on the 'definition' or 'delineation' of any specific investment project and on the causal relationship that can be established between a given investment and the increase in output (or decrease in cost) that is associated with it."[25] Albert Hirschman was especially skeptical of claims that economic growth had prerequisites that must always be met before moving forward with other efforts to grow an economy, because in his experience some "assumed obstacles" turn out not to be obstacles in context, and others "can be accommodated into an economically progressive society."[26]

In other words, when it comes to growing an economy, there is no such thing as absolute absorptive capacity. The capacity to absorb and make productive use of aid depends not only on the "complementary inputs" going into the economy—each input constrained by the others—but also on the objectives (e.g., the desired rate of growth), the scale (e.g., project, program, industry), and the structure (e.g., loans, grants, training, direct service) of the particular aid program that is being proposed and, importantly, on the political economy of the particular system receiving the aid.

These observations do not apply only to objectives related to growing an economy, though that is what most development literature focused on before the 1970s. As the next sections demonstrate, there is no such thing as absolute absorptive capacity no matter what the development objective is—economic growth, poverty reduction, good governance, pro-growth or pro-poor policies, or some other public good.

FROM POVERTY REDUCTION TO STRUCTURAL ADJUSTMENT

Before the 1970s, aid effectiveness was generally interpreted as the highest expected rate of return on foreign capital investment, and multiple factors, in addition to foreign capital, jointly determined how high that rate could go. What changed in the 1970s was the

24. Chenery and Strout, "Foreign Assistance and Economic Development," pp. 686 and 701.

25. Adler, "Absorptive Capacity," p. 10.

26. Albert O. Hirschman, "Obstacles to Development: A Classification and a Quasi-Vanishing Act," *Economic Development and Cultural Change* 13, no. 4 (July 1965): p. 391.

objective of official aid: it was no longer simply for growth but also for poverty reduction, which until then had been something mainly nongovernmental organizations focused on.[27]

As a consequence of this shift, the factors that were believed to be relevant to aid effectiveness changed. The inputs needed to grow an economy presumably differ from those needed to reduce poverty, and the process through which aid generates growth is therefore different from the process through which aid reduces poverty. The research questions were also different: What are the preconditions for poverty reduction? What factors limit the ability to raise the incomes of the poor? How do those factors differ in different contexts?

Every new paradigm in development comes with a new set of constraints. A whole new literature, and a new set of economic models, came into being, along with a qualitative shift in aid giving, from programs focused on sectors and industries to more projects focused directly on the poor.[28] Absorptive capacity became a less salient feature of the literature, though the overall observations from the growth period of development—that the capacity to absorb aid is relative to aid objectives, program elements, and context—certainly continued to be applicable to the poverty-reduction period. With the rise of projects came the opportunity to learn more about what forms of aid are subject to fewer absorption constraints.

But then growth returned to the agenda in full force in the 1980s. In addition to the full range of preconditions for growth that had been identified in earlier decades, however, economists in the era of "structural adjustment" identified a whole new set of preconditions that they considered to be the greatest impediments to effective capital absorption: government macroeconomic policies. Addressing these preconditions—by adopting a growing list of free-market reforms—became formal conditions for aid from the major development agencies. "In the early 1980s, on average, the [World] Bank applied five conditions to their loans," Roger C. Riddel recounted in his massive review of the literature on aid effectiveness. "By the end of the decade, the number of conditions had risen to over 30; they peaked at 45 by 1993 and by 1999 still numbered about 25."[29]

It was assumed that aid could not lead to growth unless these prerequisite policies were in place. Bad governance, in this view, was the main constraint on absorptive capacity. This view continues to be widely held today. But the structural adjustment policies had mixed results with respect to economic growth and often very poor results with respect to poverty reduction, and as the next section shows, the question of whether "bad policy" constrains absorptive capacity is, like many issues in development, a matter of much debate.[30]

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27. Hollis Chenery et al., *Redistribution with Growth: Policies to Improve Income Distribution in Developing Countries in the Context of Economic Growth* (London: Oxford University Press, 1974); Dharam Ghai and Eddy Lee, *The Basic-Needs Approach to Development: Some Issues Regarding Concepts and Methodology* (Geneva: International Labour Office, 1977).

28. Roger C. Riddell, *Does Foreign Aid Really Work?* (New York: Oxford University Press, 2007), pp. 31–33.

29. Ibid., pp. 236–237.

30. See Joseph E. Stiglitz, *Globalization and Its Discontents* (New York: A. A. Andrew, 2002); Riddell, *Does Foreign Aid Really Work?*, ch. 14.

Ongoing Debates in International Development

By the end of the 1990s, enough evidence had been drawn from successes and failures in development to recognize at least three important points. First, the ineffectiveness of aid is often attributable to the same disconnect between theory and practice that the World Bank identified in its fourth annual report back in 1949, that Hirschman warned about two decades later (when he cautioned against applying paradigms of development to complex social contexts), and that William Easterly—half a century after the World Bank's 1949 report—demonstrated was a by-product of incentives driving aid bureaucracies toward large numbers and large frameworks.[31] In other words, development programs were being conceived and designed in the "West" or "Global North" and applied to developing countries without adequate consideration for local knowledge and local contexts.

The second point followed: donors bore at least as much of the blame as recipients for the failures of their various development approaches. Third, therefore, the recipients of aid needed to have a much a greater voice in the way development programs were designed and implemented in their countries, so that foreign-born theories about how economies develop could be questioned, refined, or replaced when adapted to local contexts.[32]

Beyond that is a great deal of controversy over what makes aid effective—or what research methods should be employed to find out. Individual project evaluations are often not based on rigorous or transparent research methods, making it difficult to include them in broader studies of effectiveness. Even methodologically sound evaluations are too seldom circulated widely enough to contribute to more general knowledge, and if the report sits on a shelf inaccessible to researchers, it cannot contribute even to specific knowledge about that project or local context. Even when a large number of projects or programs can be included in a study, the findings can be suspect if it is not clear how the insights derived from what has worked or not worked in many contexts are being aggregated into insights about what works and does not work in general. Finally, even with the most widely accepted research methods, it is questionable how applicable these general theories, frameworks, "best practices," and "lessons learned" are to particular contexts. At the theoretical level, it

31. IBRD, 1949, pp. 8–9; Albert O. Hirschman, "The Search for Paradigms as a Hindrance to Understanding," *World Politics* 22, no. 3 (April 1970): pp. 329–343; William Easterly, "The Cartel of Good Intentions: Problem of Bureaucracy in Foreign Aid," *Policy Reform* 5, no. 4 (2002): pp. 223–250.

32. See, e.g., "A New Deal for Engagement in Fragile States," International Dialogue on Peacebuilding and Statebuilding (December 2011), http://www.oecd.org/dataoecd/35/50/49151944.pdf; "Paris Declaration on Aid Effectiveness: Ownership, Harmonization, Alignment, Results, and Mutual Accountability," Organization for Economic Co-operation and Development (March 2005), http://www.oecd.org/dataoecd/15/3/46874580.pdf; "Accra Agenda for Action," Organization for Economic Co-operation and Development (September 2008), http://www.oecd.org/dataoecd/58/16/41202012.pdf; "Dili Declaration: A New Vision for Peacebuilding and Statebuilding," International Dialogue on Peacebuilding and Statebuilding (April 2010), http://www.aideffectiveness.org/busanhlf4/images/stories/hlf4/Dili_Declaration.pdf; "The Monrovia Roadmap on Peacebuilding and Statebuilding," International Dialogue on Peacebuilding and Statebuilding (July 2011), http://www.oecd.org/dataoecd/23/24/48345560.pdf; "Consultative Process on Aid Effectiveness at the Local Level," Organization for Economic Co-operation and Development (December 2011), http://www.aideffectiveness.org/busanhlf4/images/stories/hlf4/Aid_Effectiveness_at_the_local_level_ HLF-4.pdf.

is not always clear what all the evidence really adds up to. At the operational level, it is not always clear which theories should be applied to which contexts, or how they should be modified.

Take the controversy over whether "good policy" contributes to economic growth. Some authors have found that foreign aid is correlated with growth in gross domestic product (GDP) per capita but that growth is conditional on the policies of the recipient country (regarding fiscal surpluses, inflation control, trade openness, macroeconomic stability, etc.). If providing foreign aid to countries with bad policies is a disincentive to reform, the policy recommendations that naturally follow are to give aid only to countries that already have strong economic policies in place, or to condition aid upon their putting those policies in place (as was the case under structural adjustment).[33] As the authors themselves would likely admit, these findings do not explain all of the variation in outcomes in the data they analyzed: some countries with "bad" policies grew economically, and some with "good" policies did not grow as much. This variance in the data is, essentially, averaged out by the math used to analyze it. And other authors, using different methods and analyzing different sets of data, have disputed this overall finding. How, then, can we know which countries with "bad" policies would benefit from foreign investment or which policies to recommend in the first place?[34]

Although data-driven research on aid effectiveness does provide a very important set of incentives to collect evidence on what does and does not work, an overdependence on such comparative studies and general theorizing also fosters the illusion that development is a less uncertain, less ambiguous process than history has shown to be the case. To be fair, many researchers of aid effectiveness are appropriately modest about what their findings imply. But their assumptions, caveats, and nuances tend to be forgotten as their findings are ever more widely circulated. Even in rigorous meta-analyses it is not a straightforward matter to determine how these findings fit together to answer even basic questions, such as whether aid actually helps economies grow or reduce poverty.

Debates about absorptive capacity are caught up in the same ambiguities that characterize knowledge about aid effectiveness. To use the above example, even if it were true that aid contributes to economic growth mainly in places with the "right" policies, that simply means that "good policy" is a prerequisite to economic growth—which is to say, it is the "missing input" that limits the country's absorptive capacity and therefore could, in principle, be encouraged as the first phase of an aid program. Aid with objectives other

33. Craig Burnside and David Dollar, "Aid, Policies, and Growth: A Meta Study," World Bank Policy Research Department (2000); Ramesh Durbarry, Normal Gemmell, and David Greenaway, "New Evidence of the Impact of Foreign Aid on Growth," *Center for Research in Economic Development and International Trade* 98, no. 8 (1998).

34. Henrik Hansen and Finn Tarp, "Aid Effectiveness Disputed," *Journal of International Development* 12 (2000): pp. 375–398; Carl-Johan Dalgaard and Henrik Hansen, "On Aid, Growth, and Good Policies," CREDIT Research Paper No. 00/17 *Center for Research in Economic Development and International Trade*, University of Nottingham, November 2000, http://www.nottingham.ac.uk/credit/documents/papers/00-17.pdf; Robert Lensink and Howard White, "Assessing Aid: A Manifesto for the 21st Century?," in *Assessing Aid at DGIS* (The Hague: Oxford Development Studies, 2000).

than growth is subject to similar debates: Is an aid program geared toward attracting private investment more effective at reducing poverty than one that uses government spending to stimulate job creation? Are the constraints on absorptive capacity the same for a government-directed job-growth program, a private-sector-led jobs program, and a direct cash-payments program, or is one more efficient at delivering results?

Beyond the question of what constraints on absorptive capacity look like, there is the question of what the consequences of exceeding absorptive capacity are. One set of debates focuses on whether foreign aid is subject to diminishing returns (whether they are returns to growth, returns to poverty reduction, or other returns).[35] Robert Lensink and Howard White argued that once the amount of aid exceeds about 30 percent of the recipient country's GDP, any additional aid is correlated with slowing or negative per capita GDP growth; other researchers put the figure as low as 15 percent or as high as 40 percent.[36] Raghuram Rajan and Arvind Subramanian argued that a large influx of foreign aid can cause macroeconomic distortions, such as inflation, akin to shocks deriving from the sudden discovery (and export) of a large amount of natural resources—a phenomenon known as "Dutch Disease," named after the distortions to real exchange rates that followed the discovery of natural gas in the Netherlands in 1959; other researchers have disputed how widespread this phenomenon is in foreign aid.[37] William Easterly found that countries with a higher number of funding programs tend to have less poverty reduction, and other studies have similarly shown that the proliferation of donor programs and projects can overwhelm recipient societies' ability to manage them or can create an incentive to divert human resources and capital away from more productive uses into managing the growing aid programs; but some countries do better than others in this regard.[38]

One of the best explorations of the causes of absorptive capacity constraints is a background paper drafted in 2009 by Luis Crouch and a group of developing-country officials with experience interacting with donors and implementing development programs. In an exploratory study, they considered a number of hypotheses about what might cause constraints or concerns about absorptive capacity, mainly at the ministry and interministry levels rather than in the economy as a whole. They found a wide range of possible causes that they considered worthy of further research:

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35. World Bank, *Macroeconomic and Structural Policy Implications of Increased Aid: A Guidance Note for Bank Staff* (Washington, D.C.: World Bank, 2002).

36. Robert Lensink and Howard White, "Is There an Aid Laffer Curve?" *Center for Research in Economic Development and International Trade* 99, no. 6 (1999).

37. Raghuram Rajan and Arvind Subramanian, "What Undermines Aid's Impact on Growth?" International Monetary Fund (2005). See also W. Max Corden and J. Peter Neary, "Booming Sector and De-Industrialisation in a Small Open Economy," *Economic Journal* 92, no. 368 (1982): pp. 825–848.

38. William Easterly, "The Effect of International Fund and World Bank Programs on Poverty," World Bank Policy Research Paper, no. 2517 (2001); David Roodman, "Aid Project Proliferation and Absorptive Capacity," Center for Global Development Working Paper no. 75 (2006); Lensink and White, "Is There an Aid Laffer Curve?"; Patrick Guillaumont and Sylviane Guillaumont Jeanneney, "Absorptive Capacity: More than the Volume of Aid, Its Modalities Matter," Centre d'Études et de Recherches sur le Développement International (2007).

- inadequate knowledge or skills of ministry personnel, relative to the size or complexity of the aid (this includes inadequate knowledge of donor processes);
- inadequate number of ministry personnel with appropriate knowledge or skills, due to emigration (in response to instability and violence) or donor poaching of government staff;
- donors' misunderstanding of a ministry's actual capacity or refusal to recognize progress in capacity-building;
- poor training, planning, oversight, or intragovernmental collaboration;
- the use of "blueprints" for projects or programs, rather than customized plans;
- undercoordination or overcoordination by donors (too much coordination creates a counterproductive herd mentality; too little coordination overburdens ministry personnel); and
- excessive ambitions set by donors or recipient-country officials (e.g., setting a goal that could be achieved only if the recipient ministry outperforms more than 99 percent of every other government that has ever tried to achieve that goal in history).[39]

It is increasingly recognized, if not always explicitly, that exceeding absorptive capacity carries risks, and therefore that increasing the capacity to absorb aid is important to achieving the objectives of aid. Yet as the last bullet point above suggests, there seems to be an arms race of sorts between those who would increase the capacity to absorb aid and those who would increase the amount of aid to be absorbed. Policy frameworks demanding ambitious development agendas have proliferated since the 1990s.

The advent of the Millennium Development Goals (MDGs), for example, reinvigorated debates over the dangers of ignoring absorptive capacity (as well as over the use of blueprints for development across cultures).[40] In 2000, the United Nations unanimously promised to reduce poverty and hunger, increase universal primary education, reduce child mortality, improve maternal health, promote gender equality, reverse the spread of HIV and malaria (among other diseases), protect the environment, and create a global development partnership—all within 15 years.[41] How this would be achieved was left to the development community to determine, and although many countries made good progress as a consequence of this effort, to date not a single country affected by armed conflict or considered "fragile" has met any of the MDGs.[42] Such an ambitious agenda—even if not fully funded—would clearly run up against constraints on absorptive capacity in at least some

39. Serie et al., "Absorptive Capacity."

40. Paolo De Renzio, "Scaling up versus Absorptive Capacity: Challenges and Opportunities for Reaching the MDGs in Africa," Overseas Development Institute, *ODI Briefing Paper*, May 2005.

41. United Nations General Assembly, "United Nations Millennium Declaration," Resolution 55/2, September 18, 2000.

42. World Development Report, 2011, p. 5.

countries. Yet approaches to measuring absorptive capacity remain ad hoc and, in most cases, unsystematic.

Even those who have attempted to systematically analyze the role absorptive capacity would play in achieving the MDGs have been stymied at how to overcome those constraints. Mark Sundberg and colleagues, for example, identified a large number of prerequisites that would need to be addressed in Ethiopia before MDGs could be achieved there—and predicted that, even if those prerequisites were addressed, there were still be some short-term distortions that would be caused by the influx of MDG-related aid.[43] Hyewon Kang identified a whole set of macroeconomic, institutional, policy, technical, managerial, governmental, and other constraints (e.g., corruption) as factors that have kept the Philippines' absorptive capacity low and declining in recent decades—and yet he still claimed that that country could meet its MDGs by 2015 if that government would "make an effort to implement its reform program."[44] How that reform program would overcome the constraints is not spelled out. It rarely is.

By the middle of the new millennium's first decade, it had become undeniable that the international donor community still had much to learn about absorptive capacity. Massive international efforts to stabilize Afghanistan and help Haiti recover from an earthquake overwhelmed both of those countries in ways that, to many observers, caused a great deal of harm, in addition to whatever good was being done.[45] Yet concerns about absorptive capacity in development continue to outpace the ability to evaluate or affect it. As the development community absorbs lessons from these experiences and debates increasing the number of MDGs—even as the existing ones are nowhere near being achieved in fragile and conflict-affected countries—the demand for understanding the role of absorptive capacity in achieving or constraining development goals is likely to grow.

Perhaps other fields of knowledge can offer fresh insights.

Absorptive Capacity for Knowledge, Technology, and Innovation

Whereas research on international development defines absorptive capacity in reference to a recipient country's ability to make productive use of foreign aid and attention, research

43. François Bourguignon and Mark Sundberg, "Absorptive Capacity and Achieving the MDGs," United Nations University World Institute for Development Economics Research, UNU-WIDER Research Paper 2006/47, May 2006; Mark Sundberg and Hans Lofgren, "Absorptive Capacity and Achieving the MDGs: The Case of Ethiopia," in P. Isard, L. Lipschitz, A. Mourmouras, and B. Yontcheva (eds.), *The Macroeconomic Management of Foreign Aid: Opportunities and Pitfalls* (Washington, D.C.: International Monetary Fund, 2006).

44. Hyewon Kang, "The Philippines' Absorptive Capacity for Foreign Aid," Philippine Institute for Development Studies Discussion Paper Series 2010–1, July 2010.

45. Robert D. Lamb, *Political Governance and Strategy in Afghanistan* (Washington, D.C.: CSIS, 2012); Anthony H. Cordesman, "Hold, Build, and Transition: The Challenge of Development," part four of *Afghanistan and the Uncertain Metrics of Progress* (Washington, D.C.: CSIS, 2011); Andrew Wilder and Stuart Gordon, "Money Can't Buy America Love," *Foreign Policy,* December 1, 2009.

on organizations defines it in reference to an organization's ability to make productive use of outside knowledge.

Learning theories of the 1950s and 1960s focused on how knowledge is transferred from one context to another, with some agreement that knowledge transfer depends on how similar the source and the target of the information are, or that the assimilation of knowledge depends in part on what knowledge the learner already possesses (i.e., learning is cumulative).[46] Some scholars considered how knowledge is used by firms (organizations, companies, etc.). In 1966, James Q. Wilson found that the larger and more diverse an organization is, the more likely it is to come up with new ideas—but the less likely it is to implement them.[47] Other scholars focused on how *well* knowledge is used. More recently, for example, Robert M. Grant argued that centralized decision-making processes make more productive use of statistical knowledge than of "tacit and idiosyncratic knowledge" (i.e., local or specific knowledge), which is put to better use by decentralized structures.[48]

In a series of papers published in the late 1980s and early 1990s, Wesley M. Cohen and Daniel A. Levinthal drew upon the literatures on learning and knowledge assimilation to study the role of research and development (R&D) in the ability of organizations to turn knowledge into innovation. They introduced the term *absorptive capacity* to describe a firm's ability to "identify, assimilate, and exploit knowledge from the environment."[49] This ability is something that an organization develops over time, a process that later scholars summarized as follows:

> Through its R&D activities, a firm develops organizational knowledge about certain areas of science and technology and how those areas relate to the firm's products and markets (ability to identify and value external knowledge). Over time, the firm develops processes, policies, and procedures that facilitate sharing that knowledge internally (ability to assimilate external knowledge). The firm also becomes skilled at using that knowledge to forecast technological trends, create products and markets, and maneuver strategically (ability to commercially utilize external knowledge). Together, these processes define a firm's *absorptive capacity: the ability to identify and value external knowledge, assimilate it, and commercially apply it.*[50]

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46. Henry C. Ellis, *The Transfer of Learning* (New York: Macmillan, 1965); Ernest R. Hilgard and Gordon H. Bower, *Theories of Learning,* 3rd ed. (New York: Appleton-Century-Crofts, 1966); William K. Estes, *Learning Theory and Mental Development* (New York: Academic Press, 1970). Cited in Peter J. Lane, Balaji Koka, and Seemantini Pathak, "The Reification of Absorptive Capacity: A Critical Rejuvenation of the Construct," *Academy of Management Review* 31, no. 4 (2006).

47. James Q. Wilson, "Innovation in Organization: Notes toward a Theory," in James D. Thompson (ed.), *Approaches to Organizational Design* (Pittsburgh, Pa.: University of Pittsburgh Press, 1966), pp. 193–218.

48. Robert M. Grant, "Toward a Knowledge-Based Theory of the Firm," *Strategic Management Journal* 17, Special Issue (Winter 1996): p. 119.

49. Wesley M. Cohen and Daniel A. Levinthal, "Innovation and Learning: The Two Faces of R&D," *Economic Journal* 99 (1989): pp. 569–596. See also Cohen and Levinthal, "Absorptive Capacity: A New Perspective on Learning and Innovation," *Administrative Science Quarterly* 35 (1990): pp. 128–152; and Cohen and Levinthal, "Fortune Favors the Prepared Firm," *Management Science* 40, no. 2 (1994): pp. 227–251.

50. Lane et al., "The Reification of Absorptive Capacity," p. 839 (emphasis added; in-text citations removed).

Cohen and Levinthal's work was influential not because of how they measured absorptive capacity—they simplistically used R&D spending as a proxy (and a weak one at that)—but because it inspired further research that crystallized insights about knowledge acquisition and technology transfer: first, that an organization's absorptive capacity is related to the ability of its personnel to take in knowledge; second, that absorptive capacity is cumulative, depending in part on prior knowledge transfers; and third, that absorptive capacity is dependent on a firm's organizational practices and procedures, especially its ability to transfer knowledge internally between and among units.[51]

Gabriel Szulanski confirmed that the ability to transfer knowledge about "best practices" between units within a firm depends in large part on the recipient unit's prior knowledge acquisition.[52] Xielin Liu and Steven White likewise found that expenditures on technology imports and new R&D hires were highly influential in determining the extent to which externally acquired knowledge could be implemented.[53] Peter Lane and Michael Lubatkin examined the relationship between "student" and "teacher" firms—the student firm learns processes and techniques from the teacher firm—and found that learning is dependent on the kind of knowledge offered by the teacher firm, the similarity between the existing practices of both firms, and the student firm's prior experience with the practices of the teacher firm.[54]

Similar findings have emerged from research on the "spillovers"—or indirect effects—of foreign direct investment (FDI) on a recipient country's economy or on specific sectors within the economy. Positive spillovers can happen when, for example, foreign investment improves the productivity of one company and thereby puts pressure on its domestic competitors to improve their own productivity (even without foreign investment), making the entire industry in that country more competitive internationally. This is known as a "horizontal" spillover. A "vertical" spillover happens when, for example, the FDI-recipient company demands higher-quality supplies and domestic companies retool to meet that demand (a "backward" vertical spillover) or when the FDI recipient produces higher-quality supplies that other domestic companies incorporate into their own products (a "forward" vertical spillover). Vertical spillovers make industries in the FDI recipient's supply chain more competitive. Spillovers can be negative, too, however: if, for example, domestic competitors do not improve their productivity or domestic suppliers do not retool to improve quality, foreign competitors could force them out of business, thereby harming that country's economy. What makes some countries, industries, or firms better able to absorb and make productive use of FDI beyond its direct benefits?

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51. Ibid., p. 838.

52. Gabriel Szulanski, "Exploring Internal Stickiness: Impediments to the Transfer of Best Practices within the Firm," *Strategic Management Journal* 17 (1996): pp. 27–43.

53. Xielin Liu and R. Steven White, "The Relative Contribution of Foreign Technology and Domestic Inputs to Innovation in Chinese Manufacturing Industries," *Pergamon* (1997): p. 124.

54. Peter J. Lane and Michael Lubatkin, "Relative Absorptive Capacity and Interorganizational Learning," *Strategic Management Journal* 19 (1998): p. 462.

Just as research on the contribution that aid makes to a recipient country's growth is divided about how significant that contribution is, controversies exist about the contribution of private investment to a country's economic or human development. The findings of studies on FDI are mixed, with some concluding that FDI has a positive impact on growth only if certain preconditions exist in a recipient economy and others finding that FDI has a negative or deleterious effect.[55]

Kálmán Kalotay defined absorptive capacity for FDI as "the maximum amount of FDI that a host economy can assimilate or integrate into the working of its economy in a meaningful manner."[56] Hoang Nguyen and colleagues observed that absorptive capacity for FDI is of two types: the capacity to absorb FDI's direct benefits (e.g., capital, technology) and the capacity to convert FDI into indirect benefits (i.e., positive spillovers).[57] For positive spillovers, studies have found a number of contributing factors, including education, financial system, income, infrastructure, institutions, research investment, skills, and technology. Any number or mix of these factors has been found to be necessary for a country to turn FDI into positive development outcomes, although of course there is no definitive answer that can be applied to particular circumstances.[58]

Ecological Systems, Resilience, and Adaptive Capacity

The fields of ecology, human development, and disaster response have used the absorption metaphor in regards to the ability—of an individual, a community, or an ecological system—to recover from a disturbance of some sort. C. S. Holling introduced the term *resilience* to describe an environmental ecosystem's ability to "absorb change" in a way that enables it to persist.[59] Subsequent research has measured resilience by the amount of time

55. Theodore H. Moran, Edward M. Graham, and Magnus Blomstroem, *Does Foreign Direct Investment Promote Development?* (Washington, D.C.: Center for Global Development, 2005), p. 196; Signe Krogstrup and Linda Martar, "Foreign Direct Investment, Absorptive Capacity and Growth in the Arab World," Graduate Institute of International Studies, HEI Working Paper no. 2 (2005), p. 7.

56. Kálmán Kalotay, "Is the Sky the Limit? The Absorptive Capacity of Central Europe for FDI," *Transnational Corporations* 9, no. 3 (December 2000): pp. 137–162.

57. Hoang T. Nguyen, Geert Duysters, James H. Patterson, and Harald Sander, "Foreign Direct Investment Absorptive Capacity Theory," working paper, Maastricht School of Management, undated (ca. 2008).

58. Eduardo Borensztein, José De Gregorio, and Jong-Wha Lee, "How Does Foreign Direct Investment Affect Economic Growth?," *Journal of International Economics* 45 (1998): pp. 115–135; see, e.g., Niels Hermes and Robert Lensink, "Foreign Direct Investment, Financial Development and Economic Growth," *Journal of Development Studies* 40, no. 1 (2003): pp. 142–163; Nguyen et al., "Foreign Direct Investment Absorptive Capacity Theory"; Sajid Anwar and Lan Phi Nguyen, "Absorptive Capacity, Foreign Direct Investment-Linked Spillovers and Economic Growth in Vietnam," *Asian Business Management* 9 (2010): pp. 553–570; J. Durham, "Absorptive Capacity and the Effects of Foreign Direct Investment and Equity Foreign Portfolio Investment on Economic Growth," *European Economic Review* 48 (2004): pp. 285–306; Yuko Kinishita and Chia-Hui Lu, "On the Role of Absorptive Capacity: FDI Matters to Growth," William Davidson Institute, Working Paper no. 845 (2006); Xiaoying Li and Xiaming Liu, "Foreign Direct Investment and Economic Growth: An Increasingly Endogenous Relationship," *World Development* 33, no. 3 (2005): pp. 393–407; Benson Durham, "Absorptive Capacity and the Effects of Foreign Direct Investment and Equity Portfolio Investment on Economic Growth," *European Economic Review* 48, no. 2 (2004): pp. 285–306.

59. C. S. Holling, "Resilience and Stability of Ecological Systems," *Annual Review of Ecology and Systematics* 4 (1973): pp. 1–23.

it takes for a system to recover from a disturbance, the amount of disturbance a system can handle before it becomes permanently distorted, or the ability of a system to adjust in response to new disturbances so that it may persist.[60]

The ability to adjust to adversity is known as *adaptive capacity,* a concept that is clearly analogous to absorptive capacity. Absorptive capacity generally refers to the ability to make productive use of something "good," whereas adaptive capacity generally refers to the ability to adjust to something "bad." But there is no reason in principle those terms must be associated with those judgments: an unexpected shock can be absorbed, and an unexpected gift can be adapted to. In fact, absorptive capacity could be conceptualized as the ability to adapt to the introduction of some foreign good (money, skills, technology, knowledge, etc.) in a way that increases the system's overall functioning.

Research in human development has found that an individual's ability to recover or thrive amid adversity has both individual and social sources, and that social capital ("adaptive capacity available through relationships") interacts with human capital ("adaptive capacity that a human individual can muster on his or her own") in complicated ways.[61] The field of disaster preparation and response has picked up on the idea that resilience is derived from factors interacting across scales, from individual mental and physical health to national cultures and political systems.[62] Research in that field has focused on what makes some communities and countries better able to recover from natural or humanitarian disasters than others can, and how that kind of resilience can be fostered.

These themes are picked up in the next chapter, which takes research on adaptive capacity as the starting point to develop the framework for analyzing absorptive capacity.

60. Lance H. Gunderson, "Ecological Resilience—in Theory and Application," *Annual Review of Ecology and Systematics* 31 (2000): pp. 425–439.

61. Ann S. Masten and Jelena Obravdovic, "Disaster Preparation and Recovery: Lessons from Research on Resilience in Human Development," *Ecology and Society* 13, no. 1 (2007): p. 14.

62. The Hyogo Framework, for example, repeatedly refers to the importance of building resilience "at all levels." See United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction (UN/ISDR), *Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters,* report of the World Conference on Disaster Reduction, January 18–22, 2005, Kobe, Hyogo, Japan.

3 Absorptive Capacity as Adaptive Capacity

> If a country lacks one of the conventional "prerequisites" [to development,] it can overcome this lack in two distinct ways. One consists in inventing its own substitute for the prerequisite. . . . The other possibility is that the purported "prerequisite" turns out to be not only substitutable, but outright dispensable; nothing in particular needs to take its place, and we are simply proven wrong in our belief that a certain resource, institution, or attitude needed to be created or eradicated for development to be possible. In other words, the requirements of development turn out to be more tolerant of cultural and institutional variety than we thought on the basis of our limited prior experience.
>
> —Albert O. Hirschman (1965)[1]

In this chapter, we introduce a new framework for thinking about absorptive capacity. The Measuring Absorptive Capacity (MAC) framework is meant to supplement, not supplant, existing methods for planning, assessment, monitoring, and evaluation. Because absorptive capacity exists only as an artifact of a particular theory of change, no framework for analyzing absorptive capacity can be employed until the theory of change underlying a particular intervention has been identified. The MAC framework, therefore, should be considered an add-on module to standard assessment, planning, monitoring, and evaluation tools. It is not intended to be used to design an intervention (e.g., an aid program); it can, however, be used to test the design of a proposed intervention to determine whether that design adequately accounts for constraints on the capacity of the recipient to absorb and make productive use of the proposed intervention's efforts. Similarly, it is intended to be used not as a stand-alone evaluation tool for completed or ongoing interventions but as a supplement to program or impact evaluations, helping identify obstacles the intervention had not adequately accounted for.

Before introducing the framework, background information on adaptive capacity and theories of change are provided, as these are necessary for understanding the framework.

1. Albert O. Hirschman, "Obstacles to Development: A Classification and a Quasi-Vanishing Act," *Economic Development and Cultural Change* 13, no. 4 (July 1965): pp. 385–393.

Adaptive Capacity

A useful way of thinking about absorptive capacity comes from the literatures on resilience and adaptive capacity in complex systems, introduced in the previous chapter. In those literatures, the capacity to absorb external shocks or disruptions is a matter of survival; at the very least it affects the quality of the system's functioning or, in lay terms, the quality of life.[2] A lake that becomes highly polluted or is overfished in one species might suffer a wave of extinctions of vulnerable species or a population explosion of certain algae. Or, if it is more resilient, it might adapt to the new conditions and continue to function at a different level or in a different way (e.g., with a much smaller, but still stable, population of the overfished species). A human community that gets hit with a major hurricane, earthquake, or flood might never recover its lost population, level of economic activity, or quality of life, or it might adapt to the privations in a way that ultimately makes it stronger.

Although the focus of much of this literature is on the ill effects of "bad" disruptions, it is true that some "bad" disruptions can have positive effects—as in small wildfires that help certain plant species compete and keep the system as a whole from suffering devastating, large wildfires. It is equally true that some "good" shocks can have ill effects on the system as well. The introduction of a large amount of nutrients into soil could have a positive effect on short-term crop production but might also damage the capacity of the soil to produce its own nutrients in the future, creating a dependency on fertilizer.

In other words, whether the system in question is a natural system, a human community, a national economy, or a social or political institution, external disruptions and interventions can affect the system in a way that either improves its functioning, harms its functioning, or has no permanent effect on its functioning. This is the case regardless of whether the level or quality of "functioning" is measured by population size, poverty level, unemployment, species survival, per capita GDP growth, level of violence, overall well being, or any other variable of interest.

Introducing foreign aid or capital into a country or a community can similarly be considered a way of disrupting the recipient system's current functioning. In fact, some of the foundational literature in the development field was explicit that foreign aid was intended to disrupt economic systems to force them to adapt in a way that would improve how they functioned. In Rosenstein-Rodan's time, Eastern Europe had a low level of economic activity, with too little capital and too few jobs. His "big push" model was intended to disrupt the low-level equilibrium by employing unemployed farm workers in industrial production, under the theory that the economic system would adapt to this new mix of workers and production and eventually settle into a new equilibrium with a higher level of economic activity.[3] It has turned out, of course, that some communities receiving such

2. See C. S. Holling, "Resilience and Stability of Ecological Systems," *Annual Review of Ecology and Systematics* 4 (1973): pp. 1–23; and subsequent literatures citing it.

3. Paul N. Rosenstein-Rodan, "Problems of Industrialization of Eastern and South-Eastern Europe," *The Economic Journal* 52, no. 210/211 (June–Sept. 1943): pp. 202–211.

"good" disruptions of aid have ended up being harmed, some have used it in ways that had no effect at all, and some have used it in ways that ended up generating real improvements.

For the framework introduced in this report, international development assistance, FDI, and other interventions are theorized as a *disruption* to an existing system, which adapts to the disruption in a way that might or might not result in the changes intended by the donors or investors. In essence, a recipient's absorptive capacity is reconceptualized here as a recipient system's *adaptive capacity*. In this framework, the system includes the people and institutions of the recipient country, and the objective of the disruptive intervention (FDI, aid, etc.) is defined as the set of outcomes the recipients and donors wish to achieve. These objectives can exist in any of the pillars that CSIS has previously identified for development and stabilization programs:

- security and public safety (e.g., decrease the level of violence or crime);
- justice and reconciliation (e.g., improve justice administration or conflict resolution);
- governance and participation (e.g., increase transparency or accountability);
- economic opportunity (e.g., create middle-class jobs or improve access to credit); or
- social well-being (e.g., increase school enrollment or improve maternal health).[4]

Whatever the objective, the key point of the framework introduced here is that the recipient system adapts to this disruption in some way, and how it adapts affects whether these outcomes will be achieved. If, for example, a security and justice program works as intended, the system will absorb the aid and adapt to it positively, improving how it functions with respect to violence, crime, conflict adjudication, or access to justice, thereby achieving the program's objectives. But the system also could absorb the aid in a way that is neutral with respect to the program's objectives: the program has no effect. In the worst case, the disruption can force the system to adapt in a way that actually damages its functioning—and violence, crime, conflict, or injustice can increase as a consequence.

In other words, the absorption of aid—how the recipient adapts to the disruption brought about by the intervention—can be positive (achieving the program's objectives), neutral (having no perceptible effect on the objectives), or negative (making the problem worse) with respect to the objectives of the intervention.

4. The "Five Pillars" framework was developed in 2002 and adapted over the next decade by CSIS's Post-Conflict Reconstruction (PCR) Project. The absorptive capacity framework introduced here uses the security, justice, governance, economic, and social pillars as an organizing construct. The authors have not imported the extensive task framework that accompanied the original PCR framework into the absorptive capacity framework, for reasons the text should make clear; but the task framework is used as a resource for analysis. See Post-Conflict Reconstruction Commission, *Post-Conflict Reconstruction Task Framework* (Washington, D.C.: Center for Strategic and International Studies and Association of the U.S. Army, 2002); and Frederick Barton, Bathsheba Crocker, Morgan Courtney, Hugh Riddell, John Ewers, Rebecca Linder, and Craig Cohen, *In the Balance: Measuring Progress in Afghanistan* (Washington, D.C.: CSIS, 2005).

Theory of Change

As noted in Chapter 2, absorptive capacity does not exist in isolation. It is an artifact of a theory of change, codetermined by interactions among the specific characteristics of the recipient system, the specific elements of the intervention into that system, and the specific objectives the intervention is intended to achieve in that system. A theory of change is an explanation of the process through which a system adapts to an intervention of some sort ("doing this leads to that, which causes this other thing to happen, with the following consequence"). Such an explanation identifies all of the factors or variables directly involved in that process, as well as those that need to be present for that process to happen.

A *general theory of change* is essentially the same thing as "theory" in the physical or social sciences: a broad statement about some regularity observed in nature. A *particular theory of change* is more akin to an investor's "business case," a lawyer's "theory of the case," a strategist's "theory of success," or a management consultant's "results chain" or "logic model." It accounts for context-specific facts about the recipient, the donor, the intervention (including requirements and conditions imposed by the donor), and the objectives and explains the reasons one should believe the intervention will achieve the intended results. Importantly, however, a particular theory of change also accounts for what similar interventions have accomplished in other contexts, because such accomplishments are one indicator for what changes might be possible with the resources and time available for the particular intervention in question. (In this report, the term *theory of change* signifies *particular* theory of change, unless otherwise specified.)

Some interventions are designed based on explicit theories of change. Unfortunately, this is not the case universally. To analyze absorptive capacity for interventions (or proposed interventions) that lack an explicit theory of change, one must first identify the theory of change implicit to that intervention.

Many resources exist that teach how to develop a theory of change, which is a standard element in monitoring and evaluation. Such models nearly always include *inputs* ("what we invest"), *outputs* ("what we do" or "who we reach"), and *outcomes* ("what the . . . results are"); some also include *activities* and *impacts* (or final outcomes).[5] Paul J. Gertler and colleagues define these terms as follows:

- *Inputs:* "Financial, human, and other resources mobilized to support activities."
- *Activities:* "Actions taken or work performed to convert inputs into specific outputs."
- *Outputs:* "Products resulting from converting inputs into tangible outputs" or "Goods and services produced and delivered."

5. Ellen Taylor-Powell and Ellen Henert, "Developing a Logic Model: Teaching and Training Guide," University of Wisconsin–Extension, February 2008, http://www.uwex.edu/ces/pdande/evaluation/pdf/lmguidecomplete.pdf.

- *Outcomes:* "Use of outputs by targeted population."
- *Final outcomes* (or "impacts"): "The final objective of the program. Long-term goals."[6]

Most theory of change models also include an assessment of the preintervention status and a statement of policy objectives or priorities. Most also recognize that there are factors affecting the intervention that are outside of the control of those planning it: assumptions about the enabling conditions for the intervention and external factors that affect how the intervention's outputs are used by recipients; some models refer to these as risks when those assumptions might not apply, those factors might not be present, or there is a chance of an unexpected disruption.

A theory of change links the status quo ante (the preintervention state of the system) to the desired postintervention state of the system (how the system would function if the program's objectives were met). The general assumption of international aid is that the recipient system has not already achieved the specified objectives for a simple reason: it is missing some set of resources and capabilities or is facing some set of stressors. If those resources or capabilities could be introduced into the system or the stressors removed, the system would rise to the improved level of functioning on its own. Aid programs and similar interventions, therefore, are designed to supply the "missing inputs" or, in the terminology of this report, the prerequisites for success. The structure of these prerequisites is one of the most important (but usually most neglected) components of a theory of change.

A prerequisite is a resource or capability that must be present or a stressor that must be absent in order for the system to function as intended. In addition to things that can be easily measured, such as money, population size, or natural resources, prerequisites can include things that are less easily measured, such as knowledge, beliefs, values, cultural practices, incentives, processes, and skills.

The most well known example of a prerequisite is in a university setting. A student taking a third-year college course, for example, will not be able to absorb (learn) the material in that class if she has not already taken the prerequisite first- and second-year courses. Taking the third-year course qualifies her to take the fourth-year capstone course, without which she cannot earn the degree. A theory of change includes a similar structure. To achieve the objectives of an aid program requires certain program elements (like prerequisite courses), each of which has its own prerequisites (prerequisites to prerequisites). If early prerequisites are fulfilled, later program elements can be implemented; if those are fulfilled, the program can meet its objectives.

It is critical to recognize that the prerequisites to achieving a certain objective in one country are not necessarily the same prerequisites to achieving that objective in another

6. Paul J. Gertler, Patrick Premand, Sebastian Martinez, Christel M. J. Vermeersch, and Laura B. Rawlings, *Impact Evaluation in Practice* (Washington, D.C.: World Bank, 2010).

country. The prerequisites to achieving a certain objective in one part of one country are not necessarily the same prerequisites to achieving that objective in another part of that country. And the prerequisites to achieving a certain objective at one point in a country's history are not necessarily the same prerequisites to achieving that objective at another point in its history. A well designed theory of change should be informed by other circumstances—on evidence of success and "best practices"—but it should be defined by particular circumstances. Creating a particularistic theory of change requires being informed by theory and paradigm but not imprisoned by them.

Social change is complex, and prerequisites—even if they can be identified—often have prerequisites themselves. Just as the second-year college course is a prerequisite for the third-year course, the second-year course has its own prerequisite: the first-year course. Understanding the structure of prerequisites in college is the key to understanding how knowledge is acquired in college. Likewise, understanding the structure of prerequisites in aid programs in particular contexts is the key to understanding how the objectives of that program can be achieved in that context. In particularly complex systems, this *prerequisite structure* can be many layers deep and can remind one of a fractal: at the highest level, achieving an objective has a prerequisite; one level down and that prerequisite is an objective in itself, and that objective has its own prerequisite; one level farther down looks the same; and so on until the complexity is exhausted.

A theory of change, in other words, is essentially an explanation of the prerequisite structure of the aid objectives *in the specific context of the recipient system* and a statement about which prerequisites will be supplied by which program elements. A good theory of change will spell out this prerequisite structure. Doing so is critical to using the MAC framework introduced here.

The MAC Framework

The MAC framework begins with a standard theory of change, results chain, or logical framework ("logframe") model of the proposed intervention. The specific tool used for this purpose does not matter, as long as it accurately models the proposed intervention's inputs, outputs, and outcomes. It is useful to include as much quantitative information as possible (e.g., how many staff, how much money, how many participants, how much capacity, and so on) as well as qualitative information indicating how good something is expected to be or how well something is expected to be done.

Whatever tool is used, it is important to identify the resources, capabilities, or conditions that are required for the intervention to work but that are not provided or produced by the intervention itself. These are usually called assumptions, risks, or external factors, and they are the most important feature of the MAC framework. Any good political economy analysis of the recipient system will help identify these external factors; sector-specific assessment tools can also help. An example of a simple intervention model (for crime reduction) is in the text box.

Illustrative Intervention Model
Crime Reduction

Theory of change: Hiring more police officers, arming them, and training them will lead to a larger, more effective police force that patrols more areas and arrests more criminals, which deters crime.

Objective: reduce crime by 50 percent in four years.

Inputs: funding, weapons, skills, etc.

Outputs: recruitment, training, new officers, well armed and trained force.

Outcomes: better weapons skills, more patrols and arrests, deterrence.

Assumptions: Qualified recruits are available and willing to join the force; trainers are qualified and available; funding is available to pay police salaries; police will arrest criminals; arrests are a deterrent in this society; the criminal justice system has the capacity to process more prisoners; criminals will not wage war against higher police presence; police are not the source of crime; etc.

A participatory process that involves a range of stakeholders and experts in gathering all of this information is useful, but balance is important: an overly participatory process risks reifying the results, making it difficult to modify the structure later if needed, whereas an inadequately participatory process risks missing information.

To identify constraints on absorptive capacity, the MAC framework internalizes the assumptions or external factors into the intervention model. Any resources, capabilities, or conditions that the *inputs* depend on to produce the outputs are incorporated into the model as *input prerequisites*. Those that the *outputs* depend on to generate the outcomes are incorporated as *output prerequisites.* In the assumptions section of the crime-reduction model (see text box), the input prerequisites include the availability of qualified recruits and trainers, which are not provided as part of the intervention but are required to grow and train the police force. The rest of the assumptions are output prerequisites: a well armed and trained police force will not do more patrols if they do not get paid, more patrols and arrests will not reduce crime if the police are not arresting criminals, arrests will not reduce crime if prison is not a deterrent or the justice system cannot process them, and a police presence will not reduce crime if the police themselves are criminals or if other criminals begin to wage war against them.

Determining the underlying theory of change and prerequisite structure of an intervention can be done with a combination of common sense, technical assessments, and political economy analysis. Common sense can help identify very basic prerequisites and avoid embarrassing oversights: if an infrastructure project proposes to use locally sourced

materials, common sense would suggest checking to see whether the needed materials are actually available in the local market. (It is surprising how often this is not done.) Technical assessments—whether sector-specific (e.g., health) or more general (e.g., environmental impact)—are useful for identifying technical and other requirements of a project or program. Political economy analysis is useful for understanding how social change happens in particular societies or institutions (e.g.,, is a ministry productive because it functions properly or because the minister uses personal patronage networks to accomplish the ministry's mission?). The output of such an analysis can therefore be useful for determining the prerequisite structure of the theory of change for a particular intervention. (By analogy, if political economy analysis tells you how this specific car operates, the MAC framework, using that information, tells you how *well* that specific car would operate if you used a particular type of fuel.)

Once the theory of change and its prerequisite structure are determined, measuring the capacity of the recipient system to absorb and adapt to the intervention is then a matter of determining whether the input and output prerequisites are present in the system at the needed levels. This will normally require field research, but missing prerequisites are often discovered during implementation as well.

If missing prerequisites are discovered, three options are available:

- First, *modify the intervention* to supply the missing prerequisites (or coordinate with someone else who can supply them). In the example, if it turns out that potential recruits are illiterate and therefore not qualified for training, the intervention can be modified to include literacy as part of the training.
- Second, iteratively *redesign the intervention,* trying different inputs and outputs to find an approach that minimizes missing prerequisites (or allow implementers to do this experimentally during the intervention). If building a formal police force is infeasible but it turns out that society already has "neighborhood watch"-like volunteers, the intervention can be redesigned to build the strength and accountability of those informal institutions.
- Third, *rethink the intervention,* reconsidering whether the objectives are appropriate to the recipient system, whether achieving them would require unprecedented performance, and perhaps whether the missing prerequisites are actually necessary. Has any similar society reduced crime by 50 percent in four years? If so, how? If not, can the objective be changed to reducing crime by 20 percent, or reducing violent crimes only, or increasing the length of the intervention? Is literacy actually needed, or can locals and field staff find some pragmatic work-around during training? Is an intervention built around enforcement and deterrence the right approach, or can more culturally appropriate mechanisms for mediating conflicts, maintaining order, and disciplining youth be strengthened instead?

A significant problem with using logical frameworks as planning tools is the impression they can create that interventions (such as those in international development) are predictable, linear processes and that implementation plans should be inflexible. This misimpression can be reinforced by a planning process than emphasizes a high level of effort to identify inputs, outputs, and outcomes and a comparatively low level of effort to identify and understand the assumptions, risks, and external factors that affect what the intervention can achieve.[7] The MAC framework redresses that imbalance by focusing attention specifically on those prerequisites. It discourages inflexibility in planning by encouraging the user to modify, redesign, and rethink the intervention model, repeatedly testing it against the prerequisites on which its success would depend until an approach is found that is feasible according to local conditions.

Future applications of the MAC framework are likely to incorporate social-framework or complex-systems approaches to more explicitly account for networks of influence and accountability among actors, especially the donor–recipient relationship, for adaptability and resilience of recipient systems, and for nonlinear dynamics in general.[8] Meanwhile, this version includes a preliminary structure for assessing the delivery capacity of donor organizations—that is, their capacity to account for absorptive capacity and adapt intervention designs and objectives to local contexts.

INPUTS: WHAT DOES THE INTERVENTION PROVIDE?

Inputs are the resources and capabilities that are provided as part of the intervention and that are needed to undertake the activities or create the products of the intervention, including equipment, facilities, knowledge, materials, money, partners, personnel, research, skills, and technology.[9]

INPUT PREREQUISITES: WHAT ELSE IS REQUIRED TO PRODUCE THE OUTPUTS?

Input prerequisites are essentially inputs (resources and capabilities) that are (a) required to create the outputs and (b) not provided as part of the intervention. A well designed intervention is based on the assumption—and preferably the knowledge—that input prerequisites are actually available in the recipient system.

Absorptive capacity problems are often considered problems of "missing inputs." Reaching an objective usually requires multiple elements, the way baking bread requires

7. Oliver Bakewell and Anne Garbutt, *The Use and Abuse of the Logical Framework Approach* (Stockholm: Swedish International Development Cooperation Agency, 2005).

8. For an introduction to social frameworks, see Louise Shaxson and Ben Clench, "Outcome Mapping and Social Frameworks: Tools for Designing, Delivering, and Monitoring Policy via Distributed Partnerships," Delta Partnership Working Paper No. 1, London, February 2011.

9. Gertler et al., *Impact Evaluation in Practice*; Bakewell and Garbutt, *The Use and Abuse of the Logical Framework Approach*; Ellen Taylor-Powell, Ellen Henert, and N. Lake Street, *Developing a Logic Model: Teaching and Training Guide* (Madison: University of Wisconsin–Extension, 2008).

multiple ingredients. If one of those required inputs is missing, the objective will not be reached (e.g., the bread will not rise if there is no yeast). If two inputs are missing, the objective will still not be reached even if someone provides one of the missing inputs (e.g., if yeast is provided but there is still no oven, there will be no bread).

Interventions are designed to provide a certain set of inputs under the assumption that no other required input is missing. The MAC framework is designed specifically to test that assumption, requiring the user to identify all of the required inputs and determine whether those not provided by the intervention (i.e., the input prerequisites) are actually available in the recipient system.

OUTPUTS: WHAT DOES THE INTERVENTION PRODUCE? (HOW ARE THE INPUTS USED?)

Outputs are the most visible aspects of the intervention, as they include the main activities or tasks that create tangible products, services, or benefits for people in the recipient society. The outputs are what the inputs and input prerequisites become as a consequence of the intervention. Some logical frameworks separate activities from outputs, whereas others include activities as a category of output. Here, activities, products, and participants are included as three categories of output, but this is for the sake of convenience only.

Activities: What does the intervention do?

Activities are the various tasks and actions that field staff, implementers, partners, and other participants do, using both inputs and input prerequisites, to make the intervention work. One logic model describes activities as "what we do": "conduct workshops, meetings; deliver services; develop products, curriculum, resources; train; provide counseling; assess; facilitate; partner; work with media."[10] Another defines activities as "actions taken or work performed to convert inputs into specific outputs."[11]

Products: What does the intervention create?

Products are the tangible results of intervention activities: the goods, services, and conditions that are created from all of the required inputs, including those supplied by the intervention and the input prerequisites available from other sources. (Logical frameworks that separate activities from outputs use the term *output* synonymously with *products* as used here.)

Participants: Whom does the intervention affect?

Participants include all of the people and organizations who do the activities, create the products, or otherwise affect or are affected by the intervention, such as agencies, benefi-

10. Taylor-Powell et al., *Developing a Logic Model*.
11. Gertler et al., *Impact Evaluation in Practice*.

ciaries, clients, customers, decisionmakers, field staff, implementers, organizations, partners, and the population.

OUTPUT PREREQUISITES: WHAT ELSE IS REQUIRED TO GENERATE THE OUTCOMES?

Output prerequisites are activities, goods, services, conditions, and people that (a) are not created by or involved in the intervention but (b) are required in order for the outputs created by the intervention to be used by the recipient society in a way that achieves the intervention's objectives.

An important difficulty in measuring the effectiveness of interventions is that the outputs are usually easily measured, whereas the outcomes (see next section) are not. As a consequence, a project can be considered a success if judged by its outputs (e.g., 20 schools are built, authorizing legislation is passed), but it might actually be a failure if those outputs are not actually used (e.g., there are no teachers, the law is never implemented). The MAC framework requires the user to identify what else is required for those outputs to actually be used in a productive way.

OUTCOMES: WHAT DOES THE INTERVENTION CHANGE? (HOW ARE THE OUTPUTS USED?)

Outcomes are the results of the intervention or the difference between the preintervention conditions and the conditions that prevail once the recipient system interacts with the outputs of the intervention. In a well designed intervention, those conditions will include all of the output prerequisites; otherwise, the interaction between the intervention and the system might not lead to the desired changes.

Different frameworks use different terms for outcome, such as goal, objective, purpose, or impact, and some divide outcomes into short-term, medium-term, and long-term outcomes. The MAC framework uses the University of Wisconsin–Extension structure, defining short-, medium-, and long-term outcomes according to the different types of changes they represent: in the short term, participants learn something; in the medium term, they behave differently as a result of that learning; in the long term, conditions in society change as a result of that change in behavior.[12]

Learning: What do participants learn?

Learning is usually the most immediate effect that the outputs have on the people affected by the intervention, including their attitudes, aspirations, awareness, capabilities, knowledge, motivations, opinions, and skills. Whether such learning happens in the way intended depends both on the intervention's outputs and on the presence of the output prerequisites that have been identified.

12. Taylor-Powell et al., *Developing a Logic Model*.

Action: What do participants do differently?

Action includes behaviors, decisions, habits, policies, social and cultural practices, and other ways that individuals and groups interact with each other and the system at large. How people behave is obviously affected by far more factors than just the outputs of the intervention. That is why accounting for some of those other factors is so important to developing the theory of change that describes how the intervention leads to the ultimate changes.

Impact: What conditions are changed?

Impact includes all of the environmental, cultural, social, political, and economic conditions that are changed as a consequence of the intervention. At this level, so many factors external to the intervention affect conditions that, even if the objectives of the intervention are achieved, it is usually difficult to measure whether it was the intervention that made the difference or whether some other set of factors brought about the change. When the objectives of the intervention are not achieved, it might be because the intervention did not properly account for the output prerequisites—the conditions on the ground that need to prevail for the intervention's outputs to be used productively by the recipient society.

DONOR CAPACITY: HOW WELL CAN DONORS DESIGN LOCALLY APPROPRIATE INTERVENTIONS?

It is increasingly recognized that donors must share some of the blame for many of the development and stabilization failures that have taken place over the past seven decades. But there is significant repetition in the "lessons learned" and "best practices" literature going back at least six decades: many donors seem unable to institutionalize some important lessons, especially the lesson that program design should be adapted to the local needs and capacities of the recipient society.

This long-standing problem suggests that the personnel within these institutions who are "learning" these lessons are not the same people who have authority to make key decisions about how interventions are to be planned and implemented. Either the knowledge is not being transferred from unit to unit within these institutions, or different units have formal processes, informal practices and attitudes, or various incentives that push them away from designing and implementing locally appropriate interventions. To determine the capacity of donor institutions to adapt their interventions to local conditions, the MAC framework instructs the user to collect information from several key units within the donor institutions. This information includes (a) knowledge, (b) processes, (c) culture, and (d) incentives and is collected for the units responsible for the functions described below.

Personnel

What are the formal processes for determining the qualifications for hiring and promoting personnel, including personnel in field offices? What are the informal practices? Does everyone get promoted automatically, or is the office more conservative about promotions?

What is the management philosophy—does it favor generalists who can manage unfamiliar topics or specialists who learn an area or an issue in depth? Are personnel in the field given adequate time to share knowledge and experience with their replacements before being redeployed? Are experimentation and risk taking rewarded, or is failure always punished?

Budgeting

What are the formal rules about when money has to be spent (e.g., by the end of the fiscal year, use it or lose it), and how much paperwork is involved in accounting for it? What are the informal expectations about what counts as legitimate risk taking with the institution's financial resources? What are the attitudes of budget decisionmakers toward the various offices that have to implement policy?

Security

What are field personnel required and forbidden to do to remain safe? Do the rules make it impossible to interact with the local population? Is security training available? How risk-averse are security decisionmakers when it comes to giving field personnel freedom of movement?

Contracting

How complicated, and how open, is the formal contracting process? What common practices have developed to get around complicated requirements? How risk-averse are contract managers in seeking waivers and uncommon requests?

Planning

What are the formal processes for capturing and circulating lessons, knowledge, information, techniques, and other forms of knowledge? How much authority do policy and planning personnel have over human resources, budgeting, contracting, and security decisions so that knowledge about what ways of operating do and do not work can be put into place?

Leadership

How much authority do political appointees have over the rules and operations? How much interference is common? What are the common practices for briefing leaders? How commonly is professional policy advice rejected?

Applying the Framework

Once a proposed intervention has been analyzed and the prerequisites identified, the final step in applying the MAC framework is to determine whether the prerequisites are actually present in the recipient system. As noted earlier, if they are found not to be present, there are three options:

- *Modify the intervention* to supply the missing prerequisites (or coordinate with someone else who can supply them).
- *Redesign the intervention* iteratively, trying different inputs and outputs to find an approach that minimizes missing prerequisites (or allow implementers to do this experimentally during the intervention).
- *Rethink the intervention,* reconsidering whether the objectives are appropriate to the recipient system, whether achieving them would require unprecedented performance, and perhaps whether the missing prerequisites are actually necessary.

This framework is based on an explicit recognition that absorptive capacity is mainly a function of the "fit" between recipient capabilities and donor capabilities. Recipient factors that might contribute to absorptive capacity go beyond a ministry's ability to properly and accountably spend donor funding and implement donor programs but might also include, for example, a civil servant's ability to produce the required number of reports, a ministry's ability to interact with multiple donors at once, an economy's ability to absorb foreign resources without market distortions, the culture's tolerance for personality-based versus rule-based decisionmaking and implementation, the division of labor between formal and informal institutions and what locals think about each, or a community's ability to adapt to a growing number of contracts, projects, and foreign demands. Different donors have different capacities to adapt their own processes and program designs to local conditions in the places they wish to reach. Factors affecting their ability to adapt include program designs (e.g., size, speed, objectives, and standards), choice of program partner (e.g., government capacity building versus direct cash payments to citizens), operational preferences (e.g., bias toward national and formal over local and nongovernmental partnerships), assumptions (e.g., about local partners' values, preferences, or objectives), or knowledge (e.g., about history, culture, or power dynamics).

Considering donor factors as well as recipient factors as potential determinants of absorptive capacity makes it possible to answer important questions: If a donor program fails, is it because the host nation did not live up to program expectations or because the expectations and design were unsuited to the society or institutions to begin with? If the expectations and design were unrealistic and ill-suited, how can they be made more realistic and better suited? Answering these questions is clearly in the interest of policymakers, program designers, and recipient societies alike.

4 Afghanistan: National Police Training Programs

International development efforts often achieve significant improvements in the quality of life of the direct beneficiaries of aid, and many efforts have longer-term positive effects on the society at large. U.S. efforts to improve the capacity and professionalism of security forces have succeeded in places such as Colombia and Egypt. In Colombia, security and justice sector reforms beginning in the late 1990s and continuing through the early 2000s contributed to the improved human rights situation while also building the ability of the security forces to defeat insurgents in battle, something they had previously depended on brutal paramilitaries to achieve. In Egypt, after years of security cooperation with the United States, the military in 2011 made it clear that it would not fire on protesters if ordered to do so, and their restraint in the face of pressure to respond violently to social unrest led to the departure of Hosni Mubarak as the authoritarian leader of the country, allowing a political transition to begin.[1] But not all international efforts to improve security and justice succeed.

A contrast is sometimes made between "security sector reform" (SSR) approaches and "train-and-equip" approaches. In train-and-equip, security forces are provided weapons and other equipment, trained in their lawful use, and sent into the field to maintain security. This approach has sometimes been criticized as contributing to human rights violations in cases where the recipient government is weak, corrupt, or authoritarian or as contributing to "blowback," where recipients later use their weapons and training against those who had provided the weapons and training in the first place. SSR was supposed to correct the shortcomings of train-and-equip by incorporating efforts to improve security governance and oversight. By accounting for the politics and incentives of the recipients, SSR was supposed to help ensure that recipients used their weapons and training for their intended purpose—to reduce crime and violence or improve security more generally—and not, for example, against political opponents, ethnic rivals, or the donors. But the overall record of SSR is somewhere between mixed and negative. Some have criticized SSR efforts for failing to live up to their promise because they have been overly ambitious or poorly implemented, but others have argued that most efforts advertised as SSR have really been train-and-equip dressed up in nice language.[2]

1. Whether the political transition in Egypt is ultimately good for U.S. interests is a separate issue from whether the Egyptian military demonstrated the kind of professionalism the United States had fostered for years.

2. For an introduction to these debates, see Mark Sedra (ed.), *The Future of Security Sector Reform* (Ontario: CIGI, 2010), especially the chapters by Mark Sedra ("Introduction: The Future of Security Sector Reform") and Nicole Ball ("The Evolution of the Security Sector Reform Agenda") on pp. 14–42.

SSR and train-and-equip are not mutually exclusive categories of security cooperation, but many efforts of both types have justifiably been criticized as taking a "cookie-cutter" or "blueprint" approach: regardless of the differences in recipient security forces or the local political economy, the type of training offered in one place is often quite similar to that offered in another, and the insistence by proponents of SSR that SSR programs include certain principles often gets translated in practice as a requirement that SSR programs include the same program elements. When an aid program of any kind is designed for one context but applied to a different context, there is a risk that the prerequisites that enabled it to work in the earlier context will not be present in the new context. As a consequence, some recipients will not have the capacity to absorb the aid as designed, putting the program's objectives at risk of not being achieved.

International efforts to rebuild the Afghanistan National Security Forces (ANSF), which includes military and police forces, have had some very positive effects. The most important is that, where there was no such force a decade ago, today there is a functioning force numbering more than 350,000 troops, including about 157,000 police. That is no minor accomplishment in a country with a weak government that does not enjoy broad legitimacy and a population whose loyalties are divided along ethnic or tribal lines.

But reasonable questions have been asked whether the capabilities those forces have are adequate to bring peace and uphold the rule of law, whether those capabilities are commensurate with the amount of money and effort that have been put into building them, or indeed whether the ambitions for what kind of force could be built were realistic in the first place.

This chapter applies the Measuring Absorptive Capacity (MAC) framework, introduced in the previous chapter, to the training program for the Afghanistan National Police (ANP) that was led by the U.S. Department of State's Bureau for International Narcotics and Law Enforcement Affairs (INL), the U.S. Department of Defense's Combined Security Transition Command–Afghanistan (CSTC-A), and their contractors between 2004 and 2010. This analysis is structured around the framework's main questions as follows:

- *Intended Outcomes:* What did the intervention (i.e., the ANP training program) intend to change? How were the intervention's outputs supposed to be used?
    - *Learning* (short-term): What were participants expected to learn as a result of the intervention?
    - *Action* (medium-term): What were participants expected to do differently as a result of the intervention?
    - *Conditions* (long-term): What societal conditions were expected to change as a result of the intervention?
- *Intended Outputs:* What did the intervention intend to produce? How were the intervention's inputs supposed to be used?

    - *Activities:* What did the intervention intend to do?
    - *Products:* What did the intervention intend to create?
    - *Participants:* Whom did the intervention intend to affect?
- *Output Prerequisites:* What resources, capabilities, or conditions, other than those produced by the intervention, would have been required for the intervention's outputs to generate the intended outcomes?
- *Promised Inputs:* What resources or capabilities was the intervention supposed to provide?
- *Input Prerequisites:* What additional resources, capabilities, or conditions, other than those provided by the intervention, would have been required to produce the outputs?
- *Donor Capacity:* How well can the donor design and implement locally appropriate interventions? What knowledge, processes, cultural facts, or incentives influence the ability or willingness of the donor (in its personnel, budgeting, security, contracting, planning, and leadership units) to allow the intervention to be designed and implemented in a way that is appropriate to local conditions?

This is not intended to be a comprehensive application of the MAC framework. It is intended instead as an initial proof of concept for that framework. A more comprehensive application would require access to detailed operational plans, which were not available, and both technical and political economy assessments of security dynamics in Afghanistan, which were not feasible for this phase of the project. But it was feasible to do a basic review of the main elements of the police training program and an analysis of the assumptions, risks, and shortcomings identified through published program assessments, official reports, and audits. This basic analysis simply demonstrates that important prerequisites were not accounted for in planning and implementation—but could have been if a systematic absorptive-capacity assessment, based on something like the MAC framework, would have been undertaken at the inception of the program or at any other time since.

Intended Outcomes

What were the overall objectives of the Afghanistan police training program? How were the program's outputs supposed to be used? What were participants expected to learn as a result of the intervention? What were participants expected to do differently as a result of the intervention? And what conditions in Afghan society were expected to change as a result of the intervention?

After the United States entered Afghanistan in October 2001, international donors met in Bonn, Germany, to discuss the international effort to rebuild the country. In April 2002 in Geneva, Switzerland, donors met specifically to discuss security cooperation and agreed

to divide responsibility for different aspects of the overall security sector reform effort. The United Kingdom was to be the lead nation for countering narcotics trafficking, Japan was to lead disarmament efforts, Italy judicial reform, the United States military reform, and Germany police reform. Within a year, all five "pillars" of the SSR effort were already far behind schedule.[3]

In 2003, the United States took over the police training pillar, with the U.S. Department of State's INL in the lead. In 2004, DynCorp International was awarded a civilian police training contract worth an estimated $1.75 billion (it was awarded subsequent contracts for police training as well).[4] The Department of Defense took lead responsibility for the training program in 2005 through the Office of Military Cooperation–Afghanistan, which in 2006 was renamed Combined Security Transition Command–Afghanistan (CSTC-A, usually pronounced "see-STICK-uh"). CSTC-A was merged with the NATO Training Mission–Afghanistan in 2009, when it became known by the acronym NTM-A/CSTC-A. At the NATO summit in Lisbon, Portugal, in November 2010, a timeline was established for a transition to Afghan-led security operations, the United States began developing a joint civilian–military campaign plan to complete that transition by 2014, and all parties began planning for a more intensive training effort to make it possible.[5]

Up to late 2010, the objectives of the police training program were characterized in rather different ways by different donors and the Afghan government at different times. The initial objectives of the German program were to create a multiethnic, self-sustaining police force that would uphold the rule of law and "protect the rights of citizens, maintain civil order and public safety, support actions to defeat insurgency, control national border, and reduce the level of domestic and international organized crime."[6] The objective of the original DynCorp police training program was to "strengthen the criminal justice system and security operations by employing law enforcement professionals to support international civilian police initiatives through the issuance of task orders."[7] The Afghanistan Compact, an international agreement signed with the Afghan government in 2006, characterized the objective as a "fully constituted, professional, functional, and ethnically balanced Afghan National Police and Afghan Border Police . . . able to meet the security needs of the country effectively" with a target number of 62,000

3. Mark Sedra, "Security First: Afghanistan's Security Sector Reform Process," *Ploughshares Monitor* 24, no. 4 (Winter 2003), http://ploughshares.ca/pl_publications/security-first-afghanistans-security-sector-reform-process.

4."Afghan National Police Training Program: Lessons Learned during the Transition of Contract Administration," *Inspectors General of Department of State and Department of Defense,* DOS Report No. AUD/CG-111-42 / DoD Report No. D-2011-095, August 15, 2011, p. 5.

5. Gordon S. Heddell, "Contracts for Afghan National Police Training," Hearing before the Senate Committee on Homeland Security and Governmental Affairs, April 15, 2010; "Afghan Local Police Training," ISAF, http://www.isaf.nato.int/article/focus/afghan-local-police-training-2.html; and "Establishing a Police Force in Afghanistan," Institute for the Study of War, http://www.understandingwar.org/afghan-national-police-anp.

6."Afghanistan Security: Further Congressional Action May Be Needed to Ensure Completion of Detailed Plan to Develop and Sustain Capable Afghan National Security Forces," U.S. Government Accountability Office, June 2008, http://www.gao.gov/assets/280/276932.html.

7."Afghan National Police Training Program: Lessons Learned," p. 2.

police by the end of 2010.[8] The 2008 Afghanistan National Development Strategy repeated that objective but revised the target number to 82,180.[9] Subsequent reports indicated the target size for late 2010 was increased to 109,000, with up to 122,000 authorized by the Afghan government.[10]

Although the overall objectives for the police training program were not always clearly stated or consistent over time, it can be argued that there was some degree of agreement among funders, implementers, and the Afghan government. They wanted the training program to grow the police force significantly while developing its tactical skills, discipline, and knowledge (e.g., of laws and norms) in the short term. That, they believed, would enable the ANP to defeat insurgents, enforce laws, and displace nonstate armed actors from policing activities in the medium term, which in the long term would reduce crime, violence, and opium production and thereby contribute to peace and security within Afghanistan. In short, the intended outcomes can be summarized as follows:

- *Short-term (learning):* The police would improve their tactical skills, discipline, knowledge of laws and norms, and general operational capability.
- *Medium-term (action):* The police would use that learning to defeat insurgents, enforce laws, and displace nonstate armed actors from policing activities.
- *Long-term (conditions):* Those actions by the police would contribute to reductions in crime, violence, and opium production, which would contribute to peace and security.

Intervention Design

INTENDED OUTPUTS

What did the intervention intend to produce? How were the intervention's inputs supposed to be used? Activities: What did the intervention intend to do? Products: What did the intervention intend to create? Participants: Whom did the intervention intend to affect?

Activities. To achieve its short-term outcomes—improved skills, discipline, knowledge, and general operational capability—the police training program was designed to recruit trainees, vet them, train them, provide them weapons and other equipment, mentor their units, and measure their units' progress. An eight-week basic training course was provided to new recruits at regional training centers throughout Afghanistan, teaching basic law

8."The Afghanistan Compact," February 2006, p. 6, http://www.nato.int/isaf/docu/epub/pdf/afghanistan_compact.pdf.

9. Afghanistan National Development Strategy, http://www.undp.org.af/publications/KeyDocuments/ANDS_Full_Eng.pdf; see also Jake Sherman, "The Afghan National Development Strategy: The Right Plan at the Wrong Time?" *Journal of Security Sector Management* 7, no. 1 (2009): p. 5, http://www.cic.nyu.edu/staff/docs/bah/sherman/sherman_afghan_strategy.pdf.

10. Special Inspector General for Afghanistan Reconstruction, Quarterly Report, January 30, 2011, http://www.sigar.mil/pdf/quarterlyreports/2011-01-30qr.pdf.

enforcement techniques and self-defense skills, and additional training was provided subsequently. The Focused District Development (FDD) program replaced uniformed police units with Afghan National Civil Order Police (ANCOP) units to enable the former to travel as a unit to a regional training center; afterward, those units returned home and were mentored for eight weeks by a Police Mentor Team. The In-District Reform program was an eight-week training program similar to the FDD, except that U.S. military units temporarily replaced the ANP undergoing training.[11] Specialized training was provided to all special units, and training and education were provided to Afghan officers and Ministry of Interior (MoI) personnel as well.

Products. The training program was supposed to produce police units capable of operating on their own and a system for sustaining the police program. At the end of 2010, the 109,000-member ANP force was to include Afghan Uniformed Police (AUP), Afghan Border Police (ABP), ANCOP, and special units for intelligence, criminal investigation, counternarcotics, customs, logistics, training, family response, first aid, and fire protection. A functioning MoI was to set policy and manage the force. Police stations, training centers, detention facilities, weapons depots, and warehouses were to be built and staffed as well.

Police units were supposed to meet performance standards as well as size targets. ANP Capability Assessments were developed to evaluate police units. Police mentors and evaluators used a checklist that examined personnel, equipment, property accountability systems, facilities, training, and proficiencies in security sector functions, such as command, control, intelligence gathering, and force protection. A "Capabilities Milestone" (or CM rating) of 1 meant the unit had at least 85 percent of the equipment and personnel it needed, was entirely self-sustaining, and was fully capable of conducting law enforcement operations unaided, including without mentors. A CM rating of 4 meant the unit was formed but had less than half the equipment and personnel it needed and was incapable of conducting operations. Planners had hoped that by 2010 all ANP units would reach a CM rating of 1.[12]

Participants. The participants and immediate beneficiaries of the program were to be the 109,000 Afghans recruited, trained, and employed by these organizations. (The actual number of Afghan participants is much higher due to the high attrition rate.) The goal was to have an ethnically diverse police force that roughly matched the ethnic composition of the country, although planners were generally hard-pressed to find census data that would help them make such judgments. It was also intended that women would participate in the

11. Donald Ryder before the Commission on Wartime Contracting, December 18, 2009, http://www.dyn-intl.com/media/587/cwc_iii_don_ryder_testimony.pdf.

12. This system was criticized for not representing reality on the ground and was replaced with a different evaluation system in mid-2010. See "Interagency Assessment of Afghanistan Police Training and Readiness," U.S. Department of State and U.S. Department of Defense, November 14, 2006, p. 16, http://www.dodig.mil/IGInformation/IGInformationReleases/Interagency%20Assessment%20of%20Afghanistan%20Police%20Training%20&%20Readiness.pdf.

police force.[13] More broadly, better policing was intended, eventually, to affect all Afghans by improving security.

PROMISED INPUTS

What resources or capabilities was the intervention supposed to provide?

The design of the police training program—including the outputs described above—changed repeatedly as more resources became available, oversight responsibility shifted between and among agencies, and pressure to "Afghanize" the counterinsurgency grew. As a result, it is not possible to be precise regarding what inputs had been planned, as this changed over time. By the end of 2010, the United States had spent about $6 billion on police training overall, including more than $500 million for the Law and Order Trust Fund for Afghanistan, which pays for ANP salaries and other expenses; more than $700 million for infrastructure projects for the ANP (although some facilities were shared with the Afghan National Army [ANA]), including training and logistics centers; and more than $3 billion for U.S. contractors to run the trainings.

Personnel requirements changed as well. The statement of work for the 2005 contract with DynCorp called for 178 advisors, mentors, and trainers. In 2008, that requirement was increased to 584. Requirements were also included for support services such as food, security, and maintenance at eight training centers. As of December 2009, DynCorp had 2,300 employees in the Afghanistan Civilian Advisory Support program working at 53 locations, including the main training center in Kabul, and its overall training workforce was more than 7,500 people, including 25 professional and executive mentors to senior officials of the MoI. An additional team of 1,500 people ran support services, such as security and information technology. NTM-A/CSTC-A had many additional personnel involved in police training as well. As the target size of the Afghan forces kept increasing, NTM-A/CSTC-A had difficulty providing the number of trainers needed.

Equipment requirements also changed over time, so it is difficult to determine exact numbers for what had been planned. But by 2010, the United States and its contractors had provided thousands of vehicles, tens of thousands of pistols and rifles (including more than 70,000 AK-47s), uniforms and body armor to more than 100,000 personnel, thousands of radios, and many other pieces of equipment.[14]

13."Reforming Afghanistan's Police," International Crisis Group Asia Report No. 138, August 30, 2007, p. 5, http://www.crisisgroup.org/~/media/Files/asia/south-asia/afghanistan/138_reforming_afghanistan_s_police.pdf; "Afghan Security: Efforts to Establish Army and Police Have Made Progress, but Future Plans Need to Be Better Defined," U.S. Government Accountability Office, June 2005, p. 21, http://www.gao.gov/new.items/d05575.pdf; "Report on Progress Toward Security and Stability in Afghanistan," U.S. Department of Defense, November 2010, http://www.defense.gov/pubs/November_1230_Report_FINAL.pdf.

14."Report on Progress Toward Security and Stability in Afghanistan," p. 36; Seth Robson, "U.S. Trying to Track Missing Weapons Issued to Afghan Police," *Stars and Stripes*, September 11, 2010, http://www.stripes.com/news/middle-east/afghanistan/u-s-trying-to-track-missing-weapons-issued-to-afghan-police-1.117821.

Prerequisite Structure

The figures presented in the preceding section represent only a brief summary of the promised inputs and intended outputs for the police training program. A full application of the MAC framework would begin with the detailed plans and consider the full set of requirements—in as much detail as possible—before proceeding with the analysis of the prerequisites to success and of the prerequisites of those prerequisites. As the purpose of this chapter is merely to offer a proof of concept, the prerequisites analysis presented here is based only on the basic information provided above.

OUTPUT PREREQUISITES

What resources, capabilities, or conditions, other than those produced by the intervention, would have had to be present in Afghanistan for the intervention's outputs to generate the intended outcomes?

Assuming for the moment that the training program had fully succeeded and the ANP had actually acquired the skills, discipline, knowledge, and general operational capability the training program intended by 2010, what would Afghanistan have needed to have in order to turn that short-term outcome (learning) into medium-term outcomes (actions) and ultimately to long-term outcomes (conditions)? Obviously many things would have been needed, but here we focus primarily on those prerequisites that were needed but not fully present.

First, turning knowledge and skills into action requires that the forces actually want to do so. Do the police (individually or collectively) share the donors' medium- and long-term objectives? If not, they are not likely to use their new capabilities to defeat insurgents, enforce laws, or displace nonstate armed actors from policing activities. Second, once the police begin operating independently—after their international mentors have left—their organizational or unit-specific cultures, internal processes, and general incentives would need to support their acting in the way they were trained to do. Are there rewards (such as promotions, pay increases, or awards) for success and good behavior? Or are competence and success punished socially by peers or supervisors? Are there incentives to steal equipment or cultural practices that make bribes acceptable? Are individual officers and their families protected against coercion and blackmail by armed actors? Third, national loyalties would need to be stronger than factional loyalties, and ethnic or general prejudices would need to be minimal to maintain internal cohesion. Fourth, the police forces would have to be free from infiltration by insurgents and criminals, to prevent insider attacks that sap effectiveness and morale. And fifth, the back-office processes—administration, logistics, transportation, and so on—that the police force depends on to operate would need to be functional at some minimum level.

If these output prerequisites were present, then it would be reasonable to believe a theory of change that suggested that a trained, knowledgeable, capable police force would actually do the things that need to be done to enforce the law.

But even if this set of output prerequisites was present—connecting police learning to police actions—there is an additional set of output prerequisites that would be needed for these actions to contribute to a change in societal conditions: reductions in crime, violence, and opium production and, ultimately, peace and security. This latter set of output prerequisites was recognized implicitly in the original "five-pillar" approach that donors agreed to at the 2002 security cooperation meeting in Geneva, in which a different country would take lead responsibility for improving different aspects of the security and justice sectors.

Translating those pillars into the language of the MAC framework, the output prerequisites connecting police actions to changes in societal conditions would have included successful parallel efforts to counter narcotics trafficking, disarm insurgents and organized criminals, strengthen the judicial system, and strengthen the military. If any of those pillars were not built fully, it was not likely that the police pillar (as designed) could support the broader effort to bring about peace and security. For example, without a functioning judicial system, a capable police force would arrest criminal suspects but have no institution where those suspects could be prosecuted, tried, and punished or, if found innocent, exonerated. (If an informal justice system were available, the police would have needed to be trained to interface with that system instead.) In addition, system-wide efforts to reduce corruption and coercion or to improve civilian oversight of armed forces would have had to succeed as well. It is important to note that each of these other output prerequisites has its own prerequisites for success.

In short, if the ANP training program was designed to create a modern police force capable of enforcing peace and contributing to security through formal systems, then the overall output prerequisites for that program to work would be a set of incentives and cultural practices that encouraged police to enforce peace and contribute to security according to the rule of law as well as a broader context of formal governance that functioned according to the rule of law. Even if the police training program itself successfully produced a trained and capable police force, as promised, that is no guarantee either that the ANP would do the things the donors and trainers assumed they would do after training or that the ANP's efforts would be adequate to contribute to peace and security in any significant way. Afghanistan might absorb the aid but might not adapt to the aid in a way that would improve the functioning of its formal system of security.

None of this is meant to suggest that Afghanistan could not find a way to control crime and violence on its own—only that, if it did so, it would not necessarily be in a way that planners of the formal training had intended. Afghans might well find their own way to go about it.

INPUT PREREQUISITES

What additional resources, capabilities, or conditions, other than those provided by the intervention, would have had to be present in Afghanistan to produce the outputs?

Needless to say, if the training program did not succeed in producing what it was supposed to produce in the first place, then the police force would be hard-pressed to contribute to any of the longer-term outcomes discussed in the previous section (at least in the way international trainers intended them to). That section summarized the prerequisites for turning the intervention's outputs—a trained, capable police force—into outcomes (reduced crime and violence and so on). Turning the program's inputs—money, equipment, trainers, knowledge, and so on—into a trained, capable police force has another set of prerequisites entirely.

Identifying input prerequisites requires an understanding not only of the needs of the security forces and the technical requirements of the training program but also of the political economy of Afghanistan and its security institutions (i.e., how Afghans and Afghan institutions normally react, adapt, change, and so on) as well as their capacity to understand and interact with donor-imposed requirements. In a sense, input prerequisites are part of the domain of more common conceptualizations of absorptive capacity, in which a recipient's failure to take productive advantage of the aid on offer is "corrected" by building its capacity to absorb that aid. Improving absorptive capacity is usually treated as a technocratic exercise. In the broader conceptualization that underpins the MAC framework, input prerequisites have to be understood in the more complicated political, social, cultural, and economic context of, in this case, Afghanistan—a context that is not easily or quickly "corrected" by mere capacity building. This conceptualization of absorptive capacity assumes that social change is a slow process: the design of an intervention is more easily changed than the "capacity" of recipient societies.

That said, most donors are reasonably good at assessing training needs and identifying technical requirements of training programs. The danger comes in the assumption that those requirements, if provided by donors, are sufficient. The remainder of this section offers an illustrative list of the input prerequisites—that is, of the capabilities, resources, and conditions that would need to already be present in Afghanistan for the inputs to be productively absorbed by Afghanistan's security sector.

First, for a training program to succeed, there would need to be enough young Afghans—in each ethnic group and both genders—who are qualified to enter the training program and capable of graduating from it successfully. Is there a population of healthy Afghans in the labor market willing to work for the wages they would be paid, who can prove their identity and provide references from respectable Afghans who can vouch for their trustworthiness, who have enough education and literacy to absorb the training materials and take the tests, who can travel to the training centers, who have the discipline to show up for work and complete assignments, and who have enough of a national identity—or at least enough antipathy to insurgents and criminals—to ensure that they would enforce the law impartially?

Second, many of the above input prerequisites have prerequisites of their own. For example, being able to prove one's identity and provide character references requires a

system of creating identity cards and a system of checking those references. In addition, the vetting process takes time; the more recruits who need to be vetted, the longer the overall vetting process will take, and the longer the overall training program will need to be. Education and literacy requirements have prerequisites of a functioning system of education; even if that system is informal and takes place in the home, it needs to produce some minimum level of education and literacy for the recruits to be qualified to enter the training program. Even if enough women could be recruited into the program, would cultural norms (e.g., an expectation that women will defer to men, right or wrong) allow them to participate in training (and, later, police work) in the way the program is designed? Paying wages that are high enough to attract recruits and, later, to prevent theft and corruption requires a system of raising money, either through taxation or foreign donors. Many other examples could be found, and a full application of the MAC framework would require a systematic review of every step of the training program to determine whether any step depends on something that does not exist.

Actual Outcome

By the end of 2010, the ANP training program had exceeded its quantitative goal for the target size of the force: 109,000. It is not clear whether it met its ethnic-balance goals, because the criteria for "balance" were never clearly spelled out, but many concerns have been expressed that southern Pashtuns might be underrepresented while ethnic groups from the north might be overrepresented. It did not reach its gender targets, as the number of women in the force never exceeded 1 percent. Nor did it reach its quality goals. The CM rating system was abandoned at the end of 2009 amid concerns it was inflating security forces' performance, and even then only about 12 percent of ANP units were given the top CM rating of 1. In 2010 a new assessment system was put in place, and by the end of the year only one unit was given the highest rating of "independent"; the February 2011 assessment, however, found no units at that level but found about a third of the units at the second-highest level, "effective with advisers." Fewer than three-fifths of the vehicles planned for delivery had been delivered by late 2010. Equipment requirements changed repeatedly, and information about what was delivered was not consistently released, so whether equipment goals were reached is not possible to reliably report. One would expect there to be a lag between the fielding of a force and their long-term effects. Poppy cultivation and opium production in 2010 were beginning to decline but were still higher than in 2004. Afghanistan was rated 180 out of 182 countries for corruption in 2011 on Transparency International's Corruption Perceptions Index. By 2012 there was a decline in the percentage of Afghans reporting that they feared for their safety.[15]

15. Ian S. Livingston and Michael O'Hanlon, "Afghanistan Index," Brookings Institution, May 16, 2012, http://www.brookings.edu/~/media/Programs/foreign%20policy/afghanistan%20index/index20120516.pdf; Adam Mausner, "Reforming ANSF Metrics: Improving the CUAT System," CSIS, August 9, 2010, http://csis.org/files/publication/100811_ANSF.CUAT.reform.pdf; "Report on Progress toward Security and Stability in Afghanistan"; "Report on Progress toward Security and Stability in Afghanistan," U.S. Department of Defense, April 2011, http://www.defense.gov/news/1230_1231Report.pdf; "Afghanistan Opium Harvest," BBC World News, November 20, 2012, http://www.bbc.co.uk/news/world-asia-20407511; "Afghanistan in 2012: A Survey of the Afghan People," The Asia Foundation, 2012, http://asiafoundation.org/resources/pdfs/Surveybook2012web1.pdf.

Two years after the end of the study period, the ANP had commissioned 146,399 officers and patrolmen, compared with the late 2012 goal of 157,000. CSTC-A had procured 99 percent of weapons-related equipment, 104 percent of vehicles and transportation equipment, and 109 percent of communications equipment, compared with its original goals. And the United States had disbursed $12.3 billion of an obligated $14.3 billion to fund, train, and equip the ANP.[16]

In short, the program generally met its most basic output goals (the size of the force) but only partially met its intended short- and medium-term outcomes (a force capable of acting independently and sustainably).

What were some of the constraints on the ANP's capacity to productively absorb the training assistance? First, the donors themselves did not deliver all of the promised inputs and undertake all of the intended activities. That has nothing to do with the ANP's capacity to absorb aid—only with the donors' capacity to deliver it. But planners and implementers also overlooked the fact that some of the input and output prerequisites were missing.

The input prerequisites for producing a large force were mostly present, but those for creating a competent, balanced force were not present to the degree that would have been needed for the training program to succeed as designed. It turned out, for example, that much of the population from which recruits were being drawn did not have the most basic qualification for the training program: literacy. This fact was discovered early on, and basic literacy was subsequently incorporated into the training program.[17] Still, the training program, as designed, apparently depended on a level or type of education that simply was not available in the Afghan population, as evidenced by how few units ever reached quality objectives. Similarly, the effort to incorporate women into the force failed to account for cultural practices that led some women to fear social rejection, disapproval from their families, or abuse from men within the force, concerns that made it difficult to attract and retain enough women to reach gender goals.[18]

The output prerequisites—the facts that would need to be true for the ANP to willingly, capably enforce the law—were somewhat less present. A fundamental assumption of train-and-equip programs is that the recipient force, individually and institutionally, shares the objectives of the donors. If that assumption is not true—if that output prerequisite is not present—then there is a risk that the recipient force will be ineffective or, worse, malign. One of the most basic output prerequisites for an effective force is loyalty, or at least antipathy toward criminals and insurgents. Yet many Afghans have multiple and competing loyalties. Although many claim a national identity, many others give precedence to their ethnic group or tribe or in some cases to their patron in a patronage system (some of which are criminal). So-called green-on-blue attacks, in which Afghan police attack

16. Special Inspector General for Afghanistan Reconstruction, "Quarterly Report to the United States Congress," October 30, 2012, p. 92.

17. Ibid.

18. "Women Brave Social Barriers to Join Afghan Police Force," Reuters, June 8, 2011, http://dawn.com/2011/06/08/women-brave-social-barriers-to-join-afghan-police-force/.

their foreign partners, grew significantly during the training period, especially toward the end, and corruption within the force remained stubbornly high throughout the period.[19]

To reliably vet recruits for loyalty or criminality would have required a much more demanding vetting process than Afghanistan had the capacity for, given the rate at which the ANP was expected to grow. The vetting process that was in place—involving official identity documents, criminal and terrorist background checks, and personal references—possibly could have prevented more disloyal, corrupt, or otherwise bad actors from joining the force if the growth rate had been slower. But then, of course, the training program would not have met its quantitative goals.[20] In other words, the vetting process was not capable of identifying whether these important output prerequisites (loyalty, shared objectives, etc.) were present. Some *were* present—just not in enough of the recruits and units to ensure that they would operate as planned within the desired time periods.

Even those forces who were capable, loyal, honest, and willing to enforce the law faced significant institutional and societal constraints—broader output prerequisites that were inadequate for turning the recruits' knowledge into action or their actions into social change. The ANP's logistics capabilities, for example, were so weak that police units had no choice but to depend on international forces for most of their logistical requirements. A sustainable revenue model was never put in place, and the ANP therefore will also depend on international donors indefinitely. Progress against corruption—within the police force and more broadly—was so poor that the police remained one of the most distrusted institutions of the Afghan government, complicating efforts by honest police to be taken seriously. And progress in other security and justice sectors has been mixed. The ANP has increased the number of people it imprisoned every year of the training program, but the justice sector has nowhere near the capacity to give due process to those who are arrested.[21] Military, counternarcotics, and peace and disarmament efforts have all had important successes at the tactical level but not enough success at the strategic level to give the police more than a fighting chance against well armed opponents.

Donor Capacity

How well can the donor design and implement locally appropriate interventions? What knowledge, processes, cultural facts, or incentives influence the ability or willingness of the donor (in its personnel, budgeting, security, contracting, planning, and leadership units) to allow the intervention to be designed and implemented in a way that is appropriate to local conditions?

19. R. Hossain, "Afghanistan: Green-on-Blue Attacks in Context," Institute for the Study of War, October 31, 2012, http://www.understandingwar.org/green-on-blue/.

20. Richard A. Oppel Jr. and Graham Bowley, "Hitting Pause in Afghanistan," *New York Times*, September 2, 2012, http://www.nytimes.com/2012/09/03/world/asia/in-afghanistan-hitting-pause-on-local-police-training.html.

21. Jake Sherman, "The Afghan National Development Strategy: The Right Plan at the Wrong Time?" *Journal of Security Sector Management* 7, no. 1 (2009): p. 6, http://www.cic.nyu.edu/staff/docs/bah/sherman/sherman_afghan_strategy.pdf.

Absorptive capacity is a by-product of the donor–recipient relationship as represented by a particular intervention's design. The ANP training program grew the size of the force but did not achieve all of its quality objectives, not simply because Afghanistan lacked the capacity to absorb police training, but also because the donors lacked the capacity to deliver police training at the scale this program required.

The Afghanistan Compact was an enormously ambitious document: not one of its goals has been achieved as written. Certainly the target size of the police forces in 2010 exceeded the compact's initial goals, but the training program did not achieve anywhere close to the quality goals that the compact and other documents had laid out for them. After the compact was published, the target size kept increasing as pressure to build the country's capacity to police itself increased. It is not at all clear that those numbers were based on an estimate of what was feasible—NATO countries could not even provide as many trainers as their own plans required—but it is clear that only a significantly smaller force could have been made as capable as publicly available documents had promised.

The demands of such an ambitiously sized training program exceeded the capacity for U.S., international, and Afghan institutions to plan, implement, and monitor. Multiple offices had responsibility for different aspects of the training program, including the departments of Defense and State, NTM-A/CSTC-A, and the contractors, and these responsibilities shifted between and among them over time. Processes and authorities were not always in place to manage interoffice relationships and other aspects of oversight. There was a shortage of contracting officer representatives, some of whom have reported that they could spend only about a fifth of their time monitoring implementation the training program.[22] And it was the Special Inspector General for Afghanistan Reconstruction and not the Defense or State departments that discovered that 474 of 500 shipping containers of maintenance parts for the ANSF, worth $230 million, had gone missing.[23]

Processes and tools for measuring progress were not as sophisticated as they could have been. It has already been mentioned that the CM rating system had been found to inflate police units' capabilities. But it was also the case that, for example, INL's approach to measuring performance were largely based on outputs, not outcomes. Since around the midpoint of the training period under study, INL headquarters began broadening its emphasis beyond traditional train-and-equip programming and toward SSR programming, a shift accompanied by an effort to improve the way it measures performance. But that shift came too late to really affect its work in Afghanistan, which remained essentially a train-and-equip program, monitored through the older approach to performance measurement.[24] In fact, the demands of a comprehensive SSR program probably could not have been met given the difficulty of donor coordination already in evidence in Afghanistan.

22. Heddell, "Contracts for Afghan National Police Training."

23. "Afghan National Police Training Program: Lessons Learned," pp. 11–12; Heddell, "Contracts for Afghan National Police Training," pp. 3–4; Special Inspector General for Afghanistan Reconstruction, "Quarterly Report to the United States Congress," October 30, 2012, p. 90.

24. Author interviews with INL personnel, Washington, D.C., November 2012.

The MAC framework is intended to measure the distance between theory and practice—that is, between a specific intervention's theory of change and the resources and capabilities that actually exist in the recipient society to support it. If the theory of change depends on too many missing prerequisites, that suggests only that the theory is flawed, not that the society is flawed: plans are easier to change than societies. If prerequisites are discovered not to be present in the recipient society, there are three options: modify, redesign, or rethink the intervention.

And to their credit, the donors and implementers did on a few occasions make some changes to the training program when prerequisites were discovered to be missing. After discovering how high the rate of illiteracy was, for example, they modified the program to incorporate literacy training. After recognizing that the police units were not all going to be capable of operating independently, they redesigned the program several times to emphasize quantity over quality. When it became clear that the ANP would not be able (or willing) to operate in some places at the level that was needed, the donors rethought some aspects of the intervention. For example, the ANP was clearly not going to be able to fully displace nonstate actors from policing duties, and so a separate initiative, the Afghan Local Police, was developed to manage some nonstate police activities.

Still, at the ANP's current size, it will require more than $700 million per year to cover salaries, incentives, and food for the force.[25] The government of Afghanistan does not have any prospects for raising that much money on its own, and although foreign donors have promised to continue supporting Afghanistan after international forces are largely withdrawn in 2014, it is the donors' legislative bodies, not the people who made those promises, that will decide how much funding to provide after that date. Even if the ANP reduces its force size significantly after 2014, the historical record for continued international funding after military drawdowns does not offer encouragement that financing for the ANP will be sustained even at somewhat lower levels.

25. Special Inspector General for Afghanistan Reconstruction, "Quarterly Report to the United States Congress," October 30, 2012.

5 Concluding Remarks

> With deficits in the quality of governance in many sectors in most fragile situations, the best approach may seem to be rapid, across-the-board institutional transformation. But the scope and speed of reform are themselves risk factors—and attempting to do too much too soon may actually increase the risk of resumed conflict.
>
> —World Bank (2011)[1]

The MAC framework is built around the idea that donor plans are easier to change than societies. When a poor fit is discovered between a plan and the prerequisites for its success, it might not make sense simply to assume the recipient society needs "capacity building" so it can implement the plan. It might make more sense to determine first whether the plan itself—including the overall objectives, the specific activities, the inputs, and so on—can be revised to better reflect the realities of the society in question. This seems obvious, but it does not always happen in practice.

Just because donor plans are easier to change than societies in principle, however, does not mean that donors' plans and general approaches are easy to change. Donor institutions are stubborn, and institutional change is a slow and difficult process. Reports about "lessons learned" and "best practices" in development have been published for the better part of seven decades. The ideas of host-nation ownership of development processes and donor coordination in support of those efforts, for example, have been around at least since the World Bank published its third annual report in 1949.

Although many development professionals recognize this, there are other factors having nothing to do with program success that can push donor organizations away from adequately adapting their efforts to local circumstances, including political pressures on the organizations' leaders, the way knowledge (of best practices in general and local circumstances in particular) flows within the organizations, bureaucratic cultures and biases, and particular incentives faced by personnel who lead the various back-office functions that make the organization work.

Often, for example, the top-line amount of money available to do development work has nothing to do with what is needed, what is achievable, or even what is requested by

1. World Bank, *World Development Report: Conflict, Security, and Development,* Washington, D.C., 2011, p. 145.

policymakers or planners. Sometimes a congress or parliament or an organization's board simply makes a decision about how much money to allocate to an effort, and planners are left to figure out on their own how to achieve the objectives with what can either be too little funding to succeed or more money than they can responsibly spend. In high-profile or politically sensitive situations, such as Afghanistan's conflict or Haiti's earthquake, there is sometimes a bias among leaders to demonstrate their "seriousness" about addressing a problem by promising to put a lot of money or a lot of personnel into the effort or by promising goals that are simply unattainable. Those promises might satisfy political constituencies but might not be achievable under any practical circumstances. Similarly, ideological biases or institutional cultures might push donors toward the use of some development approaches that might not be locally appropriate. For example, there is a tendency within many multinational organizations to attempt to quickly build formal state institutions or define very ambitious objectives, even in places where social change happens informally or where such efforts would take generations to succeed.

The MAC framework has been developed as an initial effort to capture some of these possibilities—to identify the prerequisite structure of a proposed or ongoing intervention and to study whether the prerequisites are present in the recipient society, as well as to identify the obstacles to success that lie within donors institutions themselves.

None of the analysis presented in this report should be interpreted as suggesting that beneficiaries of security and justice program assistance will be incapable of fighting crime, resolving conflicts, or achieving any other development goals simply because the prerequisites to a particular donor program are not fully present in their society. As Albert Hirschman has observed (in a point reproduced as the epigraph in Chapter 3), sometimes when a program's prerequisite is discovered to be missing, it is possible that "nothing in particular needs to take its place, and we are simply proven wrong in our belief that a certain resource, institution, or attitude needed to be created or eradicated for development to be possible. In other words, the requirements of development turn out to be more tolerant of cultural and institutional variety than we thought on the basis of our limited prior experience."[2]

That means it is possible, in principle, that the Afghan police might find a way around the limitations imposed by their poor logistics capacity, the inadequate number of vehicles and other equipment, the lack of a functioning justice system, and the other missing prerequisites. In a country where improvisation is a survival skill, perhaps they will take the funding, skills, and equipment they have acquired and improvise in ways that the training program never explicitly intended. That might well be the best hope for reducing violence and crime in Afghanistan. If it happens, it would also demonstrate an Afghan capacity to absorb aid—not in the traditional way that absorptive capacity is understood, but in the sense of being able to adapt to external interventions in a way that is surprising but nevertheless achieves the intended outcome. One can hope.

2. Albert O. Hirschman, "Obstacles to Development: A Classification and a Quasi-Vanishing Act," *Economic Development and Cultural Change* 13, no. 4 (July 1965): pp. 385–393.

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