About the Author

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Key Points

◆ **The Valued Sustainable Services (ValSServ) concept can help build socioeconomic capacity and resilience in partner nations. It emphasizes interdependencies among three enabling capabilities: telecommunications, reliable power, and information-sharing support.**

◆ **ValSServ focuses on the development of capacity from the "bottom up," while being consistent with "top down" national- and theater-level strategies.**

◆ **ValSServ projects will be chosen by local populations. But they must be sustainable over the long term so that external support is unnecessary.**

◆ **A realistic assessment must be conducted before beginning a ValSServ project.**

◆ **Education, experiential learning, and training should be part of all ValSServ plans to change behaviors so that lessons really can be learned and not just observed.**

Valued Sustainable Services: Building Partnership Capacity Through Collaborating Approaches

by Linton Wells II

The Valued Sustainable Services (ValSServ) concept is an approach to building the capacity of local populations. It emphasizes the interdependency among telecommunications, reliable power, and information-sharing support, and encourages projects to be developed in integrated packages rather than in stovepiped lines of effort.[1] ValSServ focuses on bottom-up projects in complex civil-military operations[2] that can be funded, planned, and executed at local levels, while being consistent with top-down national and theater strategies. It takes a system-of-systems approach,[3] recognizing that successful projects can generate positive ripple effects in local environments and throughout extended networks. This paper focuses on ValSServ within the wide range of U.S. Department of Defense operating environments, such as capacity-building to help shape peacetime conditions in partner nations, post-disaster recovery, and helping to move from the "hold" to the "build" phases in counterinsurgency operations.[4]

The ValSServ approach is based on six planning and operating principles. First, local development and governance efforts need to be aligned with overall strategic objectives.[5] Second, the focus must be population-centric. Personnel must respect and work through local conditions, cultures, relationships, and requirements to develop personal links that can be used to initiate projects and support them over the long term. Third, projects must concentrate on building capacity that can be sustained by the local population. Fourth, projects must draw on a wide range of inputs and analytical approaches to identify potential risks and threats present in the project area and adapt to changing circumstances.

Figure 1. ValSServ Enablers, Domains, and Services
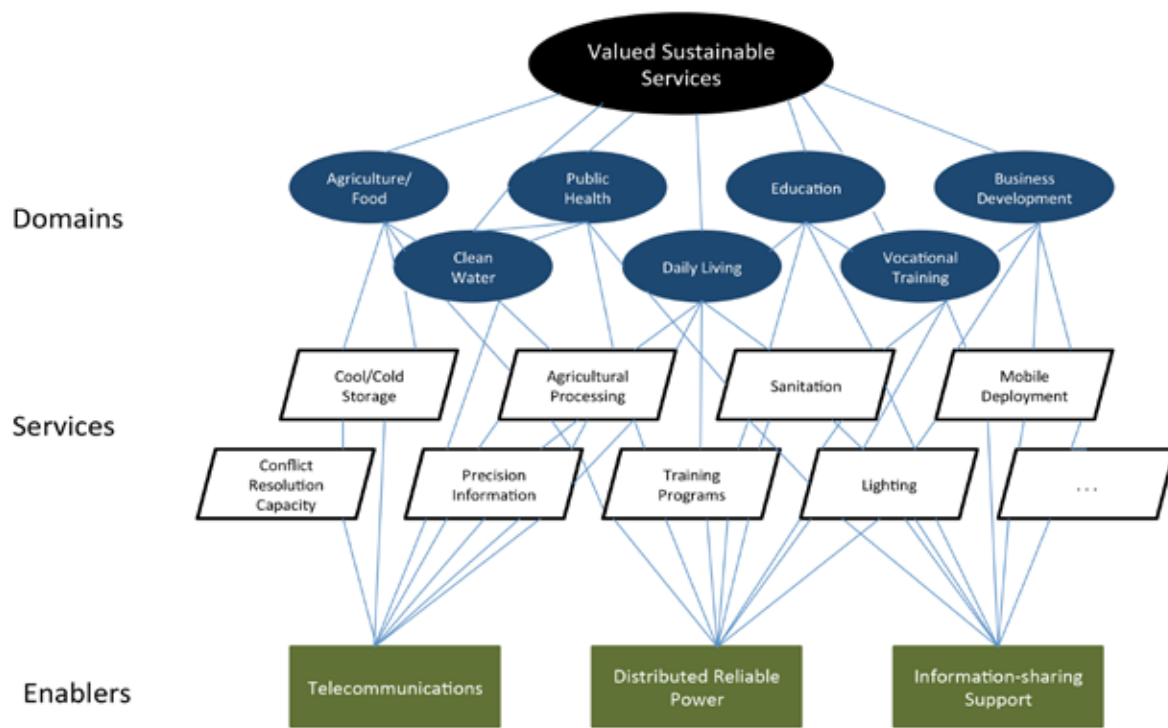
Fifth, projects must build on lessons *observed* in the past and present and find ways to change behaviors that can turn them into lessons *learned* for future operations. Finally, personnel must continuously look for other opportunities to implement or scale ValSServ projects while understanding the realities of local conditions.[6]

ValSServ operates on the premise that local private-sector involvement is essential for long-term sustainability. Local populations must be able to keep solutions operating with their own resources to break the cycle of dependency on outside support. During the planning phase, an important factor for choosing a site for ValSServ initiation is the enthusiasm of the population—that is, the priority generally is to work with those who are interested instead of spending excessive time trying to motivate those who are not. Project managers also must define, and then help to shape, advantageous "post-conditions" that support long-term strategic objectives.

The first section of this paper addresses the components of ValSServ, which consist of enablers, domains, and services. The second section focuses on planning considerations to enhance the likelihood of successful implementation. The third outlines execution steps. The paper concludes with a summary of benefits and recommendations for further research.

Components

ValSServ has three components: enablers, domains, and the services that connect them.

Enablers are the three core utilities that support a wide range of services within domains. Telecommunications, reliable power, and information-sharing support form the foundation of ValSServ. At the beginning of a

project, community leadership should be consulted about the ways that enablers can support the domains present in the community to produce services that citizens would value and could sustain by themselves.

Telecommunications refer to information transport mechanisms such as broadcast radio, television, cell phones, satellite and microwave links, area networks, and equipment such as robust, low-power computers that tie deployable gear into local communication systems.[7] They should be built on commercial infrastructures whenever possible. Broadcast radio is included since it serves as a primary means of mass communication in much of the world but typically is overlooked by those coming from developed countries. Because the array of telecommunications technology is much broader than "information technology," which often is associated with Internet-based systems, the preferred international term for describing the full range of capabilities is *information and communications technology*.[8]

These systems and the information they transport are globally transformational forces. They are changing societies, reframing international interactions, helping to determine economic winners and losers, and affecting people's thoughts, values, and opportunities across generations. They often are critical enablers of mission-essential activities. Yet development planning often treats telecommunications and information as neither essential services nor critical infrastructures. They deserve more attention.

Reliable power is a recognized prerequisite for development and reconstruction. It can come from many sources. Development projects often focus on large infrastructure ventures such as dams and regional power grids. These projects can be susceptible to disruption and are expensive to build and maintain, though economies of scale do make them attractive in some scenarios. The ValSServ approach focuses on distributed, renewable power sources, such as solar, wind, micro hydro, or local geothermal unless stable, centralized power is readily available.[9] ValSServ seeks to leverage available resources and provide relatively low-cost, off-grid options to remote areas expeditiously

for services such as irrigation pumping, water purification, cool storage for agricultural produce, and chargers for cell phones. An off-grid initiative would provide a service that could be secured locally, whether by a valley population, village, clan, or other social unit, as opposed to larger scale projects, which might require the presence of external security forces. Within a smaller operating area, projects could be completed and made operational more quickly, leading to more immediate impacts on the daily lives of the residents. Simple projects, such as installing street lights or putting a light bulb in every kitchen, could lead to profound changes in terms of lives saved through better security, sanitation, skills gained by having evening hours available for study, and the social impacts of freeing people from sunset-to-sunrise cycles.[10]

Information-sharing support is enabled by telecommunications and used to provide technical information and other assistance, from local sources where available and through "reachback" support when not.[11] However, the mere existence of communication channels is not enough to ensure effective information-sharing. Developing good procedures and requirements for information-sharing support is hard. Some information-sharing master plans involve hundreds of actions. However, a relatively small number of policy refinements can improve information-sharing and provide needed services to the field faster. By implementing a "sharing to succeed" approach where information is distributed widely and responsibly, as opposed to the "need to know" concept that permits information-sharing only among authorized individuals, information can be accessed more easily and made actionable, leading to greater impacts "on the ground." Leaders have articulated the need for this change for years, but it rarely has been implemented well.[12]

Information-sharing support complements any ValSServ project, which focuses on needs of local populations and implementation in the field. At one level, information-sharing support could be as direct as having a person available who speaks the local language answering a farmer's questions about how to fix his agricultural equipment. In other cases, information-sharing could

come through reachback to remote locations to gain access to information, assessment, and implementation recommendations to improve the delivery of locally relevant solutions, as well as reduce planning time and deployment risks. It also might introduce entirely new ideas.

To collect information relevant to ValSServ projects and provide information retrieval mechanisms and assessment services, information-sharing support includes five categories. First, *local information* should be used wherever possible. Second, if this information is unavailable, draw on *repository services* including the storage and retrieval of lessons learned reports, planning materials, and relevant researchable materials. The objective is to provide a way, with both in-country and reachback components, to access potentially relevant material quickly for forward planning and operations. Third, *assessment services* provide a suite of evaluated materials about previously implemented and current programs that might help accelerate planning and operations. These could range from in-country expertise to remote diagnostic tools and searchable taxonomies of essential services by vendor, type of operation, and use. Fourth, *information distribution* services range from telephones to an expanding set of online distribution platforms and tools including analytical views, planning frameworks, and tools to support planning and operations. In many developing countries, these could be built quickly, using cell phones and other mobile devices. Finally, *technical and analytical services* answer engineering design, operational support, and similar questions for people forward, if such capabilities are not available locally. In simplest form, such services could be an experienced mechanic at the end of a phone line, but they also could include distributed teams of experts around the world.

Without this kind of bi-directional give and take, ValSServ projects are much less likely to succeed. However, reachback support has rarely been done effectively,[13] and this problem must be overcome. If U.S. or coalition forces do not communicate, collaborate, translate, and engage effectively with populations, let alone with each other, they cannot achieve the policy goals for which military forces have been committed. Such sharing needs to be an integral part of the planning process, and this is reflected in the ValSServ concept and execution steps.

Domains are groups of related functions such as agriculture/food, clean water, public health, daily living, education, vocational training, and business development. Not all projects involve all domains. Also, to keep a ValSServ project sustainable with local resources, it may not be possible to provide all desired services in all domains. The population will have to choose among the available options. ***Services*** are sets of specific activities, practices, or projects with clearly defined objectives and impacts that connect enablers with domains. In the ValSServ concept, local populations identify services they value and then parse them down, selecting a package of services that they can sustain with their own resources. The section below illustrates ways that services could be applied to domains to improve daily life in a ValSServ project area.

Agriculture/Food. Power for cool or cold storage and on-site processing of agricultural products can reduce crop spoilage significantly. Distributing information about market conditions, transportation routes, and weather forecasts via cell phone (or Internet, if available) could improve market functions, as can microcredit. Information on irrigation design and power, or its operation, could improve crop yields. Helping people to save money on fuel via integrated cooking methods (solar/combustion/retained heat) could reduce poverty and fuel use in deforested areas, as well as the time spent gathering the fuel itself. An information-sharing support network could help get farm equipment fixed faster and more effectively.

Public Health. Water purification systems tailored to local conditions could improve the quality of life for residents. Extending information access (by multiple means) to clinics and teaching hospitals could help more people get health care and medical education. Satellite or other network services such as microwave or WiFi could provide connections to remote facilities.

Cell phone–based services (extended to remote areas when possible) for prenatal and maternal care, using interactive voice and text messaging in local languages, and increasingly smart phone applications, could have lasting impacts on populations.

Daily Living. Reliable electricity could have exceptional impacts on the daily well-being of individuals. Lighting for streets improves safety, while stores and houses could run food storage devices and provide lighting for meals and reading, as well as giving women more options and allowing children to study at night.

Education. The extension of Internet services to universities and other schools could increase the quality of educational services dramatically.[14] The expansion of low-cost information systems, such as cell phone–based training and programs such as One Laptop Per Child, also help to improve overall educational standards, and there are many lessons to be learned from existing projects.[15] Experimentation with serious games such as a mobile version of *SIMVILLAGE* also could be valuable, and could be broadened as more bandwidth and smarter phones become available.

Business Development. Entrepreneurs often need to be encouraged to cooperate more with one another. The sharing of information on market opportunities could help to establish and maintain a cycle of trust and shared benefits. Once basic capabilities are in place, virtual marketplaces could help overcome the tyranny of distance on a provincial, or even national level, and improve the coordination of buyer/seller relationships. Business capacity could be built through focused and intensive entrepreneurship fellowship programs with hands-on instruction, training, and support. These fellowships might be based around teaching basic business skills, identification of specific business opportunities and business plan development, and support to the launch of business ventures.

Vocational Training. As businesses grow, a goal should be to train locals to grow capacity on their own. An important caveat is that business development initiatives need to understand the market's future ability to absorb new job skills. It does little good to raise expectations by training a student only to discover that there are no jobs available to put the skills to productive use. This is critically important to sustainability, but rarely is done well.

Private-sector initiatives are critical to every ValSServ project since the funding provided by non-host governments and nongovernmental organizations is not a long-term guarantee. Local market solutions must be implemented—preferably earlier rather than later. In every case, ValSServ projects need to be rationalized with government plans and overall strategies, and national standards where applicable. Yet what can be deployed, and where, will vary greatly by locale. In some cases, ValSServ would draw on existing infrastructures and services, while in other cases infrastructures and services might have to be built from scratch or imported.

Simultaneously, equipment used to enable ValSServ should meet four criteria (notionally termed R2S2): rapidly configurable; rapidly deployable; simple to set up, operate, and maintain; and scalable in diverse conditions. It does no good to have impressive equipment that looks great in a donor's display rooms but that cannot be deployed, configured, and operated in the field, or scaled to meet emerging needs.

Implementing services such as those outlined above could increase citizen satisfaction, as well as the transparency of decisionmaking and financial transactions, recognizing that approaches must be adapted to the ability of societies to absorb them. Done well, this implementation and adaption could enhance governance and contribute to more effective rule of law through innovative justice and dispute resolution methods, sometimes involving cell phones and Internet access.[16] In any case, people are likely to find unanticipated uses for these enablers and services. It is neither possible nor desirable to dictate what will happen on top of ValSServ foundations. Ultimately, the choices belong to the local people, and they are likely to make more sustainable choices if they know the options available to them. Effective planning and coordination, as well as implementation, increase the chances for success.

Figure 2. ValSServ Planning and Coordination Framework
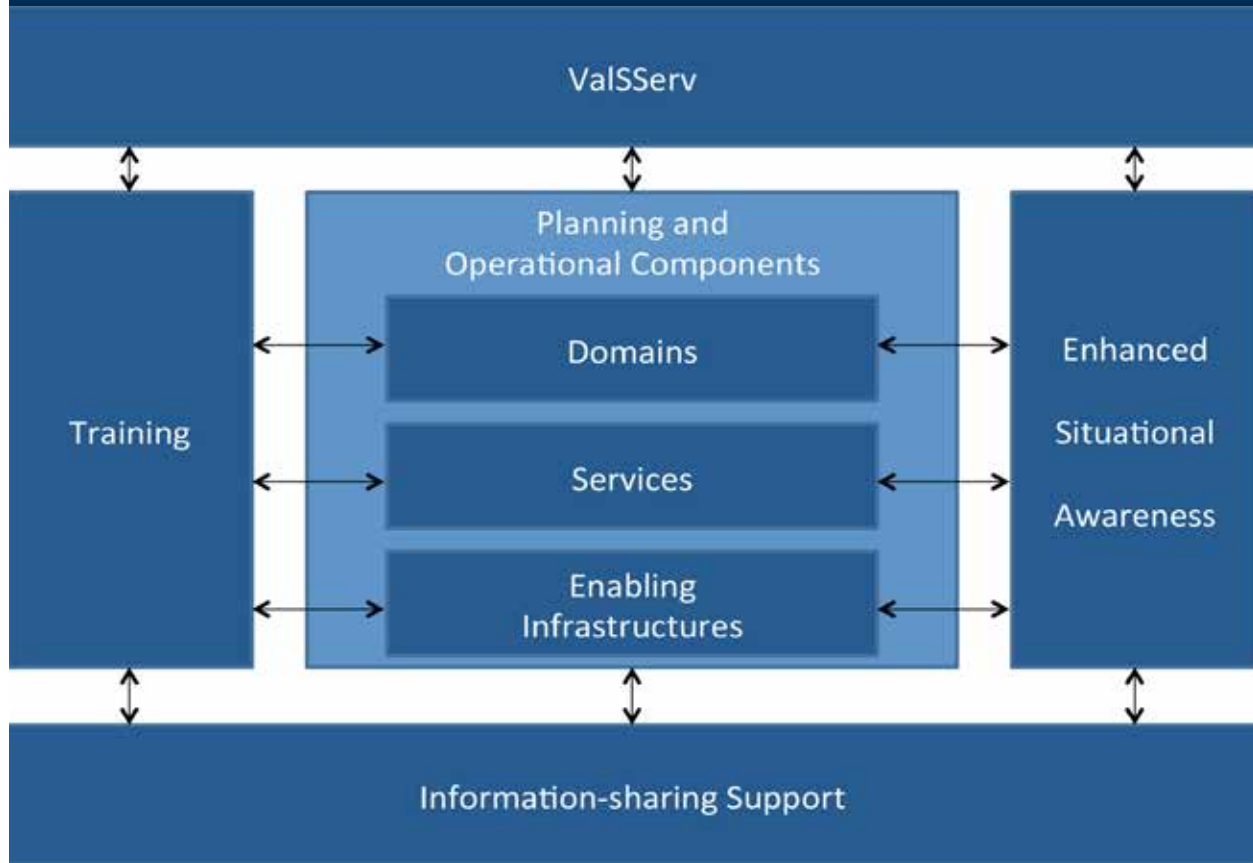
Planning and Coordination

Careful planning is essential for a ValSServ project. Each effort must consider a range of issues early on to ensure its long-term sustainability. Any plan must begin with an understanding of what the locals want, coupled with an analysis of what is needed. Cost and capability limits introduce constraints that must be addressed before moving forward. Once a project has been agreed on, a structured implementation process is essential. Finally, to ensure sustainability, the planning process must enable situational awareness at both local and project oversight levels of the effort and the area affected. Once planning is complete, recurring training is needed both for managers and users.

Local buy-in is essential to all ValSServ planning. Addressing indigenous needs as local decisionmakers perceive them, rather than what outsiders think they

should have,[17] and designing infrastructure to be resilient to disruption, whether intentional or accidental, will lead to much more sustainable futures. Thus, the focus is bottom-up projects, beginning with local governance structures supported by technically qualified staff. The resilience of infrastructures also is greatly enhanced by the full engagement of their owners, protectors, and users during the planning, construction, and operation of infrastructure projects. Village-focused, distributed infrastructure projects usually satisfy those criteria.

The impact of ValSServ projects on existing social, political, and cultural relationships must be analyzed thoroughly.[18] The considerations outlined below under the sections on ValSServ Planning and Execution are designed to take them into account. Sociopolitical and cultural sensitivities alone should not dictate when, where, and what services are deployed, but a lack of sensitivity to

these issues would certainly weaken the likelihood that the project would be effective and sustainable.[19] The processes by which infrastructure is built, deployed, and governed could be as important as the services they enable.[20] In addition to demonstrating commitment toward the population, the services could strengthen social trust, enhance relationships, and deepen public commitment to protect and use the infrastructure because a valued and life-improving service is provided. That requires a communal pact to codify what is to be protected and how it is to be used fairly. Alternatively, if poorly implemented, such projects could exacerbate local frictions and power imbalances.

In a stability operations environment, a key objective is to remove an insurgency's base of support within the local populace. ValSServ infrastructure-building could contribute to this goal by providing jobs, building capabilities, and demonstrating commitment.[21] However, this is a complicated issue, as a recent U.S. Institute of Peace monograph highlights in its analysis of the 2009 U.S. and coalition surge in Afghanistan.[22] The paper concludes that:

> the surge has attained localized progress, but it has not achieved the strategic, sustainable "game change" in Afghan subnational governance it sought [because] its success depended upon three initial U.S. assumptions that proved unrealistic. First, the policy assumed that governance progress would accrue as quickly as security progress, with more governance-focused resources compensating for less time. Second, the policy assumed that bottom-up progress in local governance would be reinforced by top-down Afghan government structures and reforms. Third, the policy assumed that absence of governance was a key universal driver for the insurgency, whereas in some areas, presence of government became a fueling factor.[23]

Once the surge was in motion, other miscalculations emerged: the confusion of discrete successes with replicable progress, the mistaking of individuals' improvements with institution building, the confusion of "local" with "simple," and the overreliance on technological solutions to address problems that were fundamentally political in nature.

Clearly, all of these challenges and unfulfilled assumptions also could apply in ValSServ environments. Because of this, enhanced situational awareness is crucial throughout the project. It must be sought through a mix of processes, technological platforms, and analytical methods, ranging from paper maps to computer displays, which need to be tailored to user needs and capabilities. One goal of enhanced situational awareness is to detect subtle changes or faint signals within a population that could flag emerging threats or potential successes. It also could help evaluate project effectiveness.

Integrated open-source, unclassified information could be a key to situational awareness.[24] Tying such operations together, and obtaining feedback from those who are as close as possible to the relevant population (sometimes known as instrumenting the edge) could greatly enhance the amount of quality, population-centric information available to decisionmakers and those on the ground. Developing trust within networks is crucial, but opinions differ widely over how trust is earned in social networks. The 2007 Maritime Strategy asserts that "trust and cooperation can't be surged."[25] They have to be built systematically. Others, however, maintain that trust can be quickly built.[26] Regardless of how it is established, trust can only be sustained over time through the building of enduring capacity.[27] Regardless of the method, time, and form, participants must work to gain the trust of locals and to understand how and why a specific area really wants a project. Only in this way can all parties expect to benefit fully from the outcome as projects are completed.

Cost, available capabilities, and environmental conditions must all be considered when analyzing a possible venture. Projects should be budgeted based on the fully burdened price of energy installation and maintenance. This includes the on-site price, logistics, and other related

factors such as economic externalities, infrastructure support, and sustainability. This requires answering questions such as whether the loss of water flow or other changes in water quality is worth the availability of electricity to the population, or whether it is cost-effective to ship replacement parts to the location. The sustainability of a project also must be evaluated in terms of the numbers of people with appropriate skills who are likely to be available now and into the future to operate and maintain equipment.

There always will be a creative tension between the prudent need to answer these types of questions fully and the need to bring capabilities online in a reasonable time. An 80 percent solution soon is likely to be more useful than a 100 percent solution in the distant future. Paralysis by analysis is a recurring hazard. To combat this, heuristic approaches based on best practices in comparable environments are helpful. These should be accompanied by near continuous feedback and a frequent challenging of assumptions. Proposals would likely need to change as a project evolves.

The ripple effects of ValSServ-related initiatives may give rise to emergent patterns and sudden shifts in priorities, as projects generate both benefits and tensions within populations. For example, a power project in which all individuals within a village pay the same for service could unwittingly benefit those who use more than their share of power. Similarly, instituting an irrigation project without first defining usage regulations could quickly raise tensions within a village if an individual, or group, dominates the new technology. ValSServ project managers must be aware of these tensions, schisms, and power relationships when planning a project, and provide ways for local stakeholders to resolve them.

Refining four skill sets can significantly improve the chance of success in ValSServ projects. First, *build a common vocabulary*. Many organizations participating in complex operations have different perspectives, agendas, and terminology on similar topics.[28] The way issues are framed often limits the options considered and actions taken. Consequently, building shared semantics to create shared mental models of where, why, and how

differences and disagreements exist is important to bridging organizational divides.[29] A common vocabulary, or at least common linguistic tools to communicate differences, could help shape alignments and frame discussions. The rationalization and standardization of terminology also is essential to building metadata dictionaries online, which heighten the discoverability of information on applicable networks.

Second, *understand interdependencies*. ValSServ activities are inherently interconnected. Sustainable impacts can be realized in diverse domains if the core enablers are made available. However, the services that sit on top of these enablers differ depending on local conditions and requirements. For example, several villages might be able to share information about agricultural pricing through cell phones but the impact of that information would vary from village to village due to logistics, local capacity, security, and other variables. Consequently, sensitivity to interdependencies and the sociocultural practices that affect them become vital for ValSServ planning and operations.

Third, *enhance transparency and accountability*. Actual decisionmakers or thought leaders often differ from those identified by official titles or declarations of intent. Within a village the appointed mayor may have less authority than the elders. Identifying who is really doing what, with whom, when, how, why, and with what results is important in planning ValSServ implementation,[30] and particular efforts should be made to discover relevant information not readily visible.

Fourth, *close the execution gap between strategic intent and operational reality*.[31] The complex interactions among ValSServ components mean that particular attention needs to be given to the gaps and potential gaps between concepts, planning, and execution. Disconnects in execution often result from disconnects in planning and the best of intentions can fall victim to poor implementation if the realities on the ground are not understood. Measures of effectiveness and measures of performance should be a part of any project from the beginning.

Once these plans are completed, a set of short-term, usually 1-day, training modules covering aspects

of ValSServ could be of value, recognizing that training facilitates in the field would be austere, perhaps huts or even lean-tos, and the population's learning baseline would vary widely. Topics might include infrastructure, messaging, partnerships, awareness, core domains, and transition, known by the acronym *IMPACT*. Customized courses could be created from this baseline and delivered to various audiences to enhance civilian and government capability and to address emergent topics. These could range from basic approaches, such as how to use the capabilities of cell phones effectively in remote environments, to sophisticated concepts such as micro power grid management where applicable. Skillfully used, they also can reinforce local buy-in and the trust that it engenders. Training thus could help jumpstart ValSServ activities and also help sustain their impacts since quality training suggests that support would be available when needed.

The ValSServ project execution steps listed in the table (shown on the the following page) integrate concepts from the previous sections. The steps present a general sequence of activities to develop an informed understanding of the culture and needs of host populations, and ways to execute a ValSServ project. The steps can be iterated as new information is gathered and assessments are made.

Benefits and Support

Since 2004, U.S. policy and national security organizations have become more willing to engage with civil-military participants in complex operations. This change reflects major policy and doctrine changes for the U.S. military.[32] Current guidance calls for increased emphasis on the shaping of partner nation capacity development during steady-state noncombat missions, stability operations, and humanitarian assistance/disaster relief. At their core, such approaches reflect recognition that the sorts of problems that generate complex operations cannot be solved by military means alone.[33]

These developments have led to new models of public-private, "whole of government," and transnational efforts to meet the challenges of complex operations.[34]

The emergence of these new governance models has led to a better understanding of the requirements needed to achieve the political, social, and economic goals for which military forces are committed in complex operations. Three requirements in particular are of key importance. First, two-way communication, close collaboration, and engagement with both local populations and civil-military mission participants are necessary. Second, a population-centric focus, which lies at the core of ValSServ, is necessary. The key is that local decisionmakers have "decision rights" to choose which types of projects and services are to be developed where, when, how, and by whom. Projects are never forced on a population. The third is private-sector engagement and a commitment to building sustainable local capacity. ValSServ projects cannot be sustained without them since government and international donor organizational support will not be open ended. Together, these requirements form a strong bond between goals and practices in the field.

The ValSServ concept directly supports these policy shifts in a number of ways. It encourages building partner capacity through an emphasis on services that can be supported through local resources and training to accompany them. It also provides a basis for postwar stabilization and reconstruction and predisaster consequence mitigation. The ability to scale is important, and the ValSServ emphasis on locally controlled, available, sustainable resources allows for the key enablers and services to be built out once a core is established.

Next Steps

There has been significant high-level support for ValSServ,[35] but implementation requires people in the field to spend time on individual projects. Telecommunications is being built out rapidly in Afghanistan, and roughly 85 percent of the population is within cell phone coverage. There are numerous opportunities for distributed solar power in many places, micro-hydro in the east, and wind in the west. However, experience shows the need for sustained maintenance and followup, so people willing to provide support have to be found, even if they do not

Table. ValSServ Project Execution Steps

Step	Description
Postulate Pre- and Post-conditions	Postulate desired objectives and the necessary pre- and post-conditions to make those objectives achievable, e.g., what needs to be in place before and after execution to increase the likelihood of sustainable impact and minimize risks. Help to shape the ripple effects of the project within its environment. Assess and refine based on fieldwork.
Propose Location	Propose potential villages, cities, and other areas for ValSServ implementation to support local goals and capacity-building objectives. Leverage data on pre-conditions and the likelihood of reaching desired post-conditions. Adjust as needed.
Design Project Objectives against Effectiveness and Performance Measures	Postulate project objectives for each location. Use local goals and applicable assessment approaches to tie projects to objectives and increase utility elsewhere. Refine objectives based on fieldwork. Identify potential funding sources.
Prepare for Fieldwork	Establish fieldwork agenda: objectives, timing, interview structures and questions, data-sheets, and recording formats. Validate locally.
Initiate Engagement	Engage in areas selected for implementation. Build and strengthen relationships and collect data to assess potential for high impact. Validate locally and adjust as needed using local nationals as interlocutors whenever possible.
Assess Impact on Market System	Assess which sets of essential services to support. Consider their ripple effects across other essential services and local capacity development. Validate locally.
Assess Impacts on Social/Power Behavior	Assess how these initiatives could encourage, or mitigate, changes in behaviors. Understand how norms of behavior could be strengthened and modified to support desired post-conditions. Validate locally.
Plan to Build Capacity	Develop business models, partnership plans, training programs, and related activities to build capacity so the local population can sustain essential services with the resources they are likely to have available. Validate locally.
Assess Delivery and Service "Kits"	Identify specific enablers (types of telecommunications, power, information-sharing), domains (agriculture, public health), and service "kits" (micro-credit over cell phone, irrigation pumping, information and communications technology "service packs") that would be useful, suitable for rapid deployment, and locally sustainable. Validate locally.
Assess Risks and Develop Mitigation Strategies	Model potential risks and areas of breakdown and identify mitigation steps. Understand legal and regulatory constraints. Validate locally.
Enhance Situational Awareness and Influence Messaging	Design mechanisms to enhance situational awareness about the progress of implementation and influence messaging throughout project implementation and beyond to ensure sustainability and desired results. Validate locally.
Link Policies and Field Operating Procedures	Ensure that field personnel understand applicable policies and are given clear operational procedures. Validate locally.
Execute and Assess	Obtain resources, install enablers, and deploy services through local channels wherever possible. Monitor, measure, assess, and adjust as necessary.
Communicate Results and Shape Narrative	Communicate results, shape narrative, and change behaviors (on many levels) to ensure that lessons (good and bad) actually are learned and not just observed.

need to be continuously on site.[36] Similar conditions exist in other countries. Particular opportunities would seem to exist in the U.S. Pacific Command, U.S. Africa Command, and U.S. Southern Command areas of responsibility. For example, this aligns well with the U.S. Pacific Command emphasis on resilience in theater.

Additional research is needed to prepare, analyze, and learn better from past lessons. Policy and doctrine need to encourage cross-cutting projects such as ValSServ. Concepts of operations and tactics, techniques, and procedures should align with policy and doctrine to make sure people on the ground know what they can and cannot do. Legal and regulatory regimes should be clarified to facilitate public-private cooperation rather than impeding it.

One way to address these would be to harvest experiences from pilot projects in diverse regions. ValSServ projects could be explored in conjunction with the Pacific Fleet's Pacific Partnership program, Haitian reconstruction, and a variety of capacity-building initiatives in Africa. Implementation opportunities should be explored with the commands in conjunction with agencies with experience such as the U.S. Agency for International Development and World Bank.

In sum, ValSServ projects can increase the ability of U.S. and coalition forces to execute a variety of missions more effectively in constrained resource environments. Now is the time to gain experience on how best to take advantage of them.

Notes

[1] The U.S. Government traditionally has considered information and communications technology (ICT) a private-sector lead, so relatively little government attention usually has been paid to it during reconstruction/development efforts. Power projects often focus on major infrastructure efforts such as generating plants, hydroelectric projects, and transmission lines rather than distributed, renewable energy.

[2] For the purposes of this paper, complex civil-military environments involve civilian and military participants in pursuit of common objectives that include post-war stabilization and reconstruction, humanitarian assistance/disaster relief, building the capacity of partner nations, and defense support of civil authorities within the United States. See Hans Binnendijk and Patrick Cronin, eds., *Civilian Surge: Key to Complex Operations* (Washington DC: NDU Press, 2009). This differs from most official definitions that focus on subsets of this space, but since many similar capabilities and procedures can be applied to multiple missions, there is value in addressing them comprehensively.

[3] Russell L. Ackoff, "Towards a System of Systems Concept," *Management Science* 17, no. 11 (July 1971), 661–671.

[4] See Field Manual 3-24, *Counterinsurgency* (Washington, DC: Headquarters Department of the Army, December 2006); and Joint Publication (JP) 3-24, *Counterinsurgency Operations* (Washington, DC: The Joint Staff, October 5, 2009).

[5] The Under Secretary of Defense for Acquisition, Technology, and Logistics has sponsored a valuable initiative called Building Effective Institutions to help develop enduring national capabilities such as security, rule of law, and financial management to enable sustained socioeconomic development. Reports from this project are in development.

[6] Robert W. Komer, *Bureaucracy Does Its Thing: Institutional Constraints on U.S.-GVN Performance in Vietnam* (Santa Monica, CA: RAND, 1972). This monograph highlights observations from the Vietnam War that illustrate the disconnect between our conceptions of need and those of local populations. Many of these same issues apply to Iraq and Afghanistan.

[7] Larry Wentz, *An ICT Primer: Information and Communications Technologies for Civil–Military Coordination in Disaster Relief and Stabilization and Reconstruction*, Defense & Technology Paper 31 (Washington, DC: Center for Technology and National Security Policy [CTNSP], July 2006).

[8] This paper focuses on the combination of *telecommunications* and *information* rather than emphasizing the term *ICT* because non-telecommunications interactions such as speaking and writing are not the focal point here and more is involved than just technology, such as information content.

[9] See Linton Wells II, "Distributed Infrastructure in Afghan Reconstruction and Development," CTNSP report, 2009, 4–21.

[10] See Manuel Castells, *The Information Age: Economy, Society and Culture, Volumes I, II and III* (London: Blackwell, 1998); Jeffrey Sachs, *Common Wealth: Economics for a Crowded Planet* (New York: Penguin, 2008); Felipe Fernandez-Armesto, *Civilizations: Culture, Ambition and the Transformation of Nature* (New York: The Free Press, 2001); Bruce Mau, *Massive Change* (New York: Phaidon, 2004). Ashraf Ghani, former Afghan finance minister and presidential candidate, noted to the author in 2008 that the most important development project for his country would be a light bulb in every kitchen.

[11] Reachback support is provided from an information source not physically located with the people needing the help. This could be a database in another country, a network, or an individual at another site within the country of interest.

[12] Linton Wells II et al., *Sharing to Succeed: Lessons from Open Information-sharing Projects in Afghanistan*, Defense Horizons 76 (Washington, DC: NDU Press, 2013).

[13] Even in situations as compelling as Iraq and Afghanistan where there was a shortage of skilled personnel in country, reachback cells have rarely been used well. The recurring lesson is that more work needs to be done to turn reachback support into valued assets and this should be built into Valued Sustainable Services (ValSServ) planning.

[14] See Wells et al.

[15] See the Afghan-international social enterprise Paiwastoon's Ustad Mobile (Mobile Teacher) project, which uses 2G and 3G cell phones for teaching literacy via mobile devices, available at <http://

svr1.paiwastoon.net/mliteracy/>. See also One Laptop Per Child, available at <http://one.laptop.org/>.

[16] There is a rich community of research on Online Dispute Resolution and Alternative Dispute Resolution that might apply to many ValSServ environments. Work is being done through the Berkman Center at Harvard, available at <www.cyber.law.harvard.edu>; and the World Justice Forum, available at <www.worldjusticeproject.org>. See also the Internet Silk Road Project of the Internet Bar Organization, available at <http://internetbar.org/internet-silk-road-initiative/>.

[17] In Afghanistan, the District Stability Framework, developed by the COIN (Counterinsurgency) Training Centre–Afghanistan, notes that there has been a progression in how stability projects are supported. Initially, "We did what we *thought* were good projects"; Then "We did what they *said they wanted* (wish list)"; Then "We did what they *said they needed* (needs analysis)"; Now "Based on what they say they need, analyze *why they need it* (root causes)." The goal is to change the environment and achieve stability. Also see *Afghanistan Provincial Reconstruction Team Handbook: Observations, Insights, and Lessons*, no. 11-16 (Leavenworth, KS: Center for Army Lessons Learned, February 2011), appendix B, 129–154.

[18] See the publications of the Global Network on Energy for Sustained Development, available at <www.gnesd.org/default.aspx>.

[19] This is an underlying theme throughout Mark Gerencser et al., *Megacommunities: How Leaders of Government, Business and Non-Profits Can Tackle Today's Global Problems Together* (New York: Palgrave MacMillian, 2008).

[20] See Wells.

[21] See JP 3-24; David Kilcullen, *The Accidental Guerrilla* (New York: Oxford University Press, 2009); and Dr. Dave Warner and Captain Don Smith, USA, interview by author, August 30, 2009.

[22] Frances Z. Brown, *The U.S. Surge and Afghan Local Governance: Lessons for Transition* (Washington, DC: United States Institute of Peace, September 2012).

[23] Ibid., 1.

[24] Michael T. Flynn, Matt Pottinger, and Paul D. Batchelor, *Fixing Intel: A Blueprint for Making Intelligence Relevant in Afghanistan* (Washington, DC: Center for a New American Security, January 2010).

[25] *A Cooperative Strategy for 21st Century Seapower* (Washington, DC: Headquarters Department of the Navy, October 2007), 11.

[26] Debra Meyerson, Karl E. Weick, and Roderick M. Kramer, "Swift Trust and Temporal Groups," in *Trust in Organizations: Frontiers of Theory and Research*, ed. R.M. Kramer and T.R. Tyler, 166–195 (Thousand Oaks, CA: Sage, 1995).

[27] The author thanks Dr. Paul Bartone, senior research fellow at the National Defense University, for this insight. Dr. Dave Warner of the Synergy Strike Force emphasizes the critical need for sustained engagement with demonstrable results, based on his long experience in eastern Afghanistan. Personnel rotation cycles that preclude coalition officers and civilian officials from being present for the fulfillment of the promises they have made to local leaders can undercut the local credibility of all other coalition commitments in Afghan eyes.

[28] See InterAction, *Guidelines for Relations Between U.S. Armed Forces and Non-Governmental Humanitarian Organizations in Hostile or Potentially Hostile Environments*, Policy Paper, Washington, DC, January 2011.

[29] Ralph Welborn and Vince Kasten, *The Jericho Principle: Collaborative Models of Innovation* (Hoboken, NJ: John Wiley & Sons, 2003).

[30] Such local knowledge could be a particular problem for military personnel, who might visit villages infrequently and are unlikely to have an instinctive understanding of whom to trust. Special operations forces generally have better cultural awareness than general purpose forces. The Common Operational Environment (CORE) Lab at the Naval Postgraduate School is designed to provide educational resources to help officers in counterinsurgency environments engage more effectively with local populations. See CORE Lab Web site, available at <www.nps.edu/Academics/Schools/GSOIS/Departments/DA/CORELab/>.

[31] Ralph Welborn and Vince Kasten, *Get It Done: A Blueprint for Business Execution* (Hoboken, NJ: John Wiley & Sons, 2006).

[32] A discussion of this policy evolution is in Linton Wells II, Terry J. Pudas, and Bryce McNitt, "Linking NATO Capacity to Local Stakeholders," in *Capability Development in Support of Comprehensive Approaches: Transforming International Civil-Military Interactions*, ed. Derrick J. Neal and Linton Wells II, 203–228 (Washington, DC: CTNSP, December 2011).

[33] Former Secretary of Defense Robert Gates stated this requirement bluntly: "We cannot kill or capture our way to victory . . . [we] need to work with and through local governments to avoid the next insurgency, to rescue the next failing state, or to head off the next humanitarian disaster." See Robert M. Gates, speech at the U.S. Global Leadership Campaign, Washington, DC, July 15, 2008.

[34] See, inter alia, Linton Wells II and Samuel Bendett, *Public-Private Cooperation in the Department of Defense: A Framework for Analysis and Recommendations for Action*, Defense Horizons 74 (Washington, DC: NDU Press, October 2012).

[35] In August 2009, General Stanley A. McChrystal, USA, then-commander of the International Security Assistance Force, approved the concept in a video teleconference. However, there was little staff support for implementation. U.S. Agency for International Development energy planners have supported the cross-domain linkages of power with telecommunications and information-sharing.

[36] Chris Corsten, former manager of distributed power system installations in Afghanistan for the Department of State, in an interview by the author on November 14, 2012, indicated that the likelihood for sustainment of micro-hydro power projects by local populations increased greatly when there were post-turnover visits to villages at the 3-to-6 month point by subject matter experts to provide information on maintenance, evaluate equipment status, and other topics. Turnovers to local populations without followup rarely succeeded, even if pre-turnover training had been provided. Some level of outside sustained engagement was important.