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# *Development as Systems: Systems Frameworks, Sub-Saharan African Development, and Health Systems*

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**Abstract**

This article provides an introduction to and review of systems frameworks relevant to Sub-Saharan African (SSA) development. These systems frameworks – presented here in the sub-categories of analytical, policy, and programmatic frameworks – are important to development given their conceptualization of systems and emphasis on the complex interactions of the networks and network members that compose those systems. Because systems are context-specific, this article offers the example of health systems and health systems strengthening as the SSA development issue receiving the most systems-oriented attention. Of importance to SSA health systems and systems strengthening is the impact of the HIV/AIDS, SARS, and Ebola crises on the development of the global health system as well as the broad application of systems frameworks in SSA health-based development interventions.

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## INTRODUCTION

The following article, which served as the basis of a May 2015 presentation made to the Aydin University *International Conference on Africa* panel "Global and Regional Powers' African Policies," introduces systems-based analytical, policy, and programmatic frameworks that have yet to be sufficiently applied to development models, policies, and programs. The systems approach to development re-orients traditional assessments relevant to global and regional powers' Sub-Saharan African (SSA) policies. These traditional assessments generally fall into the following categories: cross-sectional or longitudinal assessments of bilateral SSA relationships; comparative assessments of types and eras of engagement including "traditional" north-south versus "new" south-south variants; comparative or critical assessments of vertical or top-down versus decentralized or bottom-up interventions; case-based assessments of international financial institutions (IFIs) and other international organizations' engagement; technical assessments of SSA development funding mechanisms; and longitudinal assessments of applied and failed regional development theories and models. Although these assessments offer valuable contributions to development studies, this article focuses on systems frameworks that crosscut and compliment each of them. These frameworks – categorized here as complimentary analytical, policy, and programmatic systems frameworks – are ideal for theoretical

development studies and applied development interventions given their emphasis on dynamic complexity and change.

This article applies health systems strengthening (HSS) to exemplify systems frameworks' potential given the extensive variation between individual systems, systems' interactions, and SSA states' contextual development needs. Important to the HSS example of systems frameworks is the 2013-2015 West African outbreak of the Ebola virus disease (EVD).[2] The recent West African EVD outbreaks demonstrates the following: 1. the relationship of highly virulent transnational diseases' to post-domestic social, political, and economic systems as well as global health systems strategies; and 2. the challenging dynamics of such diseases' epidemiological and transmission traits, defined here as its pathogenic system.

The article begins by introducing the Social Science contribution of systems theory and its embodiment in analytic, policy, and programmatic frameworks. It follows with an overview of HSS, its relationship to development, and its SSA regional evolution. It also identifies the role played by HIV/AIDS, SARS, and West African EVD in global as well as SSA health systems. It concludes with a cursory

[2] *The World Health Organization defines EVD, a hemorrhagic fever, as an "acute, serious illness" first recognized internationally in the 1970s in an outbreak located close to the Democratic Republic of Congo's (DRC) Ebola River. EVD is transmitted by means of physical contact with various bodily secretions (blood, saliva, etc.) shed by those infected with the virus following its onset. The current West African outbreak is the first in the sub-region and represents the "largest and most complex" instance of EVD. For more on EVD, see: ("Ebola Virus Disease," 2015).*

review of the high-level strengths and limitations of development-oriented systems frameworks.

## INTRODUCING THE SYSTEMS FRAMEWORK FOR DEVELOPMENT

The article derives its interpretation of systems frameworks from systems theory's inter-disciplinary Social Science application. This application offers a means of capturing complex interactions within and between what is defined as systems structures and their component members. At a very high level, the Social Science application of systems theory addresses the overarching nature of systems exemplified by multi-agent or complex adaptive systems (MASs and CASs, respectively). This article generally applies CASs given their development-relevant recognition of systems as doing the following: 1. maintaining unique aggregate operations; 2. exhibiting constant yet somewhat unpredictable iterative change premised on internal and external stimuli such as programmatic interventions; 3. containing interconnected networks with linkages of varying distance, depth, and breadth; and 4. maintaining internal self-organization influenced by external or contextual factors such as financial dependence (Adam, 2014, p. 50; Holland, 1995; Scott, 2008; and Seybolt, 2009). Systems' more general characteristics may be generalized by Alter and Hage's (1993, as cited in Seybolt, 2009) itemized traits of size, complexity, stability, connectivity, and centrality. These characteristics' emphases on interactions are relevant to development because they suggest a means of achieving change "by adjusting the system to better suit its

environment" (Seybolt, 2009, p. 1028) or vice-versa. Technical methods related to tracing, weighing, and predicting systems structures and their related members, inputs, processes, outputs, and outcomes include social network theory, concept mapping, or dynamic systems modeling.

Systems themselves are not novel to Political Science or International Relations (IR), even if insufficiently maximized by those addressing development issues. IR applications usually focus on the argument of an international system, such as Jervis' systems, as a unique aggregate entity composed of "a set of units or elements [that] is interconnected so that changes in some elements or their relations produce changes in other parts of the system" (Jervis, 1997, p. 6). The three systems frameworks' contribution to development applications models is the systems-based recognition that "[e]very intervention, from the simplest to the most complex, has an effect on the overall system, and the overall system has an effect on every intervention" (Alliance for Health Policy and Systems Research and WHO, 2009, p. 19).

This recognition speaks to systems frameworks' conceptualization of power, which is central to Political Science and IR. Specifically, the frameworks emphasize the creation and constant fluctuation of power within and between systems as well as the relative, simultaneous expression of various forms of power within complex intra- and inter-system interactions. This handling of power enables development models, policies, and programs to do the following: 1. address problems

or power dynamics according to complex systems structures and interactions; and 2. identify the appropriate system resources to achieve development interventions' goals while directing the interventions' systemic ripple effects.

The systems-based analytical framework complements development-oriented IR and related Political Science theories. The selected complementary theory is relevant to the given researchers' definitions of systems, the contexts in which they function, the networks or actants they encompass, and the forms of order and authority they maintain. For example, this article's definition of systems frameworks and the application of that definition to HSS offers more analytical power if combined with New Institutionalism, including Discursive New Institutionalism. Its definition of systems portrays them as non-static entities composed of structures and institutions. Structures are complex networks with relationship linkages varying in distance, depth, and breadth. Important for development models and programs, systems frameworks recognize that complex networks constantly change by adding, dropping, or altering the linkage between specific institutions or their included actants. These networks are trans-sectoral and transboundary in nature. Development-related networks include donor-recipient state hierarchical relationships such as north-south or south-south structures; contractual relationships between funding agents and implementing partners; Ministries, Departments, and Agency (MDAs) engaged by or with multiple foreign donor partners (DPs) and local government authorities (LGAs) in centralized or decentralized

structures; or public-private partnership (PPP) service delivery structures. More literal networks include transport or logistics systems. Institutions include formalized actants incorporated into systems' networks such as MDAs, LGAs, DPs, international organizations or regional communities, and established PPPs. Institutions also include development-related norms and regulations.

The systems framework has several different sub-categories, each with its unique contributions to development. Table 1 outlines the three systems frameworks relevant to development theory or models as well as their tangible applications.

These frameworks, given their unique development contributions, should be applied together in a coordinated manner; a systems-based program requires a sophisticated, dynamic systems-oriented development model with supportive policy.

Systems frameworks do not yet dominate SSA regional development models, policies, or programs. That said, the systems concept in itself is an increasingly dominant meme of globalized development discourse. A meme is a discursive concept with coordinative traction and growing communicative legitimacy.[3] The systems meme is gaining legitimacy by means of inclusion in development-oriented norm

[3] *For more on discursive institutionalism and the role of coordinative (internal discourse among elite) and communicative (public discourse between the elite and the public) discourse, see: (Schmidt, 2005 & 2010).*

cascades.[4] The systems meme's relative newness is reflected in ongoing debates regarding how to define, frame engagement of, and measure systems-related development processes and interventions. Despite its newness, this meme signals a future applied emphasis with an increasing inclusion of systems frameworks in development funding, programs and related projects, and even institutional departments.

## THE HSS MEME AND ITS REGIONAL APPLICATION

Although the specific concept or framework of systems has only been formally expressed as such in recent decades, those addressing the politics of international public health have engaged with a general systems concept in their identification of a global health system. The concept of the global health system arose before systems frameworks' emergence with sovereign state-driven international health regulations (IHRs). These regulations were premised on dominate trading states' 19th Century rational choice calculations regarding trade and national security. States' given IHR approaches changed between the 1950s and 1990s, at which time global powers minimized attention to the trade and security impacts of global health due in part to altered public health priorities and faith in the vaccine and antibiotic revolutions. They also came to define global health as a form of humanitarian concern to be incorporated into development assistance portfolios. With the debt crises beginning in the late 1970s, the global health system was further diminished thanks to the model of the minimized state and funding

[4] *For example, see: (Finnemore & Sikkink, 1998; Keck & Sikkink, 1999).*

efficiency. By the 1990s, the concept of systems had fallen from health-related development discourse and was replaced by carefully tracked DP funding provided by means of different mechanisms. This left few remnants of the global health system or SSA national and regional health systems.

Major changes have occurred in health systems since 2000. The concept of health systems strengthening (HSS) is now among the most dominant SSA development applications of the systems meme. As defined by Swanson et al., HSS "…is a complex, iterative, and learning process wherein the interactions between actors, structures, services, and subsystems are optimized over time while striving for health systems goals" (2015, p. 6)

They premise this definition on the two overarching health systems characteristics of 1. being "highly contextual and influenced fundamentally by institutional relationships" or networks, and 2. encompassing "people and organizations outside of what is generally thought of as a health system."

There are a plethora of health systems and HSS definitions. However, this article traces the WHO's treatment of health systems and HSS given the Organization's influence over global health development trends. WHO initiated health systems and HSS memes with the 2000 World Health Report (WHR), the Organization's flagship policy series that sets the global public health agenda and related discourse along

with recommended policies, approaches, and tools. The 2000 Report, *Health Systems: Improving Performance*, complimented the new Millennium Development Goals (MDGs) with systems as the formula for the goals' realization. Seven years later, the WHO established a technical HSS framework with the strategy document *Everybody's Business: Strengthening Health Systems to Improve Health Outcomes.* The strategy's timing reflected the mid-point of the MDGs, with the WHO emphasizing its HSS framework as a means of realizing the health-related goals believed least likely to be achieved by 2015. This framework, however, offered contradictory recommendations. The framework defined health systems broadly as "all organizations, people and actions whose primary intent is to promote, restore or maintain health," including those that exercise any influence on health determinants[5] and going beyond "the pyramid of publicly owned facilities that deliver personal health services" (WHO, 2007, p. 2). This framework definition made the health systems difficult to systematically apply, operationalize, or otherwise track and compare. In contrast to this definition, the WHO framework limited the scope of health systems and HSS with its list of health systems components. These components, focused solely on health-related items, were: service delivery; health workforce; information, medical projects, vaccines, and technologies; financing; and leadership and governance or stewardship.

[5] *Determinants of health are factors that directly or indirectly affect health conditions, making them difficult to fully capture. In a systems analysis, indirect determinants may include system interactions.*

The WHO continued its health systems emphasis in 2009 with its report *Systems Thinking for Health Systems Strengthening*, followed three years later by the systems financing focus of its WHR. This second Report combined systems with its post-1978 Alma Ata primary care meme of universal health coverage. It also paralleled the general development memes of inclusive growth, financing for development (FfD), and post-2015 Sustainable Development Goals (SDGs).

Conceptualizations of health systems and HSS, including those of the WHO, contain weaknesses that must be addressed when applying the systems frameworks. First, as with most development models, the application of health systems may be used to support subjective models of "good" health systems. As recognized by the WHO in 2012:

In the last two decades, African governments and the global health community have formulated policies, designed programs and allocated funding for the delivery of health services, health systems strengthening and monitoring of MDG indicators based on their perceptions of the characteristics of a good health system. (WHO, 2012, p. 1)

Although the health systems meme discursively rejects such models given systems frameworks' context-specific focus, there is still an expectation of "good" or "blueprint" systems.

Second, institutions usually do not maintain a single internal or shared definition of health systems and HSS, even when coordinating on health

systems development projects. Most institutions have not even identified who or what should play a role in such definitions or their operationalization. For example, in 2012, the WHO called its own and related HSS formulations problematic given their failure to incorporate health-systems' end-users (WHO, 2012). In 2014, the United Kingdom's Department for International Development (DFID), although considered a DP health systems leader, finally committed to establishing a health systems framework for its programs in response to the House of Common's International Development Committee's investigation and subsequent report.[6]

Third, system interactions have yet to be fully understood. This article believes the fundamental weakness of DPs' references to health systems is their oversight of those systems' complex interaction with social, political, and economic systems. Monitoring, evaluating, strengthening, and otherwise changing health systems requires an understanding of this interaction, which is often one of dependence. For example, a health system is affected by the domestic political system's embedded interests and institutions as well as the economic systems' preferred development model. Both characteristics collectively shape public resource allocations and service delivery mechanisms relevant to health systems' inputs, operations, outputs, and outcomes. These interactions have affected regional health systems' trajectories. These trajectories may be traced to the structure of colonial political systems[7] as well as

[6] *For an example of the IDC's HSS investigations, see: (United Kingdom House of Commons International Development Committee, 2014).*
[7] *For example, see: (Vaughan, 1991).*

decades of changing, externally backed development models. Health systems' historical institutional traits emphasize the role of international development and aid systems. Least Developed Country (LDC) recipient states' health systems are frequently inefficient and/or ineffective due in part to their relationship with multiple external interventions and development models. Given these collective external and internal influences, SSA states' health systems were so weakened by the 1980s and 1990s that they could not prevent what became the regional HIV/AIDS crisis. This crisis, which exhibited negative iterative effects on regional systems of all forms, raised questions regarding why developing states' health systems were so vulnerable to the virus' pathogenic system and suggested the need to identify the inter-systemic transnational characteristics of pathogenic system itself and the health systems it affected.

SSA's crisis did prompt a degree of systems-based health responses, even by the large-scale vertical programs and global health initiatives (GHIs) created in response to the virus. One such program was the American Presidential Emergency Plan for AIDS Relief (PEPFAR) established by President George W. Bush in least developed and developing states with high HIV/AIDS morbidity and mortality rates. PEPFAR, representing one of history's largest vertical initiatives addressing a single disease, adopted certain systems-based approaches after a few years of iterative institutional learning. This adoption reflected the growing need to integrate HIV diagnosis and prevention, in addition to lifelong ARV treatment, into every aspect of the health

system. Unfortunately, PEPFAR and GHIs undermined the broader development of systems frameworks and responses. First, PEPFAR and other GHIs were vertical in nature. Second, they initiated expensive, resource-intensive, lifelong treatment for one specific disease without sufficient consideration of the long-term health systems demands that would remain even when DPs withdrew HIV/AIDS support in favor of a new health priority.

The reorientation of global health system initiated by the SSA HIV/AIDS was not sufficient enough to address the growing systems-based disease threats in time to respond to the 2003 outbreak of SARS. As stated by the Institute of Medicine's *Committee on Emerging Microbial Threats in the 21st Century*, before SARS, the world faced "perfect [microbial] storms" in the form of "[r]epeated convergences of epidemiological, economic, political, and ecological factors that allow pathogens to emerge, spread, root themselves in human societies…" (2003, as cited in Fidler, 2004, p. 21-22).

SARS' emergence highlighted systems-oriented weaknesses that major health actors took into consideration given their interpretation of the syndrome's security threat. It therefore represented what Fidler (2004) defined as the "tipping point" for global health systems reform supported by the WHO and other major health actors. SARS elicited a different systems response than HIV/AIDS due in part to its different pathogenic system, which included the relative immediacy of its health impacts; its rapid, traceable transmission along essential travel and

trade routes; and, controversially, its outbreak in dominant global economies.

## THE WEST AFRICAN EBOLA OUTBREAK AND SYSTEMS THINKING

The global fear elicited by the late 2013 West African EVD outbreak, coupled with the inability of leading health institutions individually and collectively – in the form of the United Nations Mission for Ebola Emergency Response (UNMEER) – to check its spread in the three Mano River Union epicenter states, focused international strategic attention on SSA health systems. The WHO, other international organizations, and dominant health and/or SSA DPs (excepting Doctors Without Borders) did not mobilize in response to this outbreak until several months later, approximately mid-2014, despite the post-SARS reorientation of the global health system. Once they did mobilize, health systems and systems strengthening quickly became a dominant meme of the EVD international communicative discourse. For the outbreak states, the question was and remains[8] how to strengthen or even save their health systems given the extent of EVD's negative impact on their already challenged political and economic systems' trajectories. Also at question is the WHO response in terms of incorporating EVD-related lessons into the global health system.

[8] *This reference is based on the time of writing in August 2015.*

This EVD systems discourse represents a potential evolution of global health institutions towards the adoption of the systems frameworks introduced here, along with the sophistication of health systems and health systems thinking. Of greatest importance is this discourse's recognition of the iterative relationship between the development trajectories in the affected West African states and EVD's pathogenic system. The African Development Bank (AfDB) exemplifies this interaction with its US $300 million contribution to the development of a Mano River Union road-based transport system designed for improved regional infrastructure and trade networks ("One year on," 2015). The World Bank's individual EVD response included specific funding programs and conferences emphasizing systems. This systems support includes its 2014 US $70 million Health Systems Strengthening and Ebola Preparedness Project for the Ivory Coast as well as the July 2015 International Ebola Recovery Conference. At the Conference, participating institutions committed to "…a new approach which in some fundamental ways demands a paradigm shift in the way we look at health systems strengthening" (Kieny, 2014, p. 83)

The full implications of the referenced HSS paradigm shift have yet to be seen; however, to succeed, it should emphasize inter-system interaction. Similarly, the WHO recognizes EVD's direct economic impact on national fiscal systems, trade-related aversion, and reduced commodity production. Despite this sophistication, a predominance of systems interactions emphasized by DPs or other intervening organizations focuses on those of a direct, explicit nature. Such direct,

explicit systems interactions of EVD-affected states include logistics, public health procurement, sanitation, and human resource administration systems (UNDP, 2014).

UNMEER and other international organizations, including IFIs and AfDB, created a joint EVD recovery strategy in association with relevant regional organizations (the Mano River Union, ECOWAS, and the African Union) following a January 2015 West African exploratory mission and consultative process. This strategy, *Recovering from the Ebola Crisis*, addressed the three epicenter Mano River Union states' political and economic systems in addition to their health systems. The strategy's inter-system premise took into consideration the epicenter states' post-conflict recovery as well as regional and transnational trade networks. The Mano River Union states recognize and may increasingly leverage the inter-relationship and porousness of systems as exemplified by their EVD response strategies such as Liberia's April 2015 Economic Stabilization and Recovery Plan. These strategies, and those of intervening institutions, must be integrated with the states' medium-term and vision-based development strategies as well as political reform and regional integration processes.

Systems development in relationship to the West African EVD outbreak had a critical strategic window in 2014-2015 with which to leverage coordinative and communicative systems discourse for value-added global and SSA health systems development. The continuing crop-up of individual EVD cases revives this leverage yet also signals

the window's closure as attention turns to the Zika outbreak. Importantly, this window fell in a critical discursive development juncture vis-à-vis the coming reframing of the MDGs into the post-2015 SDGs and the ongoing elaboration of FfD. This window was closing at the time of this article's writing in August 2015, especially given the WHO's expectation that the outbreak would be defeated by the close of 2015, after which time health systems memes will be supplemented by those of another health crisis such as Zika ("Chance Ebola can be defeated," 2015).

Use of what remains of this critical but closing window should emphasize systems more generally, not just HSS, with a focus on the continuing development and deepening of regional economic communities; the expansion of regional infrastructure systems exemplified by Power Africa; and growing concern regarding systems-related factors driving SSA migrants, especially Eritrean and Somali, north to Libya and the Mediterranean. This emphasis should also incorporate, if not be premised on, the application of lessons learned from the EVD outbreak to the new health threat – such as Zika – in order to draw sufficient attention to the more fundamental systems concerns. In addition to a closing strategic window, the systems-based EVD response is also challenged by the global health discourse's emphasis on pre-1950 IHR concerns regarding domestic, transnational, and international security and trade. These concerns favor isolationist and other response strategies running counter to the systems frameworks.

## LIMITATIONS OF THE SYSTEMS FRAMEWORKS

Systems frameworks represent a tool with which to strengthen development and health development research, policy articulation, and program implementation. For example, researchers may use systems frameworks to move beyond the binary concepts generally applied by development theory and applied models by recognizing systems as "dynamic architectures of [iterative] interactions and synergies" (Alliance for Health Policy and Systems Research and WHO, 2009, p. 19). These impacts and synergies not only affect the success of development interventions but also the long-term influence of development interventions on systems' inputs, processes, outputs, and outcomes. Policy makers may use systems frameworks during the policy processes of problem identification, recipient population targeting, response option selection, and policy adoption. The systems framework recommends context-specific over formulaic development programs relevant to existing social, political, and economic systems. It also expands targeted program recipients, application methods, timelines, outputs, and outcomes.

Applications of systems frameworks come with costs, generally related to the time and techniques necessary to strategically leverage the benefits of systems thinking. First, systems identification is highly subjective in terms of defining their boundaries, interactions, and network membership. This subjectivity is due in part to system complexity. Even members of the same system will define the systems of which they are a part in different ways. This subjectivity may even

lead to the manipulation of the systems concept, such as the presentation of the concept as static as opposed to complex and dynamic. In terms of HSS, the WHO has provided "ten steps to systems thinking" to guide systems interventions and intervention assessment as one means of controlling such subjectivity (Alliance for Health Policy and Systems Research and WHO, 2009, p. 54).[9] However, such approaches only offer the appearance of limiting subjectivity.

Second, despite the WHO's attention to health systems, "there is still a dearth in practical guidance on how systems thinking concepts, approaches, and tools can be applied in health systems research and practice to reach sustainable solutions" (Adam, 2014, p. 50). This dearth begins with those institutions – all of which have their particular subjective opinions and interests – that will lead the global and domestic application of the systems frameworks, especially in the cases of development-oriented interventions. The selection of institutions for systems intervention and strengthening in any sector is difficult and highly politicized. Globally, the WHO is positioned to play a unique role for health systems strengthening given its role in establishing and legitimizing global health norms, policies, methods, and metrics as well as its capacity to synthesize and analyze information from multiple sources (WHO, 2007, p. 1). However, many other DPs are developing public health specializations and will therefore expect to play a

[9] *Its four steps for systems-based designs are the following: 1. stakeholder interaction, 2. collective brainstorming, 3. effect conceptualization, and 4. adaptation with redesign. Its six steps for evaluation are the following: 1. indicator identification, 2. method selection, 3. design selection, 4. plan development, 5. budget design, and 6. funding identification and allocation.*

dominant role and will shape such a role in ways suited to their own political, social, and economic systems. LDCs, such as the EVD epicenter states, often cannot alter the humanitarian and other technical or service-oriented networks and processes associated with DPs' health systems assistance.

Third and finally, those applying systems frameworks may not necessarily apply them in a simultaneous and carefully orchestrated manner. Specifically, the same institutions may not apply all three primary frameworks – analytical, policy, and programmatic – even in one specific development intervention. This issue application is important because such comprehensive and simultaneous application is necessary to achieve systems-driven development success, including HSS. Often different institutions handle development model, policy, and program creation. DPs, as well as domestic institutions, therefore require a fundamental restructuring of and coordination between their administrative systems.

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## REFERENCES

[1] Adam, T. (2014). Advancing the application of health systems thinking in health. *Health Research Policy and Systems, 12*(50), 1-5. doi: 10.1186/1478-4505-12-50.

[2] Alliance for Health Policy and Systems Research and WHO. (2009). *Systems thinking for health systems strengthening.* France: WHO Press.

[3] Chance Ebola can be defeated by 2015 WHO chief tells security council. (2015, August 13). In *United Nations*. Retrieved on [January, 2016] from http://www.un.org/press/en/2015/sc12006.doc.htm.

[4] Ebola virus disease: Fact sheet 103. (2015, April). In *World Health Organization.* Retrieved on [January, 2016] from http://www.who.int/mediacentre/factsheets/fs103/en/.

[5] Fidler, D. P. (2004). *SARS, governance, and the globalization of disease.* New York: Palgrave Macmillan.

[6] Finnemore, M., & Sikkink, K. (1998). International norm dynamics and political change. *International Organization*, *52*(4), 887-917.

[7] Holland, J. H. (1995). *Hidden order: How adaptation builds complexity.* New York: Addison-Wesley Publishing Company, Inc.

[8] Jervis, R. (1997). *Systems effects: Complexity in political and social life.* Princeton, N.J.:Princeton University Press.

[9] Keck, M. E., & Sikkink, K. (1999). Transnational advocacy networks in international and regional politics. Oxford: UNESCO by Blackwell Publishers.

[10] Kieny, M. P. (2014, December 12). Ebola and health systems: Now is the time for change. In *World Health Organization*. Retrieved on [January 2016] from http://www.who.int/mediacentre/commentaries/health-systems-ebola/en/.

[11] One year on: AfDB's support of Ebola-affected countries continues. (2015, March 27). In *African Development Bank Group*. Retrieved on [date needed] from http://www.afdb.org/en/news-and-events/article/one-year-on-afdbs-support-of-ebola-affected-countries-continues-14103/.

[12] Schmidt, V. A. (2005, June). The role of public discourse in European social democratic reform projects. *European Integration Online Papers, 9*(8), 1-28. [doi needed].

[13] Schmidt, V. A. (2010). Taking ideas and discourse seriously: Explaining change through discourse institutionalism as the fourth 'new institutionalism.' *European Political Science Review*, *2*(1), 1-25. doi: 10.1017/S175577390999021X.

[14] Scott, R. J. (Fall, 2008). International development in a complex adaptive system. *PAQ*, *32*(3), pp. 339 - 366.

[15] Seybolt, T. B. (2009). Harmonizing the humanitarian aid network: Adaptive change in a complex system. *International Studies Quarterly*, *53*, 1027 - 1050. doi:10.1111/j.1468-2478.2009.00567.x.

[16] Swanson, R. C., et al. (2015, February 12). Strengthening health systems in low-income countries by enhancing organizational capacities and improving institutions. *Globalization and Health*, *11*(5), 1-8. doi: 10.1186/s12992-015-0090-3.

[17] *The Economic Stabilization and Recovery Plan.* (2015, April). Republic of Liberia: Monrovia. UNDP. (2014, October 24). Ebola virus disease outbreak (EVD) is overstressing the fiscal capacity of governments in Guinea, Liberia, and Sierra Leone. *UNDP Africa Policy Note*, *1*(3), 1-7. Retrieved on [January 2016] from

http://www.undp.org/content/dam/undp/library/crisis%20prevention/UNDP_RBA_PolicyNoteonEbolaVol1No3_ENG_31Octo2014.pdf.

[18] United Kingdom House of Commons International Development Committee. (2014, September 2). *Strengthening health systems in developing countries: Fifth report of session 2014-2015.* London: Stationary Office Limited.

[19] Vaughan, M. (1991). *Curing their ills: Colonial power and African illness.* Stanford, CA:Stanford University Press.

[20] World Health Organization. (2007). *Everybody's business: Strengthening health systems to improve health outcomes.* Geneva: WHO.

[21] World Health Organization. (2012). *Health systems in Africa: Community perceptions and perspectives*. Brazzaville, Republic of the Congo: WHO Regional Office for Africa.

***Table 1.*** *Framework Categories*

| ***Framework Category*** | ***Applicant Source*** | ***Description and Purposes*** |
|---|---|---|
| *Analytic Framework* | • Academics<br>• Development technicians<br>• DPs, including bilateral, regional, and multilateral institutions or other international organizations | Premised on systems theory's high-level Social Science applications to assess development processes generally and to evaluate or formulate development models<br>• Offers a means to identify systems' unique networks, inputs, processes, outputs, and outcomes<br>• Provides a framework for development model analysis |
| *Policy Framework* | • DPs and recipients<br>• SSA regional groupings (ECOWAS, the Mano River Union, etc.) | Applied to reframe or identify policy problems, target populations, policy options, estimated costs and benefits, and policy adoption as well as application<br>• Expands policy scope in terms of identified network linkages, spillover effects, and inter-sectoral considerations<br>• Bridges siloed technical policy decisions<br>• Changes applied policy discourse among policy-making elites (coordinative discourse) |
| *Program Framework* | • DPs<br>• MDAs of recipients and DPs<br>• NGOs and other international organizations or implementing partners | Applied as a programmatic design, management, and stakeholder inclusion tool<br>• Expands the type and number of implementing and recipient stakeholders<br>• Alters programmatic design, inputs, approaches, and surveillance<br>• Reframes targeted outputs and outcomes |