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Stability Model (StaM) Users' Guide

Incorporating StaM analysis of Nigeria for illustration



Understanding the
Human Side of the
Environment

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2. http://www.google.com/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=0CAUQjhw&url=http%3A%2F%2Fen.wikipedia.org%2Fwiki%2FList_of_cities_in_Nigeria&ei=bKHgVIOVGciffgTtroSoDg&bvm=bv.85970519,d.eXY&psig=AFQjCNGyGycupUjLaYEJDu7OicCc6E1BXA&ust=1424093915220317



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Table of Contents

Introduction.....	5
StaM Overview	5
Analytic Uses of the StaM.....	7
Why use a model to assess stability?	9
The structure of the StaM	11
Vertical structure of the StaM	11
Horizontal structure of the StaM.....	12
Sourcing a StaM.....	14
STAGE 1: Initial background research; getting a “feel” for the AOI	15
Conceptualizing social stability for the StaM.....	15
Group dynamics.....	16
STAGE 2: The model tailoring process.....	22
What is model tailoring?.....	22
Tailoring at the factor and sub-factor level	24
Tailoring at the element and sub-element level.....	25
Public services in Nigeria	26
STAGE 3: AOI-specific stability factors and their crosscutting effects	33
Oil bunkering and the stability implications of relative deprivation	35
Oil bunkering and the formal economy.....	38
Oil bunkering and quality of life	39
The role of perceived deprivation	40
Oil bunkering and corruption	40
Implications for Analysts	41
STAGE 4: Identifying AOI-specific intensifying factors.....	43
Overview of climate change in Nigeria	43
Impact of climate change as an exogenous variable on quality of life	45
Food Security.....	45
Violence	46
Migration	47

The Effect of climate change on short-term and longer-term stability 49

Concluding remarks 50

Appendix 1: First iteration StaM tailoring questions 52

Appendix 2: Generic StaM definitions 64

 Governing stability in the generic StaM 64

 Economic stability in the generic StaM 67

 Social stability in the generic StaM 69

Appendix 3: Governing, economic, and social stability tailored to Nigeria 70

References 73

Introduction

Over the past decade the United States Government has recognized the importance of obtaining a rich contextual understanding of the operating environment, specifically focusing on the human terrain element, when addressing the current threats facing United States security interests, at home and abroad. This emphasis reflects a desire to obtain insight into the motivations underlying others' intended or actual participation in violence against the United States, as well as the engagement strategies and initiatives that would be effective and sustainable within a given area of interest (AOI). However, this shift in thinking requires analysts and planners to quickly develop a nuanced understanding of the AOIs in which they are working in order to systematically assess their overall stability and identify areas of strength and weakness. A holistic understanding of the operating environment makes it possible to identify critical points¹ in the system – both for stability and instability – and target engagement strategies and initiatives accordingly. This assessment also examines not only the first-order effects, but also potential second- and third-order effects, of US actions across multiple dimensions (governing, economic, and social).

StaM Overview

NSI's Stability Model (StaM) represents both a conceptual framework and an analytic methodology to guide users through a systematic process of obtaining a *rich contextual understanding* of the operating environment. The StaM aids users not only in identifying the factors that explain the stability or instability of a nation-state, region, or other area of interest, but also in making the connections between and among the various stability factors apparent—allowing users to derive all implications of a potential engagement strategy². The StaM methodology involves an iterative process of “tailoring” or customizing the generic framework to a specific geographic or political area of interest. The output of a StaM effort includes identification of immediate and longer-term buffers to political, economic, and social stability and sources of population resilience, as well as immediate and longer-term drivers of instability and collapse. Once a tailored StaM has been prepared, it can be used to address further questions; these include questions regarding the impact of external actors or the most effective and stability-promoting means of engaging with the AOI.

The generic StaM framework, shown in Figure 1 below, consolidates political, economic, and social peer-reviewed quantitative and qualitative scholarship into a single stability model based on these three dimensions, and, critically, specifies the relationships among them. As such, the StaM represents a cross-dimension summary, which draws on rich traditions of theory and research on stability and instability from diverse fields, including anthropology, political science and international relations, social psychology, sociology, and economics. Five key assumptions, shown in Table 1 below, serve as the foundation of the generic StaM.

¹ Within the StaM methodology, the critical points refer to the factors identified as the buffers and drivers of instability.

² For example, as will be discussed below, addressing the issue of oil bunkering in Nigeria may have its most obvious and immediate impact on the economic dimension, but will also have significant impacts on group dynamics (social dimension) and civil order and justice (governing dimension) that also need to be acknowledged.

Table 1: Five Key Assumptions of the StaM

StaM Assumptions
A1: Political, economic, and social stability are necessary, but not sufficient, to explain or predict the durability (overall stability) of a political system.
A2: A governing system will be stable if it is perceived by its constituents to meet their needs (i.e., provides material or non-material “goods”) and expectations.
A3: Constituent needs and expectations are culturally and contextually dependent and adaptive.
A4: The primary “goods” expected from a governing authority are the provision of internal order and external security sufficient for people to meet their physical and psychological needs.
A5: People do not seek to change systems from which they benefit. Dissatisfaction with the provision of goods by a governing authority reduces the perceived legitimacy of and encourages opposition to that entity.

The overall stability of an AOI—which can be defined within the StaM as either a nation-state, sub-state region, or city—is defined as a compound function of its political, economic, and social stability. Note that the StaM is agnostic to form of governance. Democratic governance is not presumed. It is also agnostic to the type of economic system, and typically will include formal, grey (or informal), and black economic elements. Finally, within the StaM, neither overall stability nor social stability suggest violence- or unrest-free societies, but those where social structures are known and durable, and social cleavages and conflicts are for the most part manageable. Furthermore, stability does not imply a lack of change. Rather, it denotes the flexibility and resilience of a system to adapt to changes over time, without economic, social, or political consequences that threaten the viability of the system.

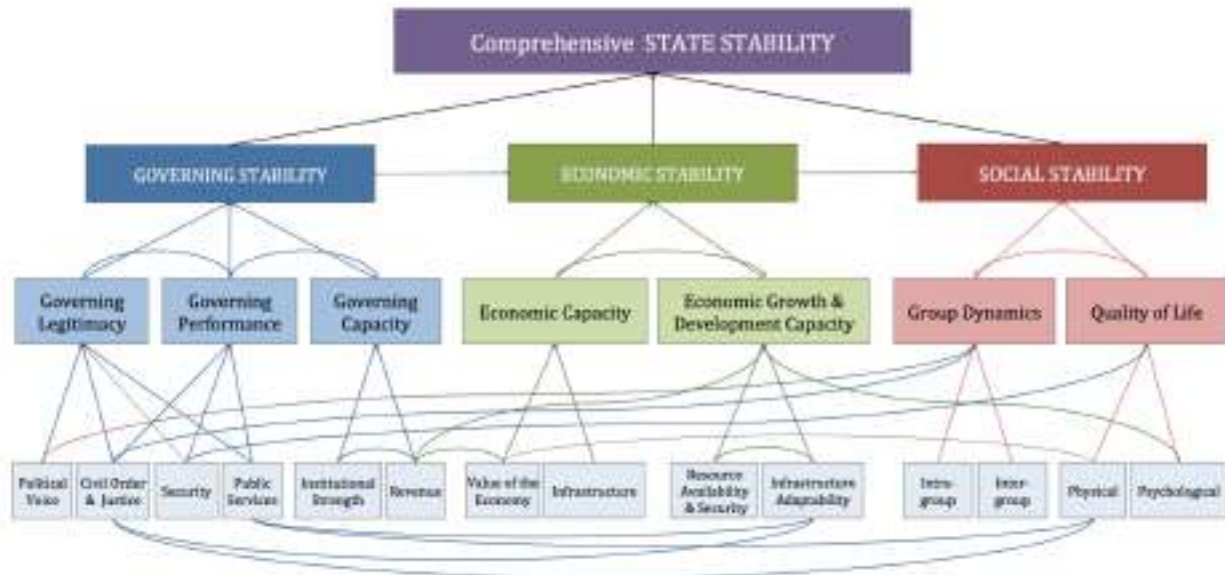


Figure 1: Generic StaM

Analytic Uses of the StaM

Identifying AOI-specific stability conditions

A fully tailored StaM provides analysts and planners with a holistic picture of the governing, economic and social conditions within a specific AOI, and whether that AOI is moving toward or away from conditions consistent with stability in both the short and longer term. It also enables the identification of AOI-specific drivers of instability, buffers to stability and the exogenous conditions that can intensify these effects. Tailoring a StaM requires systematically considering all of the central concepts theory and research have shown effect stability; following the model process allows the planner or analyst confidence that significant current or future sources of stability or instability have not been overlooked.

Monitoring and early warning

Once a tailored StaM has been created for an AOI, and the drivers, buffers and intensifiers identified, the analyst or planner effectively understands what components of the model to pay attention to. This can significantly decrease the time and data requirements for monitoring an AOI over time. Furthermore, as the StaM also maps the crosscutting effects model components have on each other, we can monitor how changes in other components of the model may influence the condition of individual drivers and buffers. This increases the probability that changes with the potential to significantly increase or decrease stability will be identified early in their development.

Assessing the second and third order effects of engagement activities

One of the strengths of the StaM as an analytic tool is its ability to map the interrelationships between model components (crosscutting effects). This makes it possible for analysts and planners to trace the possible consequences of a proposed action and identify possible unintended consequences prior to undertaking an engagement activity. In effect, the model allows users to gain the “lessons learned” without having to make the mistakes that teach the lesson. More importantly, perhaps, the model enables planners and analysts to identify the location and causes of those negative effects. If identified in advance it is possible that such obstacles can be avoided and unintended consequences minimized.

Maximizing the effectiveness of engagement activities

The same crosscutting effects in the StaM that enable the identification of unintended consequences can also be used to determine how engagement activities can be structured and positioned to maximize their effect. By tracing the crosscutting effects from the component that is directly influenced by an engagement action, the planner or analyst can determine the system-wide implications of a specifically targeted action. By comparing different points or methods of influence, the relative impact of various COAs can be compared. In effect, you can determine where you get the most “bang for your buck”.

Improving coordination across USG agencies and international partners

In many cases more than one USG agency may be operating in an AOI, this creates opportunities for coordination, but also risks of duplication or even counteraction of effort. By assessing the second and third order effects of all USG efforts in a particular AOI, the planner or analyst can identify the areas where coordination of effort is most critical. Such an assessment can also bring to light opportunities

where interagency collaboration allow individual agencies to achieve mission objectives in areas that they cannot influence effectively working alone. This also holds for working with international partners.

Assessing the implications of external actor actions

It can often be the case that the U.S. is operating in an AOI in which other external actors – either states or non-state actors – are present. The actions of these external actors have potential to impact the stability of the AOI. The StaM allows analysts and planners to map the effects of specific external actor actions (e.g.: presence of VEOs, large-scale economic investment by a foreign power) on the stability of the system as a whole. This in turn can provide a fuller picture of the possible implications of those actions for U.S. interests broadly, and ongoing or planned engagement activities more specifically.

Assessing the second and third order effects of shocks to the system

An AOI-tailored StaM can also be used to assess the likely indirect effects of a particular system shock or crisis event (e.g.: natural disaster, global financial crisis, major terrorist attack). The immediate effects of the shock (for example displacement of populations, crop destruction and infrastructure damage after a natural disaster) can be located on the StaM and then their second and third order effects mapped across the model. Identification of these effects prior to a shock occurring can improve planning and response.

Why use a model to assess stability?

Deriving variables that can be observed and measured from general concepts, such as social and governing stability, requires a detailed understanding of the nature of these concepts, at both the generic level and the context specific level (in this case, for Nigeria).

One of the challenges when dealing with a topic as broad as stability is determining which information is relevant. That is, what do we need to know before we can assess the drivers of instability and buffers to stability in an AOI? With too much information, we lose sight of the question; without enough information, our understanding will be insufficient for a complete and accurate analysis.

Models provide a framework for understanding complex concepts. While every AOI is unique, when we compare across AOIs and across time, we begin to see patterns emerge. Social science is concerned with finding and explaining these patterns to enhance our ability to understand and predict changes in the world around us. The more general the question of interest, the more likely it is that there is already a body of literature and research dedicated to it. The question of what makes countries stable has long been of interest to political scientists, sociologists, and other scholars. The extensive existing academic literature on this and related concepts provides the foundation for the generic StaM.

Existing research and theory provides an essential guide, not only in identifying the components that compose AOI stability, but also in understanding how these components interact with one another either to drive instability or to buffer stability. More specifically, existing research and theory can help us in the model building process by identifying or suggesting important relationships and interdependencies between and among concepts. A detailed understanding of the specific AOI enables us to further refine and tailor our model and data collection effort by updating the identified interdependencies based on this knowledge.

It is important to note that the StaM is a conceptual model, not a computational model. Computational models study complex systems by operationalizing variables of interest with quantitative data and running simulations that adjust these variables. The manipulations of specific variables can then be compared to the outcomes predicted by the model, or used to generate predictions. Conceptual models like the StaM function and are utilized differently than are computational models. The purpose of conceptual models is not to recreate the world in all its complexity. Rather, they provide a visual

WHY WE NEED MODELS

- **Models help us to structure and refine our questions** so that they can be answered empirically, rather than on the basis of opinion and *ad hoc* observation. This decreases the probability of error, omission, and misinterpretation.
- **Models help us to determine the information we need** to understand and help explain the phenomena in which we are interested.
- **Models provide a framework for understanding complex, multidimensional concepts** such as state stability.
- **Existing research and theory provides an essential guide to:**
 - Which concepts we need to include in our model
 - How they are related and influence each other
 - How high level concepts can be refined and operationalized

representation of theoretical constructs (stability in this case). Theories present a systematic view of phenomena that specifies relations among variables using a set of interrelated constructs/variables,

CONCEPTUAL MODELS

A conceptual model is a way of organizing our knowledge of a complex phenomenon.—and helps to explain the “why” as well as the “what.”

The construction of a conceptual model prior to data collection can significantly increase the efficiency of the collection effort.

definitions, and propositions. Rather than seeking to represent how a complex system works, theories are designed to provide a framework for systematically addressing a specific research question. In the case of the StaM, the overarching question that informs the design of the model is, “what are the drivers of instability and buffers to stability in a particular AOI”? Though guided by this overarching question, the generic StaM as a whole is highly complex and incorporates multiple theories from diverse disciplines. Although theory is sufficiently well developed and tested to create computational models of discrete sections of the StaM, compiling these into a single computational model of the entire StaM would require the imposition of a greater number of

assumptions regarding the relative weighting and interactions between the components than can be theoretically supported. For this reason, it is not possible to generate a stability “score” of any real meaning for a particular AOI. However, what we can do with this type of conceptual model is build and develop a comprehensive picture of the forces at play in a specific AOI, and how they move across the system as a whole to influence stability.

The structure of the StaM

The StaM is designed to capture the key conceptual components of overall AOI stability. Specification of the generic StaM remains at a fairly high level, in order to ensure that it is applicable to the greatest variety of AOIs and levels of analysis. In the model diagram (see Figure 2), concepts are organized vertically, becoming more specific moving from top to bottom, from the broad dimension of interest down to the tailored element level. The first stage of tailoring a StaM involves disaggregating the sub-factor level of the generic StaM into elements that are relevant to the AOI and can be operationalized and measured. As will be seen in the section below, "Definition of the generic StaM components and their tailoring for Nigeria," some of the elements of a tailored StaM require disaggregation into sub-elements.

Vertical structure of the StaM

The vertical relationships in the StaM represent the disaggregation and operationalization of a single conceptual component of stability. This disaggregation allows us to move from the high-level conceptual and theoretical level of understanding stability presented in the dimension and factor levels of the StaM, through the more specific, but still fairly conceptual concepts captured at the sub-factor level, to the element and sub-element levels, where we specify observable and measurable indicators of those parent concepts. The number of levels into which a specific factor will need to be disaggregated will vary.

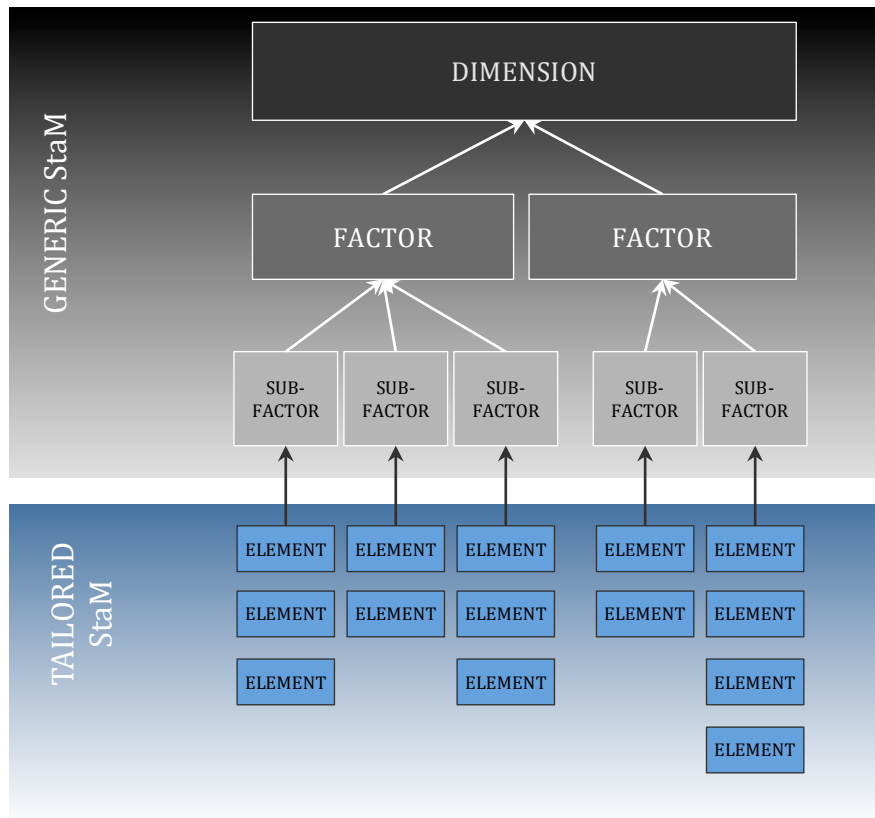


Figure 2: Vertical structure of the StaM; moving from generic to tailored

In some instances, the nature of a sub-factor in a tailored model lends itself to disaggregation even below the sub-element level. If it is found that components of a sub-element have differential effects on stability, then mapping those effects to the model will require breaking out the sub-element at an even lower level. We found this to be the case for various factors of the Nigeria StaM, particularly in the economic dimension. Other sub-factors of the StaM are tapping into conceptual aspects of stability that are best considered at a higher level. For the Nigeria StaM analysis, we found that organizing our analysis of the social dimension at the sub-factor level was most appropriate. Attempting to further break out the sub-factor elements would in this case be artificial, inconsistent with how they are addressed in theory and research, and would thus inhibit analysis of stability implications as a result. In sum, the decision of how far to disaggregate a factor needs to be made while keeping the purpose of analysis—implications for stability—in mind.

Horizontal structure of the StaM

One of the greatest analytic advantages of the StaM is that it enables identification and mapping of interactions between various model components (see Figure 3). These are referred to as crosscutting effects. This characteristic of the StaM enables the analyst to track how a particular element moves horizontally within and across the model dimensions and their sub-components, identifying possible second- and third-order effects that would be missed if analysis of specific elements only followed the vertical structure of the StaM. In the StaM diagram, the arrows that move horizontally across the model components (those shown in red in Figure 3) represent these crosscutting effects.

Crosscutting effects capture the stability effects of individual model components (at any level) on components to which they are not vertically related. Crosscutting effects are any linkages between model components that do not move vertically up to the higher-level components. Crosscutting effects can emerge within dimensions. For example, in the generic StaM, governing capacity (factor) has an effect on governing performance (factor). Crosscutting effects can also emerge between model dimensions. For example, civil order and justice (governing stability sub-factor) has an effect on physical quality of life (social stability sub-factor) in the generic StaM. Crosscutting effects can also emerge between various levels of the model. The placement of these connections is determined by how generalized the effect is. Placing an arrow between two sub-factors, for example, implies that all elements of each sub-factor influence all elements of the other. One sub-factor also can affect an entire set of other sub-factors, leading to an arrow running from that sub-factor up to the factor. For example, in the generic StaM, civil order and justice (governing stability sub-factor) has an effect on group dynamics (social stability factor).

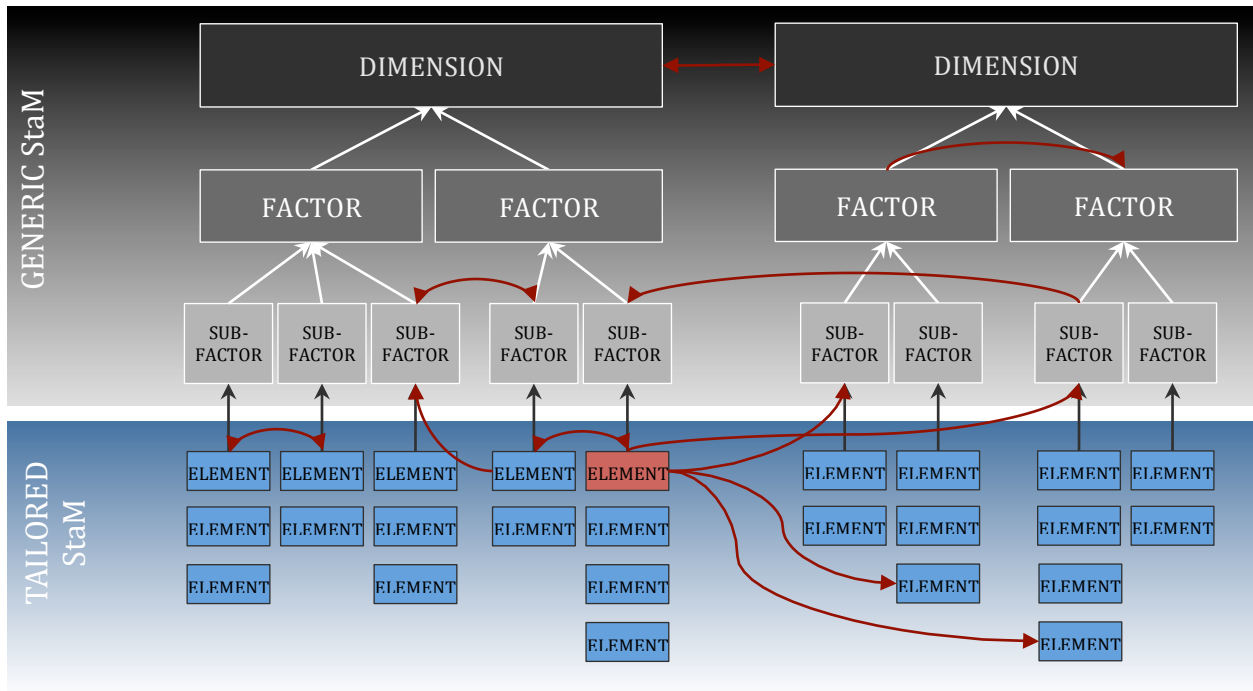


Figure 3: Horizontal structure of the StaM, moving between dimensions

Sourcing a StaM

The components of the StaM and the relationships between them are derived from two sources. The generic model is built on prior academic research from a variety of social science disciplines.³ A tailored StaM requires analysts to draw on a variety of additional sources during the tailoring process. First, basic data on each of the sub-factors need to be collected, including, for example, indicators of economic performance such as GDP growth rates, government spending on different public services, and demographic data on the population. Second, as the StaM is designed to assess the stability implications of the sub-factors, we also need to know how the relevant population perceives these sub-factors. This is most commonly found in public opinion data.

Once the analyst has identified the elements or sub-factors in the initial tailored StaM that appear to be a cause for concern (i.e., possible drivers of instability), or a potential benefit (i.e., buffer to stability), a more targeted search of existing research can be made to determine the potential stability implications of that element for the specific AOI. Findings from previous studies will provide an initial guide to how the crosscutting effects of a particular element *might* map across the tailored model. To determine whether a particular finding *is* relevant to the specific AOI, however, requires further analysis. This is where the iterative nature of the StaM analysis becomes critical. Rather than assuming that, because a specific condition was found in other cases to have certain effects on stability, it will have the same effect in this case, the analyst must look for evidence that the finding holds. Doing so will require returning to AOI-specific information.

Development and analysis of the tailored Nigeria StaM discussed in this report began with the generic model as a set of theory-based expectations about political, economic, and social dynamics. Tailoring a StaM to a specific AOR requires also incorporating AOR-specific data and information and academic analyses. Data incorporated in the Nigeria StaM include: government and international organization reports and statistical data; newspapers; academic research and policy analysis on political processes, public opinion; and economic conditions; current research on social, ethnic, economic, political, and institutional culture; social geography; and assessments of authority and political transitions through Nigeria's history. In all, almost 700 unclassified sources were used to tailor the generic StaM for Nigeria.

³ The references in this users' guide provide a good starting point for a reader seeking more detailed discussion of these theories and findings.

STAGE 1: Initial background research; getting a “feel” for the AOI

Before beginning the tailoring process, the analyst needs to spend some time getting a “feel” for the AOI under study. This process involves looking into the basic governing and economic institutions in place, their history and development, and how these are both informed by and inform each other and the social characteristics within that AOI. At this point, the analyst considers high-level questions such as:

- What (very briefly) is the history of the AOI?
- What does the population look like?
- What type of government is in place, and how did the current system develop?
- What is the level of economic development and what are the major economic activities?

The exploratory research informed by these broad types of question will be a jumping off point for the model tailoring stage, as well as provide the analyst with a foundation for thinking about the possible stability factors at play in the specific AOI. Given the complexities of the abstract concepts underlying social stability, we focus our discussion of this stage on the theory that informs the social stability dimension of the StaM, partnered with concrete, relatable, examples. Stage 1 is also a logical place to discuss in detail how the components of the generic StaM are defined⁴ and explored.

As noted earlier, all of the components and crosscutting effects in the generic StaM are based on a wide, multi-disciplinary body of social science theory and research. The definitions of many of the model components, as well as the relationships between several of the factor and sub-factor level components and stability will likely be fairly intuitive to the analyst. For example, the value of the formal economy (sub-factor) is a fairly standard and widely used concept, and the connection between value of the formal economy and governing revenue (taxation) straightforward. As such, identifying the relevant data and research sources to begin the tailoring process will be straightforward. Other factors and sub-factors, however, capture less tangible, but equally important components of stability. We find this to be the case for the social stability dimension in particular. Social phenomena are, by their nature, more abstract, and do not map as closely to institutional structures the way many governing and economic factors do. However, social dynamics are at the root of all governing and economic factors. Without a population and their stated, or in some cases unstated, expectations and needs, governing and economic institutions would not exist.

Conceptualizing social stability for the StaM

In this section, we discuss the theory behind the structure of the social stability dimension of the StaM, focusing on the group dynamics factor. We use our tailoring of the StaM for Nigeria to provide examples of how to move from the conceptual

Social Stability

Is a state attained within society (defined as the individuals—and groups—who reside within the established political boundaries), when the majority of the population is able to satisfy their basic needs and society attains sufficient social accord to reduce the population's social, physical, and psychological uncertainty.

⁴ See Appendix 2 for definitions of all components of the generic StaM.

(abstract) to the operational (concrete) level. Here, we will demonstrate how to identify social groupings (e.g., ethnic, religious, geographic) in an AOI that are relevant to issues of stability, and how to determine the appropriate groupings for analyzing more specific stability questions. Again, this is a key component to understanding the underlying factors of the current socio-political environment—an understanding that is needed to effect change.

For the purposes of the StaM, Social Stability is attained within a population when the relationships among sub-groups (i.e., group dynamics) serve to reduce the population's social, physical, and psychological uncertainty⁵ and a significant proportion of the population is able to provide for and improve their quality of life. At the factor level, therefore, social stability is disaggregated into group dynamics and quality of life, though our discussion below will, as noted, focus on group dynamics.

Group dynamics

Group dynamics are the relationships and interactions between (inter-group) and within (intra-group) members of a community. The group is a fundamental psychological unit into which people naturally categorize themselves (and are categorized by others).⁶ People understand who they are and derive a sense of social worth through their group memberships, which grant them specific social identities,⁷ and provide a set of common norms and values. Once people group themselves in this way, they begin to make comparisons between their ingroup and relevant outgroups.⁸ People tend to have positive evaluations of ingroup members (i.e., those with whom one shares a social identity) and bestow preferential treatment and outcomes to their ingroup members.

There are many potential groupings that can play out at both the intergroup and intragroup level. These include, but are not limited to; those based on geography, gender, religion, and ethnic/cultural differences. Different groups in turn may occupy and endorse different social roles and hold different sets of sacred values. Perceived threats to a group's identity, values, and norms can become a source of instability if groups are willing to fight to maintain the integrity of those ideals.⁹

MODEL IMPLEMENTATION

Within the StaM, definition of what constitutes a relevant group may change as a function of the questions being asked. For example, in one scenario, we may consider gender to be a relevant grouping, where men and women form an ingroup and an outgroup (which group is the ingroup depends on which group's perspective is being taken). In another scenario, women may be split further into additional ingroups and outgroups (e.g., women occupying traditional gender roles vs. women occupying less traditional gender roles). In yet another scenario, gender may not be a relevant grouping or salient cleavage with respect to the question being asked.

⁵ Kay, A. & J. Friesen. (2011). On social stability and social change: Understanding when system justification does and does not occur. *Current Directions in Psychological Science*, 20(6), 360-364; Pejovich, S. (1999). The effects of the interaction of formal and informal institutions on social stability and economic development. *Markets & Morality* 2(2), 164-181.

⁶ See Brown, 2000 for a full review. Henri Tajfel et al., "Social Categorization and Intergroup Behavior," *European Journal of Social Psychology* 1 (1971): 149-78.

⁷ Henri Tajfel, *Social Identity and Intergroup Relations* (New York, New York: Cambridge University Press, 2010).

⁸ Henri Tajfel, "Individuals and Groups in Social Psychology," *British Journal of Clinical and Social Psychology* 18 (1979): 183-90.

⁹ Carston Butsch, "Access to Healthcare in the Fragmented Setting of India's Fast Growing Agglomerations - A Case Study of Pune," in *Megacities: Resilience and Social Vulnerability*, ed. Hans-Georg Bohle (Hohenkammer, Germany: UNU EHS, 2008), 62-72; M Chatterjee, "Shifting Vulnerabilities: A Study of Flood Affected Slums of Mumbai," in *Megacities: Resilience and Social Vulnerability* (Hohenkammer, Germany: UNU EHS, 2008), 100-109; Frauke Kraas, "Megacities and Global Change: Key Priorities," *The Geographical Journal* 173, no. 1

In other cases, tension between groups may stem from issues separate from group identity, such as access to land, jobs, and socioeconomic development. In the pursuit of limited resources (perceived or actual), intergroup relationships may devolve into hostility and competition as group members try to gain or maintain an advantage, either perceived or real, for their ingroup. These resources, when perceived as finite, create a 'zero sum mentality,' in which there can only be losers or winners. Those on the losing end are likely to feel strong feelings of relative deprivation with respect to their more resourced counterparts. In other words, groups perceive that other groups have more than they do and that the pool of available resources is limited. Perceived deprivation fundamentally taps into concerns over the distribution of and access to resources, rather than differences between groups related to identity issues. However, inequitable distribution of resources across groups is in and of itself not sufficient to produce conflict. Group members must perceive that, compared with other groups, they are not receiving their fair distribution of resources or other outcomes for relative deprivation to be triggered. Additionally, in some cases, even if a group's own resources are sufficient for their needs, they will remain dissatisfied if they perceive that other groups have more. Over time, therefore, competition or conflict between groups within an established boundary (political, social, or geographic) over access to resources can become destabilizing.

Furthermore, when groups perceive that their goals and needs, whether related to resources or otherwise, continue to be thwarted or unmet, frustration may arise. Frustration can result in aggression under conditions in which goals are seen as being purposefully thwarted¹⁰ and people experience negative emotions, such as anger.¹¹ Feelings of anger (from annoyance to rage) are generally associated with "actions against."¹² For example, research indicates that moral outrage in response to perceived injustice may result both in a desire to punish the perceived perpetrator and a desire to change the system seemingly responsible for the perceived injustice.¹³ Thus, aggression resulting from frustration often is directed at the perceived perpetrator of the injustices. In the context of the StaM, the government is often perceived by the population to hold this role and power. If the conditions for this progression from perceived deprivation to violence are met, then we would expect that violence would be directed not only at other groups, but also at the government, creating a source of governing instability arising from social instability.

As with many of the components of the StaM, the key here is that perceptions are what matters. When different groups and individuals within a set boundary (political, social, or geographic) have different

(March 2007): 79–82; Nikhil K. Sengupta and Chris G. Sibley, "Perpetuating One's Own Disadvantage Intergroup Contact Enables the Ideological Legitimation of Inequality," *Personality and Social Psychology Bulletin* 39, no. 11 (November 1, 2013): 1391–1403.

¹⁰ Stephen Worchel, "The Effect of Three Types of Arbitrary Thwarting on the Instigation to Aggression," *Journal of Personality* 42, no. 2 (June 1974): 300–318.

¹¹ Leonard Berkowitz, "Frustration-Aggression Hypothesis: Examination and Reformulation," *Psychological Bulletin* 106, no. 1 (1989): 59–73, doi:10.1037/0033-2909.106.1.59.

¹² Nico H. Frijda, Peter Kuipers, and Elisabeth ter Schure, "Relations among Emotion, Appraisal, and Emotional Action Readiness," *Journal of Personality and Social Psychology* 57, no. 2 (1989): 212–28.

¹³ Aarti Iyer, Toni Schmader, and Brian Lickel, "Why Individuals Protest the Perceived Transgressions of Their Country: The Role of Anger, Shame, and Guilt," *Personality & Social Psychology Bulletin* 33, no. 4 (April 2007): 572–87; Rob M. A. Nelissen and Marcel Zeelenberg, "Moral Emotions as Determinants of Third-Party Punishment: Anger, Guilt, and the Functions of Altruistic Sanctions," *Judgment and Decision Making* 4, no. 7 (2009): 543–53; Sabrina J. Pagano and Yuen J. Huo, "The Role of Moral Emotions in Predicting Support for Political Actions in Post-War Iraq," *Political Psychology* 28, no. 2 (April 1, 2007): 227–55; Paul V. Martorana, Adam D. Galinsky, and Hayagreeva Rao, "From System Justification to System Condemnation: Antecedents of Attempts to Change Power Hierarchies," *Research on Managing Groups and Teams* 7 (2005): 285–315.

priorities and different access to common goods, it can be difficult for the government to satisfy or even respond to the interests, preferences, and needs of the entire population. Though this situation represents a limitation grounded in practical realities, for groups that do not have their needs met, these types of situations may be perceived as an injustice in the same way that a truly biased method of resource allocation might be.

Group dynamics in Nigeria

In the case of Nigeria, the initial research conducted at this stage suggests that there are several (intergroup or intragroup) groupings where social identities or competition for resources could become relevant for stability dynamics. Nigeria is an ethnically diverse country, with over 250 ethnic and cultural groups, four of which compose 78% of the population. A small sub-set of these ethnic groups dominate the political and economic landscape and are stratified geographically, with the Hausa and Fulani in the north (29%), the Yoruba in the southwest (21%), and the Igbo in the southeast (18%). Thus, ethnic and cultural divisions also largely break down along geographic lines that inherently may correspond to different material, political, and other needs based on varying access to resources.

Further, religion creates another major social division within Nigeria, with a population composed of two principal religious groups, Muslim (50%) and Christian (40%),¹⁴ and religion forming the primary social identity for most Nigerians.¹⁵ According to an authoritative May-June 2006 survey conducted by the Pew Forum on Religion and Public Life, 76% of Christians in Nigeria indicated that religion was more important to them than their identity as Africans, Nigerians, or members of an ethnic group. Because religious and ethnic identities are strong and Nigerians lack a unifying sense of national identity¹⁶ and accompanying superordinate goals, relations between Muslims and Christians in border towns, such as Jos, can be tense.

Nigeria's rapid urbanization, at a rate of 3.5% annually, is also creating social cleavages that may exacerbate existing cleavages based on ethnicity or religion. Individuals have been migrating from their own regions due to growing violence, environmental changes, or a search for opportunities to improve their socio-economic status.¹⁷ This migration of people over the years across ethnic, religious, and linguistic boundaries within the country, which might have fostered national unity, integration, and development, instead has become the source of additional political, religious, inter-ethnic, and sub-ethnic conflicts. These conflicts arise in large part due to the politicization of the issue of citizenship in some states (i.e., indigeneship in Plateau state) and access to political power (e.g., individuals must be born in the location where they intend to run for office, a stipulation that essentially prohibits married

¹⁴ The remaining 10% is composed of those holding indigenous beliefs (CIA World Factbook, 2014).

¹⁵ O. Okpanachi, "Ethno-Religious Identity and Conflict in Northern Nigeria: Understanding the Dynamics of Sharia in Kaduna and Kebbi States," *Ibadan: French Institute for Research in Africa*, 2010, http://www.ifra-nigeria.org/IMG/pdf/Okpanachi_2010.pdf.

¹⁶ Clarence J Bouchat, *The Causes of Instability in Nigeria and Implications for the United States* (United States Army War College Press, 2013).

¹⁷ Isah Mohammed Abbass, "Trends of Rural-Urban Migration in Nigeria," *European Scientific Journal* 8, no. 3 (2012), <http://www.eujournal.net/index.php/esj/article/view/58>; Gerald McLoughlin et al., *Nigerian Unity: In the Balance*, 2013, <http://purl.fdlp.gov/GPO/gpo39026>; "Nigeria - International Organization for Migration," accessed May 6, 2014, <https://www.iom.int/cms/en/sites/iom/home/where-we-work/africa-and-the-middle-east/central-and-west-africa/nigeria.html>.

women from participation due to the cultural practice of women relocating to their husbands' locations).¹⁸

While the 1999 Nigerian constitution actively sought to diminish ethnic and cultural divisions by prohibiting political parties founded on ethnicity or religion, the population, and political leaders, tend to use ethnic and religious affiliations to serve their interests¹⁹; resulting in even sharper divisions within Nigerian society.²⁰ For example, in the Niger Delta, the local politicians actively use the "Delta People's"²¹ emerging identity as a tool to gain a greater share of Nigeria's distribution of oil revenue, despite the fact that, on paper, it is an equitable distribution across the country.

For the social dimension of the StaM model tailored for Nigeria, two key sub-factors emerge from the intergroup and intragroup factors (see Figure 14 for a visual depiction). These sub-factors emerged as a function of examination of and response to the set of tailoring questions (see Appendix 1). The first of these sub-factors is the concept of value consistency. Value inconsistencies (i.e., incompatible differences in the beliefs and norms that groups value or hold sacred) may arise as a function of group membership and identity, and may be deeply rooted in historical grievances. An ingroups' defining values are their sacred values, or the "fundamental religious beliefs, core constructs of national and ethnic identities, and moral norms."²² Outgroup members may be understood as having fundamentally different values or beliefs from the ingroup (i.e., lack of value consistency). Perceived or actual threats to sacred values can be a source of instability, as groups fight to maintain the integrity or even establish supremacy of their ingroup values, though state protection of religious freedom may serve somewhat to buffer this effect. One of the major tailoring questions guiding selection of this sub-factor for Nigeria was whether government policies were compatible with the traditional values of major social groups. In the case of Nigeria, the research suggested that the government policies in place currently are compatible with the traditional values of the major social groups. For example, the recent legislation banning homosexuality, although sparking international condemnation, garnered support from 98% of the Nigerian population.²³ However, it is possible that value discrepancies may also arise within otherwise homogeneous groups (e.g., variations in attitudes about work among men and women who are part of the same ethnic or religious group). As such, value consistency is shown as a sub-factor both for intergroup and for intragroup factors.

A second key sub-factor and crucial aspect of intergroup dynamics addresses issues pertaining to perceived deprivation. Here, analysis began with a consideration of tailoring questions focusing on the extent to which different social groups perceived the government to give preferential treatment (or

¹⁸ Oladji O. Akanji, "Migration, Conflicts and Statehood Problem in Nigeria: The Self-Determination Issue," *Journal of Nigeria Studies* 1, no. 2 (Fall 2012), http://www.unh.edu/nigerianstudies/articles/Issue2/Migration_and_statehood_problem.pdf.

¹⁹ Bouchat, *The Causes of Instability in Nigeria and Implications for the United States*.

²⁰ Ibid.

²¹ The Delta People are an emerging cultural and political group that consists of roughly 60 different minority ethnic groups that are brought together with the common goal – to obtain a larger share of the natural oil wealth from their region.

²² G. S. Berns et al., "The Price of Your Soul: Neural Evidence for the Non-Utilitarian Representation of Sacred Values," *Philosophical Transactions of the Royal Society B: Biological Sciences* 367, no. 1589 (January 23, 2012): 754–62, doi:10.1098/rstb.2011.0262.

²³ Adam Nossiter, "Nigeria Tries to 'Sanitize' Itself of Gays," *The New York Times*, February 8, 2014, <http://www.nytimes.com/2014/02/09/world/africa/nigeria-uses-law-and-whip-to-sanitize-gays.html>; Pew Research, "The Global Divide on Homosexuality," *Pew Research Center's Global Attitudes Project*, June 4, 2013, <http://www.pewglobal.org/2013/06/04/the-global-divide-on-homosexuality/>.

outcomes) to another social group, as well as the extent to which various social groups were cooperative or competitive with one another. Relatedly, initial analysis aimed to determine the overall state of inequality within Nigeria, across various dimensions. Findings revealed that economic disparities across geographic regions within Nigeria are notable, with 72% of people living in poverty in the north, compared with only 27% in the south, and 35% in the Niger Delta.²⁴ Gender-based injustice in access to resources also exists. According to one 2012 report, Nigeria ranks 118 out of 134 countries in the Gender Equality Index.²⁵ Women face consistent inequality in terms of access to and control over land, credit facilities, technologies, education, and health, and therefore poverty often affects women more intensely than men.²⁶ In Nigeria, therefore, we saw one of the necessary conditions for perceived deprivation—inequity between social groups. However, we could not conclude at this stage that perceived deprivation was present, as we lacked sufficient data at the group or individual level to determine whether other necessary and sufficient conditions for perceived deprivation were in place. Specifically, we could not determine whether the groups experiencing this inequality were: a) aware of it, and b) experiencing the frustration, anger, and attributions of blame that would create the conditions for wide-scale social conflict and violence. Nonetheless, initial conditions suggest that perceived deprivation is possible, and that the government as a primary provider of resources is likely to be seen as contributing to distributive injustice (i.e., unfair allocation of resources across groups). Such an attribution could result in decreased perceptions of legitimacy, with negative impacts on governing stability. As such, it is important during the tailoring and analysis stages to seek out additional supporting information and data to further our understanding of the potential stability implications across multiple dimensions of the model of this aspect of group dynamics in Nigeria.

In addition to the sub-factors of the model that were initially identified as important to group dynamics, our research on Nigeria also uncovered several further issues worthy of exploration in the next phase of the StaM. As one example, environmental changes have given rise to conflicts between groups that were previously in cooperation, such as the rice farmers and fishermen in the south. Rising seawaters turned a standing dispute over land deadly after the water affected crop production, which effectively halted trade between the two groups. As noted by one resident, “when there was no more trade, we stopped seeing each other. There was no more talk about anything, including the land, and soon there was fighting”.²⁷ As a second example, changing social roles resulting from financial pressures on women to enter the workforce also create challenges to the traditional patriarchal household, and tenuous gender relations when these changes are met by resistance among Nigerian men.²⁸ Finally, the presence and growth of Boko Haram,²⁹ an increasingly active violent Islamist group, has contributed to deteriorating security conditions in the north, as this group has sought to capitalize on local frustrations

²⁴Courtney Brooks, “Fears Mount That Boko Haram Could Bring Nigeria to the Brink | Al Jazeera America,” March 7, 2014, <http://america.aljazeera.com/articles/2014/3/7/nigeria-boko-haramanalysis.html>.

²⁵U. Aja-Okorie, “Women Education in Nigeria: Problems and Implications for Family Role and Stability,” *European Scientific Journal* 9, no. 28 (October 2013): 274.

²⁶Jessica Hagen-Zanker and Rebecca Holmes, *Social Protection in Nigeria* (Overseas Development Institute, 2012), <http://www.odi.org.uk/resources/docs/7583.pdf>.

²⁷Aaron Sayne, *Climate Change Adaptation and Conflict in Nigeria* (Washington DC: US Institute of Peace, 2011), 7, http://www-origin.usip.org/sites/default/files/Climate_Change_Nigeria.pdf.

²⁸Aja-Okorie, “Women Education in Nigeria: Problems and Implications for Family Role and Stability.”

²⁹A full discussion of the role of Boko Haram and its implications for state stability in Nigeria is beyond the scope of the present report. For more information, please see the START report, also conducted for AFRICOM.

and discredit the government. Further, Boko Haram's actions have the potential to inflame sectarian tensions across Nigeria³⁰ and, according to one source, thousands of lives have been lost in violent incidents arising from ethnic, religious, and other group tensions in the past decade.³¹

³⁰ The Jamestown Foundation, "Instability in Nigeria: The Domestic Factors," in *Threats to Nigeria's Security: Boko Haram and beyond* (presented at the Threats to Nigeria's security: Boko Haram and beyond, Washington, D.C.: The Jamestown Foundation, 2012); Bouchat, *The Causes of Instability in Nigeria and Implications for the United States*.

³¹ P. Lewis, *Nigeria: Assessing Risks to Stability* (Washington, D.C.: CSIS, June 2011); L. Ploch, *Nigeria: Current Issues and U.S. Policy* (Washington, D.C.: Congressional Research Service, April 24, 2013), www.crs.gov.

STAGE 2: The model tailoring process

The analyst must keep in mind that the purpose of the StaM is to understand how the components of the model contribute to or detract from overall stability. Rather than simply presenting a narrative of

MODEL IMPLEMENTATION

It is important to remember that a StaM analysis is not a unidirectional, linear process. The steps discussed must be conducted iteratively, multiple times before any tailored StaM is finalized. The connections between many of the model components, at both the generic and tailored levels, means that, as the analyst learns more about one factor or sub-factor in the model, understanding of how other factors or sub-factors interrelate, or the stability implications of specific elements, may also change.

the elements that comprise a sub-factor in a specific AOI, the analyst must investigate how the status of each element may influence stability at the dimensional level and for the system as a whole. However, before this assessment can even begin, the sub-factors of the generic StaM and their component elements need to be defined for the AOI. This is a time and information intensive process; however, it is critical to the quality of the stability analysis. In this section of the users guide, we explain the model tailoring process. We first discuss the decision process behind modifying higher-level components of the generic StaM, and then move to explaining the tailoring process for sub-factors and elements.

The discussion of the education element of provision of services (governing stability) focuses on how to further specify the initial tailoring questions and match them to potential data sources. Then, we return to the social stability section and present an overview of our tailoring of the quality of life sub-factors.

What is model tailoring?

After completing the high-level background research discussed in stage 1, the analyst needs to move to a more systematic search for information and data relevant to the factors and sub-factors of the generic StaM. Moving through the generic model sub-factors systematically, the analyst must identify: the elements of that sub-factor relevant to the specific AOI, their condition or status, and, for some sub-factors, the population's perception of those conditions. Once this contextual information is collected, the analyst needs to begin considering the possible stability implications of the specific combination of conditions and perceptions. For each dimension of the StaM (governing, economic, and social), we have constructed a list of tailoring questions that guide this initial analysis for model tailoring. A full list of these questions is provided in Appendix 1. These questions were constructed with reference to the theory and research that underlies the structure of the generic StaM. They are intended to help the analyst focus the initial information search, think through the possible stability implications of the information and data gathered on each of the sub-factors, and identify the most appropriate way to disaggregate these into elements and sub-elements for the tailored model. The intent is to keep the focus on the stability implications of individual sub-factors and streamline the information and data collection process, which could otherwise become overwhelming,

FUNCTION OF TAILORING QUESTIONS

- Focus the initial data and information search.
- Help classification and organization of elements and sub-elements.
- Guide the identification of possible stability implications of specific elements and sub-elements.

given the scope of the model. The tailoring questions also prompt the analyst to consider the potential crosscutting effects of specific components.

Moving from the top down, and guided by the tailoring questions for each dimension, the analyst must first identify whether there are any characteristics of the governing, economic, or social systems of the AOI that require modification at the factor level of the generic StaM. Then, moving to the sub-factor level, the analyst must determine the elements and sub-elements of each sub-factor most appropriate to the AOI (steps 1 and 2 in the tailoring process).

This process results in an initial tailoring of the StaM for a particular AOI. As can be seen in the economic, governing, and social stability dimensions for Nigeria (Appendix 3), tailoring creates a much more detailed and complex model. The tailored StaM created for Nigeria is composed of 15 sub-factors, broken out into 40 elements and 64 sub-elements; some of these items were further disaggregated at this initial stage. These tailored dimensions also gives an indication of the scope of analysis required for a full StaM. For each of the elements identified, the analyst must provide an overview of the current conditions and popular perceptions related to all sub-elements as they are identified. The stability implications of these must then be considered and explained, a process that nearly always requires further data and research for verification. If all of the analysis conducted at this initial tailoring stage were compiled, it would produce a report somewhere between 300-400 pages in length.

StaM TAILORING PROCESS

STEP 1: Identification of Elements

For each of the sub-factors in the generic StaM, the analyst must identify the elements relevant to the specific AOI being studied.

STEP 2: Initial Analysis

For each element identified, determine:

- Current actual status/condition of that element
- Popular perception of that element's status

The tailoring questions (Appendix 1) provide a guide for this initial analysis

NOTE: The analyst must also consider whether the specific nature of the AOI requires modification of the generic levels of the StaM.

STEP 3: Check generic level cross-cutting effects

Determine whether the interactive effects indicated on the generic model hold for the specific AOI being analyzed. This determination will be informed by the analysis done at steps 1 and 2.

STEP 4: Mapping of additional cross-cutting effects

Add in any crosscutting effects that were identified at the element level of the tailored model or at the generic levels (but specific to the AOI)

The tailoring questions (Appendix 1) also provide a guide for this analysis

STEP 5: Identification of elements for deep dive

Elements that have a significant number of crosscutting effects (element highlighted in red in Figure 3) should become the focus of further analysis.

There is an inevitable element of redundancy in this first stage of the process, though this is unavoidable for any systematic analysis. To be able to reach the point where you can identify critical elements and

sub-factors for stability, it is essential to examine all of the component elements of the tailored StaM. Not all elements or even all sub-elements of the tailored StaM will have significant effects on stability. However, this cannot be known unless and until they are explored in the context of the specific AOI. The following discussion will focus on the underlying logic behind how such tailoring decisions are made, and provide examples of the types of information and data needed in this initial tailoring pass, drawing on our analysis of governing stability in Nigeria. Figure 6 below presents the governing stability section of the StaM tailored for Nigeria. Due to the complexity of the tailored StaM, the mapping of crosscutting effects among the governing, economic, and social dimensions (steps 3 and 4 of the tailoring process) have been removed from the diagram. An example of how to visualize model components with significant cross-dimensional effects is given in the section on economic stability.

Tailoring at the factor and sub-factor level

In general, the expectation is that AOI-specific conditions will be reflected primarily in the lower levels of the model, and most extensively at the element and sub-element level. The structure of the generic StaM is designed to be as generalizable as possible, and agnostic with regard to regime type. As such, changes to the level at which a component is placed in the model are more likely than changes that reflect additional conceptual elements. Therefore, changes at the factor level should be made as conservatively as possible.

In the case of Nigeria, there was only one modification made to the generic StaM at the factor level – moving national security from the sub-factor to the factor level in governing stability (see Figure 12 in Appendix 3).³² Two specific aspects of the Nigerian case motivated this high-level change. First, the significant ongoing security threat created by the activities of Boko Haram in the North, and MEND in the Niger Delta (captured by vertical movement through the model from security credibility to internal threats to VEOs in Figure 12), and second, the increased salience of national security performance for civilian governments in states with a history of military rule (reflected in part by vertical movement through the model from security capability to material and resources, as well as training and personnel). In such states, the military presents a ready alternative to civilian rule, and when popular discontent is driven by poor security performance, it becomes easier for the military to be an alternative.

For these reasons, there is also a crosscutting effect at the sub-factor level between national security and governing legitimacy. If the population loses confidence in the ability of civilian leaders to provide security, one of the fundamental expectations citizens have for governments, support for continued civilian rule may decrease. At this point in time, however, this is not the dynamic we see at play in Nigeria. There is dissatisfaction with how the government is handling VEO threats, and data from various public opinion polls³³ indicates that security-related issues are perceived to be very important; however,

³² The economic stability and social stability dimensions, tailored to Nigeria, can be found in Appendix 3.

³³ IRI, *Nigerian National Survey: October 20 - November 3, 2011* (Washington, D.C.: The International Republican Institute, 2011), <http://www.iri.org/sites/default/files/2012%20February%2021%20Survey%20of%20Nigerian%20Public%20Opinion,%20October%2020-November%202011.pdf>; IRI, *2012 February 21 Survey of Nigerian Public Opinion, October 20-November 3, 2011.pdf*, 2012, <http://www.iri.org/sites/default/files/2012%20February%2021%20Survey%20of%20Nigerian%20Public%20Opinion,%20October%2020-November%202011.pdf>; NOI Polls, "Celebrating Seven Years of Polling in Nigeria," *NOI Polls*, March 7, 2014, http://www.noi-polls.com/index.php?s_id=3&p_id=308&p_pt=4&parent=7#.U0wvZ16Qxg0.

concerns over unemployment and poor economic performance are even greater. While there is also overall dissatisfaction with government performance in the security area, and more generally,³⁴ this dissatisfaction with government performance is not translating to dissatisfaction with democracy more broadly. Numerous polls report that the percentage of Nigerians reporting that democracy is preferable to any other kind of government remains high, and according to the Afrobarometer surveys, has risen from 65% in 2002-2003, to 72% in 2011/2012.³⁵

If changes are made at the factor level of the generic StaM, this will have a follow-on effect for the vertical structure of that factor. Two sub-factors were identified as central to understanding the stability implications of national security for Nigeria: military capability and security credibility. In 2013, the military's budget was only 1% of GDP (with an average between 2000-2013 of .97%), and has averaged only 3% of total government spending³⁶ since 2000 (2013: 3.2%). This percentage is just under half the global average of 6.1%, and well below the 5.6% average for African states.³⁷ There have been some claims that these low levels of spending are motivated by the civilian government's desire to limit the capability of the military in order to lessen the chances of a coup, a reality that would further strengthen the crosscutting effect of national security on governing legitimacy discussed above. Whatever the reason, the result has been that the Nigerian military is currently underequipped and lacks the modern military hardware it needs to counter Boko Haram and other VEOs, a situation borne out by their recent failures in this respect.³⁸ As a result, their credibility in defending Nigerians against internal threats is suffering. While this limitation may be a driver of short-term instability in Nigeria, in the longer term, it may contribute to governing stability by decreasing the likelihood that the military will have the necessary capability and influence to stage a coup, or the popular support necessary to maintain it.

Tailoring at the element and sub-element level

Even when no changes are made to the factor or sub-factor components of the generic StaM during tailoring, each AOI requires the analyst to specify the elements and sub-elements (where necessary) of each of the sub-factors. This is done both by referring to a more general understanding of how governing, economic, and social systems work (which also informs the structure of the generic StaM), and by drawing on information regarding the specific AOI. Tailoring of the public services sub-factor of governing stability provides an example of this process.

³⁴ IRI, *Nigerian National Survey: October 20 - November 3, 2011*; IRI, *2012 February 21 Survey of Nigerian Public Opinion, October 20-November 3, 2011.pdf*; NOI Polls, "Celebrating Seven Years of Polling in Nigeria."

³⁵ Afrobarometer, *Third Dissemination Event of the Findings of the Afrobarometer Round 5 Survey in Nigeria* (Lagos, Nigeria: Cleen Foundation, August 7, 2013), http://www.afrobarometer.org/files/documents/press_release/nig_r5_pr3_democracy_7Aug13.pdf.

³⁶ Data for general government expenditure are from the IMF World Economic Outlook, and include spending by all levels of govt.: central/federal, state/provincial/regional, municipal and local government, etc.

³⁷ SIPRI, "Military Expenditure Database," *Stockholm International Peace Research Institute*, 2014, http://www.sipri.org/research/armaments/milex/milex_database/milex_database.

³⁸ Tim Cocks, "Boko Haram Exploits Nigeria's Slow Military Decline," *Yahoo News*, May 9, 2014, <http://news.yahoo.com/boko-haram-exploits-nigerias-slow-military-decline-110343014.html>; Carl LeVan and Patrick Ukata, "Countries at the Crossroads: Nigeria," *Freedom House*, 2012, <http://www.freedomhouse.org/report/countries-crossroads/2012/nigeria#.U1AyLOZdVvB>; Fidelis Soriwel et al., "B'Haram: Outdated Weapons Hinder Military Operations," *Punch*, February 22, 2014, <http://www.punchng.com/news/bharam-outdated-weapons-hinder-military-operations/>.

Public services in Nigeria

The basic function of any government, and a source of its legitimacy, is generating, dividing and distributing “goods.” The ability of a government to serve this function (e.g., providing services such as justice, health, education, etc.) is contingent on its capacity, which is determined by the strength of its institutions and the resources at its disposal. Even with the best of intentions, if a government lacks resources and the bureaucratic infrastructure to implement policy, it will not be able to perform. These crosscutting effects within governing stability are captured by the horizontal arrows running from governing capacity and performance and national security to governing legitimacy (see Figure 5 below).

Even when a government has capacity, it will not necessarily use that capacity to provide services to the population. It is possible that a government may have the capacity but lack the motivation to provide services to its population; similarly, a government may have both the capacity and the motivation, but only be partially aware of the needs and priorities of that population. In both cases, a disconnect will emerge between the services a population expects or needs from its government, and what it receives. If a population perceives that its government has capacity that is not being directed toward provision of relevant services, whether due to corruption, disinterest, or poor understanding, satisfaction with performance is likely to be low, and may undermine the legitimacy of that government.

While the purpose of a StaM analysis is to understand the stability dynamics within a specific AOI, there are some basic services³⁹ that theory and research tell us can potentially drive instability (when they are insufficient or of poor quality) or buffer stability (when they are of adequate quality and sufficient to population needs). Furthermore, we know that expectations vary according to a country's level of development. What is taken for granted in an advanced industrialized democracy (e.g., garbage disposal), may remain a significant problem in lesser-developed countries, particularly in cities, and can contribute to a lack of satisfaction with governing performance. Similarly, public service expectations vary for cultural reasons even across countries at a similar level of development. Opposition in the U.S. to government funded health care, for example, is at odds with the attitudes of many Europeans.

Prior research and theory provided a starting point for tailoring this sub-factor of governing stability. Research indicates that access to adequate safe drinking water, sanitation, and basic healthcare (e.g., immunizations, pre-natal and maternal care) are associated with better overall health outcomes and quality of life. Reliable and affordable energy and education are also known to be linked to increased potential for economic growth and development. The initial background research conducted at Stage 1 suggested that all of these services were relevant to Nigeria. However, more detailed information was required before any assessment of their stability implications could be made. During the tailoring stage, therefore, we looked more closely at each of these five services to determine the overall condition of that service in Nigeria, and popular satisfaction or dissatisfaction with availability and access. We will now focus in on education to provide a more detailed example of how to develop the information and data required to then determine the stability implications of a model element.

³⁹ Services related to rule of law and security (police, military and the justice system) are considered as separate sub-factors in the StaM due to their centrality to stability.

Understanding a specific element or sub-element: Education in Nigeria

When moving to the examination of specific elements of a tailored StaM, the first task for the analyst is to create an overview of the condition of that element in the AOI. Working from the general tailoring questions for public services, we worked through a series of more specific questions designed to elicit the information required for the initial assessment of availability and access and satisfaction. Table 1 below provides a summary of this process. As this example demonstrates, the data and information requirements for tailoring each element of the StaM for a particular AOI can be considerable.

Table 2: Specific tailoring questions and data for the education sub-element

Specific tailoring question	Data and information considered	
How much money does the government invest in education and what can that tell us about its prioritization?	Financing of education	<ul style="list-style-type: none"> Percent of national budget allocated to education spending over time. Percent of state budgets allocated for education spending over time. Overall pattern of government expenditure across services and other obligations (including debt).
What importance does the government appear to place on providing education?		<ul style="list-style-type: none"> Statements by government officials regarding education. Government policies or programs designed to improve access and availability of education at the primary, secondary and tertiary levels.
Are there institutional impediments to government financing of education?		<ul style="list-style-type: none"> Structure and organization of the public education system in Nigeria. Mechanisms for allocating and disbursing national and state government funds to the local level. Problems identified with existing system.
Are there variations in the level of funding for education at the state level?		<ul style="list-style-type: none"> Process used by the national government for allocating resources for education to states. Variation in the levels of funding individual states provide (as a percent of the budget and per student).
How well are teachers paid?		<ul style="list-style-type: none"> Average salary of teacher, compared to civil servants, salaries for similarly qualified workers (i.e.: level of education) in other fields.
Are there external sources of funding for public education?		<ul style="list-style-type: none"> Funding of schools and education initiatives in Nigeria by non-governmental organizations (NGOs), intergovernmental organizations IGOs, or private international donors.
What do we know about the quality of teaching in Nigeria?	Quality of education	<ul style="list-style-type: none"> Student / teacher ratios at primary and secondary levels Certification and training requirements for teachers Percentage of qualified teachers Availability further training and professional development for teachers and administrators.
Does the quality of education vary regionally or between urban and rural areas?		<ul style="list-style-type: none"> Subnational data on student/teacher rations, and training by region and urban/rural.
Do schools and other educational institutions have the equipment needed for teaching?		<ul style="list-style-type: none"> Availability of up-to-date textbooks and equipment. Physical conditions of classrooms. Percentage of students with access to computers.
How well are students performing?		<ul style="list-style-type: none"> Data from standardized tests (e.g.: percent of students performing at grade standards).

Table 2 cont.: Specific tailoring questions and data for education sub-element

Specific tailoring question	Data and information considered	
Are there sufficient schools, universities and colleges to meet current and future projected demand for education?	Access to education	<ul style="list-style-type: none"> • Number of school aged children. • Capacity (in number of students) of primary and secondary schools. • Percentage of qualified students applying to universities and colleges who are accepted.
What percentage of the population is currently being educated and to what level?		<ul style="list-style-type: none"> • Percentage of primary / secondary / tertiary aged population enrolled in schools or universities and colleges (including technical colleges).
Does access to education vary by gender, religion or other demographic factors?		<ul style="list-style-type: none"> • Enrollment rates for primary / secondary / tertiary by gender, religion, urban/rural.
Are there alternatives to the public education system?		<ul style="list-style-type: none"> • Number and capacity of privately run schools, universities and colleges. • Percentage of students at primary/secondary/tertiary level in private schools, universities and colleges.
What is the cost of private education?		<ul style="list-style-type: none"> • Average cost of tuition at primary / secondary / tertiary level. • Determine also whether there are any religious schools that may be free or less costly.
Are there any other barriers to education in Nigeria?		<ul style="list-style-type: none"> • Barriers to education discussed by researchers and commentators, or the Nigerian public. For example security concerns, displacement, children working.
What priority does the population place on education?	Public perceptions of education	<ul style="list-style-type: none"> • Ranking of education on public opinion polling questions such as: <ul style="list-style-type: none"> ○ “What are the three most important problems facing your community/Nigeria?” ○ How should the government prioritize investing revenue from the oil sector? ○ What determines how well you do in life? ○ How important is education for you and your children?
Is the population satisfied with access to education? (Consider for relevant sub-sections of the population)		<ul style="list-style-type: none"> • Public opinion data asking questions related to: <ul style="list-style-type: none"> ○ Affordability of primary/secondary/tertiary education ○ Distance of school from home.
Is the population satisfied with the quality of education?		<ul style="list-style-type: none"> • Public opinion data asking questions related to: <ul style="list-style-type: none"> ○ Perception of quality of teachers. ○ Perception of education outcomes for themselves or their children. ○ Perception that schools / universities / colleges are well equipped (e.g.: quality of textbooks, classrooms etc.).

Assessing the condition of a specific element: Quality of life in Nigeria

Quality of life, the second factor of social stability, is defined as an individual’s ability to meet both basic physical needs and more prospective psychological needs. Although the two types of needs are closely related, research suggests that under stress people tend to prioritize satisfaction of physical needs such as water, food, safety, shelter, and health over psychological needs. With regard to quality of life, the

StaM defines psychological needs in terms of potential for betterment; namely, the possibility of socio-economic mobility, economic security, and food security.⁴⁰

Working through the StaM tailoring questions to determine the relevant sub-factors and elements for quality of life reveals that Nigerians experience threats to their quality of life across multiple domains. At the most basic level, Nigerians' physical quality of life is compromised by food and water insecurity (e.g., according to one report, 65% of the population is food insecure⁴¹), geographic displacement due to violence and climate change, housing shortages, insufficient healthcare (e.g., under five mortality rates, malnutrition among the poor, problems with efficiency and effectiveness, and inequitable distribution of resources), and threats to their physical safety as a result of violence and inability of the police and military to guard properly against these threats. Additionally, we see evidence of potential for some cross-cutting effects within this level of analysis. For instance, within the health sector, reports indicate an unbalanced and inequitable distribution of resources (including skilled personnel, health care providers, etc.), which largely favor urban elites.⁴² To the extent that Nigerians are aware of these discrepancies and believe they are in fact inequitable, this may give rise to feelings of deprivation across urban and rural or poor and elite segments of society.

MODEL IMPLEMENTATION

Once again, the importance of the iterative nature of the StaM is made apparent. Through an examination of data mapped against the quality of life tailoring questions, we discover that findings emerge that are relevant to the group dynamics questions. As such, we may observe cross-cutting relationships not only across domains (economic, social, governing), but also within domains and sub-factors of the model. In order to capture this information as it relates to multiple components of the model, it is necessary to iterate to determine the full range of potential stability implications.

In the psychological realm, Nigerians also experience additional threats, primarily in terms of feelings of economic insecurity and collapse of community-based support structures. Nigerians are not, by and large, satisfied with their personal economic situation.⁴³ Furthermore, at the community level, existing traditional forms of support have been eroding, with some community-based lending groups disbanding when members cannot afford to repay their debts, and horizontal support networks breaking down as a result of financial hardship. It bears mentioning that the illegal activity of oil bunkering provides a source of income for significant portions of the population who are unemployed, unskilled, or both, and cannot find employment in the formal sector. Thus, oil bunkering in Nigeria actually provides a short-term

⁴⁰ Ed Diener and Eunkook Suh, "Measuring Quality of Life: Economic, Social, and Subjective Indicators," *Social Indicators Research* 40, no. 1–2 (January 1, 1997): 189–216; Douglas T. Kenrick et al., "Renovating the Pyramid of Needs: Contemporary Extensions Built Upon Ancient Foundations," *Perspectives on Psychological Science: A Journal of the Association for Psychological Science* 5, no. 3 (May 2010): 292–314, doi:10.1177/1745691610369469; Abraham H. Maslow, *Motivation and Personality, 3rd Edition*, ed. Robert Frager et al., 3rd edition (New York: Longman, 1987).

⁴¹ Crusoe Osagie, "Climate Change Threatens Food Security in Nigeria, Others," *This Day Live*, October 15, 2013, <http://www.thisdaylive.com/articles/climate-change-threatens-food-security-in-nigeria-others/161641/>.

⁴² I. Odeyemi and J. Nixon, "Assessing Equity in Health Care through the National Health Insurance Schemes of Nigeria and Ghana: A Review-Based Comparative Analysis," *International Journal for Equity in Health* 12, no. 9 (2013): 1–18; Jessica Hagen-Zanker and Rebecca Holmes, *Social Protection in Nigeria* (Overseas Development Institute, 2012), http://www.unicef.org/nigeria/Social_protection_in_Nigeria_Synthesis_report.pdf.

⁴³ According to the 2014 NOIPOLLS Personal Well-Being Index, the indicator looking at satisfaction with one's economic situation has been the lowest ranked indicator within the index over the past 12 years. *NOIPolls Portfolio of Indices* (Abuja, Nigeria: NOI-Polls, August 12, 2014), http://www.noi-polls.com/index.php?s_id=3&p_id=345&p_pt=1&parent=8#U_TWLkumgYI.

buffer to social stability, as it provides economic security and improved quality of life for many Nigerians who would otherwise be unable to meet their basic needs. At the same time, this activity has a clear negative effect on overall quality of life (through increased intergroup tensions, violence, reduction of governmental performance, etc.) decreasing social stability in the longer-term.

Looking across all of these findings, Nigerians' perceptions surrounding their physical safety appear to pose the greatest challenge to social and other forms of stability, and thus will be examined in further detail. These perceived threats to physical security arise not only from the threat of violence and harm due to conflicts within and across groups, but also from a lack of confidence in the police to protect their citizens from harm. A recent NOI poll indicates that one quarter (25%) of the population believes that security is the top issue that the present administration should seek to address within the next three years.⁴⁴ Nigeria consistently ranked 7th or higher on a list of 83 countries on several indicators relevant to physical security, including crime levels, concerns about mugging or robbery, and the perceived problem of violent crimes, including assault and armed robbery.⁴⁵

The 2014 NOI poll also indicates that Nigerians have historically had very little trust in the police.⁴⁶ Though Nigerians place more trust in the military than in the police, the military is not tasked with the daily provision of security to Nigerians at a more local level. In fact, a 2013 NOI poll indicated that 51% of Nigerians attribute the high prevalence of jungle justice in the country to a "lack of trust in the law enforcement agencies."⁴⁷ Alarmingly, almost half of Nigerians (43%) reported that they personally witnessed these acts of jungle justice/mob attacks in their localities. Perhaps due to these deficits in policing, multiple crimes appear to have spiked across various parts of the country in recent years, including cattle rustling, rape, banditry, and organized criminal activity.⁴⁸ Further, these spikes in crime appear to be dovetailing with other conditions to produce a situation where people feel free to operate outside of the confines of established civil institutions and the formal rule of law. As Sayne⁴⁹ relates, "while it has its own quirks, the Delta shows how a cocktail of weak institutions, sour relationships, bad choices, and environmental crisis can bring people to see violent self-help as economically rational, morally justified, and socially productive." Despite the apparent failure of the police to maintain security at the local level, people's perceptions of their local communities are still largely positive (only 34% viewed their communities as insecure). However, overall perceptions of national security are poor, with a strong majority (76%) of individuals indicating in a recent poll that the country as a whole is not secure.⁵⁰

⁴⁴ NOI Polls, "Security and Job Creation: Top Key Issues Nigerians Want the President to Focus on in 2015," January 13, 2015, http://www.noi-polls.com/index.php?s_id=3&p_id=371&p_pt=1&parent=11#.VN5IfUKmghE.

⁴⁵ Hagen-Zanker and Holmes, *Social Protection in Nigeria*, 2012.

⁴⁶ NOI Polls, "Celebrating Seven Years of Polling in Nigeria."

⁴⁷ *Lack of Trust in Law Enforcement Agencies Blamed for Jungle Justice in Nigeria*, Opinion Polls: Socio-Economic Polls (Abuja, Nigeria: NOI-Polls, January 28, 2013), http://www.noi-polls.com/index.php?s_id=3&p_id=294&p_pt=1&parent=11#.U_TfPkumgYI.

⁴⁸ Sayne, *Climate Change Adaptation and Conflict in Nigeria*.

⁴⁹ Ibid.

⁵⁰ NOI Polls, *State of Security: Special Edition Poll*, 2014.

In northern Nigeria, Boko Haram's tactics, including use of IEDs and suicide bombing, increasingly are being directed against the population, rather than at the police and security forces.⁵¹ There have also been reports suggesting that violent groups within Nigeria, primarily Boko Haram, exploit the vulnerable youth population either through ideological conversion, promises of financial gain, or violent intimidation.⁵² While it is difficult to obtain exact figures on youth participation in violent groups and more generally in societal violence in Nigeria, various studies, reports, and news stories suggest that youth involvement in violence is problematic, particularly in northern Nigeria.⁵³ A 2013 report suggests that, due to inadequate provision of law and order, many youth are turning to "vigilantism or ethnic militias to supply policing...or go as far as violence and terrorism to attain their political or economic demands."⁵⁴ Furthermore, anecdotal evidence suggests that unemployed youth were employed by politicians and criminals to perpetuate ethno-religious conflict in the country for their own gain. For example, during the 2011 elections, militants used youths to "attack, bomb, vandalize and destroy oil pipelines, lives and property in the Niger Delta region of Nigeria."⁵⁵ Youth, ages 15-35, were also reportedly involved in electoral violence during and after the 2011 election.⁵⁶ In fact, a 2011 study found a "significant relationship between youths' involvement in electoral violence and the crisis of democratic consolidation in Nigeria...Nigeria will not experience democratic sustenance until its political class inculcate in the youths relevant democratic culture."⁵⁷

There has also been a more general reported increase of youth involvement in criminal activity.⁵⁸ A 2011 conference on youths in northern Nigeria identified several significant socio-economic drivers of this behavior at play that continue to persist to this day, including lack of humanitarian and social welfare, poor governance, corrupt practices by government officials, inadequate recreational facilities, lack of quality education, poverty, unemployment, marginalization, and availability and accessibility of drugs on the street.⁵⁹ Some experts have suggested that the Nigerian government has the opportunity to capitalize on the large youth population by including them in the peacemaking process via active integration and involvement in the community and peace efforts, and that without the concerted efforts for inclusion, "[the youth] face exclusion and are vulnerable to violence, [and] lasting peace is

⁵¹ The Jamestown Foundation, "Instability in Nigeria: The Domestic Factors"; Freedom C. Onuoha, *Boko Haram: Nigeria's Extremist Islamic Sect* (Al Jazeera Centre for Studies, 2012), <http://studies.aljazeera.net>.

⁵² Hamza Idris, "Boko Haram Forcefully Recruiting Youth in Borno Villages," *Daily Trust*, April 3, 2014, <http://dailytrust.info/index.php/news/20770-boko-haram-forcefully-recruiting-youth-in-borno-villages>; Janet Adama Mohammed, "Terror in Jos: Could Nigeria's Youth Be Key to Ending the Violence?," *The Guardian*, May 30, 2014, <http://www.theguardian.com/global-development-professionals-network/2014/may/30/peace-nigeria-boko-haram>; Onuoha, *Boko Haram: Nigeria's Extremist Islamic Sect*; Freedom C. Onuoha, "Why Do Youth Join Boko Haram?," *The United States Institute of Peace Special Report*, no. 348 (2014), http://www.usip.org/sites/default/files/SR348-Why_do_Youth_Join_Boko_Haram.pdf; Gillian Parker, "Nigeria's Abandoned Youth: Are They Potential Recruits for Militants?," *Time*, February 18, 2012, <http://content.time.com/time/world/article/0,8599,2107102,00.html>.

⁵³ Ajibnde Ebenezer Jegede and A. E. Idowu, "Youth at Crossroads: The Challenges of Social Change in Nigeria," *Journal of Cultural Studies*, 2009, http://eprints.covenantuniversity.edu.ng/576/1/Youth_at_Crossroad;The_challenges_of_Social_Change_in_Nigeria.pdf; Mohammed, "Terror in Jos"; "The Challenges of Youth Restiveness in Northern Nigeria" (presented at the Youth Restiveness, Violence, Peace & Development in Northern Nigeria, CLEEN Foundation, 2011).

⁵⁴ McLoughlin et al., *Nigerian Unity*, 37.

⁵⁵ Emeka Emmanuel Okafor, "Youth Unemployment and Implications for Stability of Democracy in Nigeria," *Journal of Sustainable Development in Africa* 13, no. 1 (2011): 367.

⁵⁶ Preye Kuro Inokoba and Agnes Ebi Maliki, "Youths, Electoral Violence and Democratic Consolidation in Nigeria: The Bayelsa State Experience," *Anthropologist* 13, no. 3 (2011): 217-25; Okafor, "Youth Unemployment and Implications for Stability of Democracy in Nigeria"; Ploch, *Nigeria: Current Issues and U.S. Policy*.

⁵⁷ (Inokoba & Maliki)

⁵⁸ Okafor, "Youth Unemployment and Implications for Stability of Democracy in Nigeria."

⁵⁹ Dibal Rachel Abdullahi, "The Causes of Youth Restiveness and Violence in Northern Nigeria," 2011, 36.

unlikely.”⁶⁰ However, inclusion will only be successful if the youth have their expectations in alignment with reality. The youth population must be provided with equitable access to services and goods, education, and employment opportunities in alignment with skills taught in school and income needs.

⁶⁰ Mohammed, “Terror in Jos.”

STAGE 3: AOI-specific stability factors and their crosscutting effects

In this section we discuss the process behind identifying which components of a tailored StaM are critical for stability in the specific AOI, and determining its crosscutting connections. We then present a case study application in Nigeria to illustrate how to identify an appropriate topic for drill-down and how to conduct an in-depth analysis of the selected topic.

The purpose of the StaM is to enable an analyst to systematically and comprehensively examine the conditions within an AOI that have potential to influence the stability of that system. All of the components of the generic StaM have the *potential* to influence the stability of a system, and were included in the model because theory and prior research has demonstrated that specific conditions and combinations of these components either increase the probability of instability, or bolster the stability of economic, social, or political systems. However, this does not mean that in every AOI every component of the generic StaM will prove to be either a driver of instability or a buffer of stability. Whether a component of the StaM influences stability in a specific AOI will depend on three basic factors: a) its conditions (e.g., what percentage of the population has access to basic health care); b) the population's perception of those conditions (e.g., are people satisfied or dissatisfied with the level of access), and c) how those conditions and perceptions affect other components of the model (the crosscutting effects).

The direction of a component's effect on stability will also be AOI specific. The individual components of the StaM are not directional with regard to their potential effect on stability. For example, one of the sub-factors of governing stability is civil order and justice. We know that poor provision of civil order (ineffective and corrupt police, for example) can drive instability; however, we also know that effective civil order can create conditions that buffer stability. Therefore, the model incorporates the concept of civil order and justice non-directionally in order to allow for all potential conditions of the sub-factor in a specific AOI. Figure 5 below provides some further examples of this.

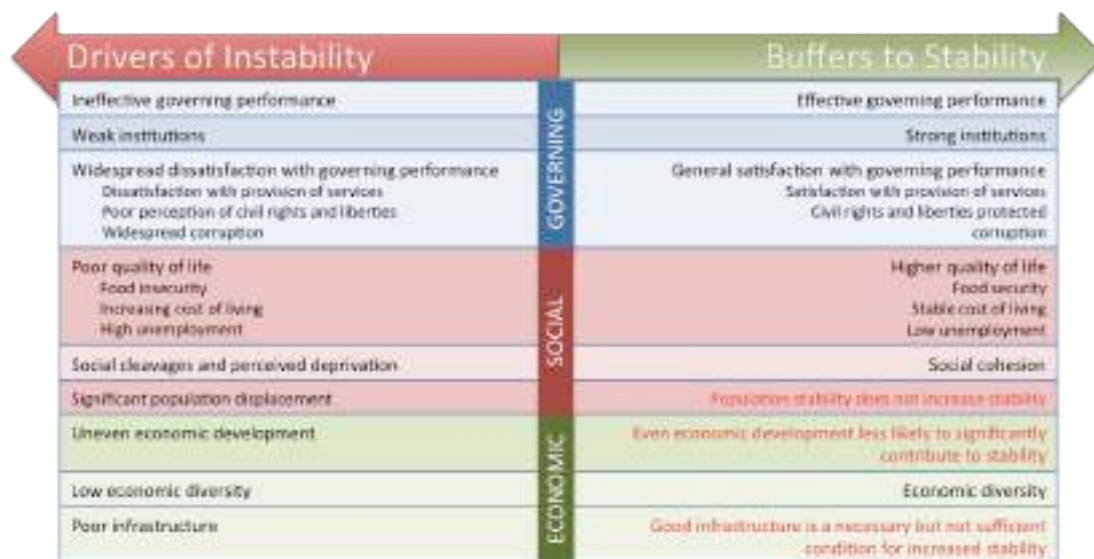


Figure 4: Examples of the varying stability implications of StaM components

In the final stage of the initial tailoring process, the analyst needs to identify how the specific elements and sub-elements affect stability in the AOI—identifying the drivers of instability and buffers of stability. It is these components of the tailored StaM that become the focus of this stage of the stability analysis. The other consideration that needs to be accounted for when assessing stability implications is time. In many instances, we find that there can be variation in the short- and longer-term stability effects of specific model components. This variation can occur either in magnitude or direction. By distinguishing between short- and longer-term effects, the StaM can help analysts identify situations (e.g., reliance on oil) that may buffer stability in the short-term, but ultimately block many of the structural changes required for longer-term stability. Variations in the direction of stability effects over time are particularly important to identify. If an analyst is interested in determining possible points of intervention to increase stability in an AOI, or seeking to determine the possible second- and third-order effects of a planned intervention or engagement, then looking beyond the short-term likely effects of such an action is critical.

MODEL IMPLEMENTATION

While every item considered as part of the StaM process should be relevant to stability, upon examination within a specific context, not every element will be identified as a driver or buffer. For example, while group cleavages exist in Nigeria and do give rise to conflict, they are not (counterintuitively) shown to be destabilizing for social stability at this time. However, they do appear to be influencing governing stability. For this reason, the StaM process is important for illuminating perceived versus actual concomitants of instability as well as true areas of impact, and should be conducted using an iterative approach. This formal approach also underscores the importance of going beyond examination of the raw data to conduct model-driven analysis.

After the initial tailoring phase is completed, the data are sourced, and initial buffers, drivers, and intensifiers are established (as described in the governing stability section), the analyst should examine

MODEL IMPLEMENTATION

Working through the StaM, the analyst will encounter elements that have multiple crosscutting connections. The optimal way to follow the logic of these connections is to create a loop diagram focused on that element and its direct (first order) and indirect (second- and third-order) effects, along with feedback loops. Here, the analyst can make note of existing relationships through the use of solid lines and likely relationships (possible long-term effects) through the use of dotted lines. Loop diagrams enable the analyst to trace out where unexpected consequences might emerge. The analyst can use the diagram to determine the ultimate downstream effects of changing or leveraging any singular element. In this way, informed decisions can be made about whether to address a given issue or, if the issue must be addressed, the best route by which to effect change by minimizing negative consequences.

the model findings to determine which elements appear to be consistently associated with multiple other elements, both within and across model domains. Upon comparison of the generic StaM with the tailored StaM for Nigeria, the model elements remained static below the sub-factor level. The major element for which we need to take account within Nigeria, like all developing economies, is the informal economy. More specifically, the issue of oil bunkering—which is unique to the Nigerian context—presents a case study illustration of the way in which a given activity can map across the entire model. Academic research suggests that such economic issues may be

tied closely to issues of governance. For example, in an empirical cross-sectional analysis of governing institutions in 100 developed, developing, and emerging markets, improved institutional quality was shown to significantly reduce the size of the informal economy.⁶¹ Similarly, our StaM analysis reveals that oil bunkering is tied not only to economic stability, but also to governing stability and social stability.

As discussed earlier in this report, complexity increases substantially after full tailoring of the StaM for a given application, making illustration of the relationships among model components challenging. Instead, we use loop diagrams⁶² to focus on issues that have been demonstrated to have many crosscutting relationships. Loop diagrams, like Figure 6 below, present a useful way for analysts to organize and visualize the complex relationships uncovered for issues identified as important for stability. As described in the discussion below, several elements have not only direct or first-order effects, but also indirect effects. These relationships are also not limited to unidirectional relationships; instead bidirectional relationships exist, creating feedback loops. The impact of these elements pervades not only through the loop model components (shown in Figure 6 below), but also through the StaM model, through their larger implications on all three dimensions of stability.

Oil bunkering and the stability implications of relative deprivation

In recent years Nigeria has experienced growth in overall GDP, largely been driven by oil, a primary source of government revenues since the 1970s.⁶³ Oil and natural gas currently account for roughly 70%-80% of government revenues.⁶⁴ At face value, the medium-term economic outlook for Nigeria is also positive, assuming stabilization of oil output and strong oil prices.⁶⁵ However, the macro-level success of the Nigerian economy has not been robust enough to significantly improve poverty or unemployment levels in the country, and the benefits of growth have not sufficiently trickled down to improve quality of life for the over 62% of Nigeria's 170 million people who live in extreme poverty.⁶⁶ This issue has resonated particularly strongly in the Niger Delta, whose people have watched their country become rich, in large part as a result of the vast supply of the country's oil resources in the Delta region, at an

⁶¹ Anoop Singh, Sonali Jain-Chandra, and Adil Mohommad, *Inclusive Growth, Institutions, and the Underground Economy (PDF Download)* (International Monetary Fund, 2012). Institutional quality in the Singh et al. study was measured according to World Bank Governance indicators.

⁶² Loop diagrams enable the analyst to clearly visualize multiple crosscutting relationships by drilling down and focusing on a particular section of the StaM model and its components. Loop diagrams present both the direct and indirect (second- and third-order) relationships among model components, and include feedback loops. Loop diagrams also enable the analyst to visualize both existing relationships and likely (longer-term) relationships. As such, loop diagrams present a clear way to conceptualize the impact of various potential policy actions by delineating the connections between and among various components, which helps to clarify the potential follow-on effects of actions intended to address or change a singular or set of related components.

⁶³ *CIA World Factbook: Nigeria* (CIA, 2014), <https://www.cia.gov/library/publications/the-world-factbook/geos/ni.html>.

⁶⁴ Michelle Faul, "Nigeria: Economy \$510B, Biggest in Africa," *USA Today*, April 6, 2014, <http://www.usatoday.com/story/money/business/2014/04/06/nigeria-economy-510-billion-biggest-in-africa/7389395/>; Acha Leke et al., *Nigeria's Renewal: Delivering Inclusive Growth in Africa's Largest Economy* (McKinsey Global Institute, July 2014), http://www.mckinsey.com/insights/africa/nigerias_renewal_delivering_inclusive_growth; Leslie Schaffer, "Will This Country Be the next Oil Domino?," *CNBC*, December 8, 2014, <http://www.cnbc.com/id/102247147#>.; "The Nigerian Economy: Well Below Par," *The Economist*, November 29, 2014, <http://www.economist.com/news/finance-and-economics/21635051-over-reliance-oil-spells-trouble-nigeria-well-below-par?fsrc=scn/tw/te/pe/wellbelowpar>.

⁶⁵ *CIA World Factbook: Nigeria*.

⁶⁶ Barbara Barungi, *Nigeria Country Report* (African Economic Outlook, May 2014), <http://www.africaneconomicoutlook.org/en/countries/west-africa/nigeria/>; *CIA World Factbook: Nigeria*; Adam Green, "Agriculture Is The Future Of Nigeria," *Forbes*, August 2013, <http://www.forbes.com/sites/skollworldforum/2013/08/08/agriculture-is-the-future-of-nigeria/>; Leke et al., *Nigeria's Renewal: Delivering Inclusive Growth in Africa's Largest Economy*.

environmental cost to the area.⁶⁷ Inequitable distribution and re-investment of financial resources by the government, in addition to pervasive corruption, have resulted in oil revenues not being properly used to noticeably improve the lives of the people of the Niger Delta.⁶⁸ In a recent scandal it was alleged that \$20 billion in oil revenues were missing from state funds,⁶⁹ and hundreds of millions of dollars allocated for the improvement of Nigeria's four oil refineries have also disappeared or been ill spent. Reports from the state-owned Nigerian National Petroleum Corporation indicate that three of the Delta's four refineries performing at only 19% of their capacity during the first nine months of 2013.⁷⁰

Nigerians appear to be aware that the source of their poverty is at least partially rooted in corruption and inequity; Nigerians regularly refer to "fuel scarcities," not "fuel shortages," suggesting an awareness that no real shortage exists.⁷¹ Their dissatisfaction is deepened by the belief that the Nigerian elite are

MODEL IMPLEMENTATION

At this point in the process, the analyst should consider not only first order, but also second- and third-order effects. We will describe the direct impacts of oil bunkering, as well as the way in which the results of this activity propagate through the model to create indirect effects having less apparent implications for stability that can be brought to light through the StaM process.

purposefully diverting oil revenues to make themselves rich, rather than using the revenues to improve the quality of life for the majority of Nigerians.⁷² This perceived inequity in the distribution of economic resources has created a sense of relative deprivation among the people of the Delta.⁷³

As a result of the perceived inequity, which is exacerbated by a lack of formal employment opportunities, many poor Nigerians in the Niger Delta have turned to oil bunkering as a form of economic survival. Oil bunkering is the theft of crude oil through drilling or cutting into exposed, buried, or submerged oil pipelines.^{74,75} The stolen oil is then sold in

⁶⁷ Barungi, *Nigeria Country Report*; *CIA World Factbook: Nigeria*; Green, "Agriculture Is The Future Of Nigeria"; Leke et al., *Nigeria's Renewal: Delivering Inclusive Growth in Africa's Largest Economy*.

⁶⁸ Bryan Abell, "Eliminating Nigeria's Illicit Economy: Applying Lessons Learned from Afghanistan," October 2012, <http://sixmaritime.com/eliminating-nigerias-illicit-economy/>; Bouchat, *The Causes of Instability in Nigeria and Implications for the United States*; Katharine Dennys, "'Blood Oil': Exploring the Illegitimate Oil Trade in Nigeria," October 2012, http://www.consultancyafrica.com/index.php?option=com_content&view=article&id=1125:blood-oil-exploring-the-illegitimate-oil-trade-in-nigeria-&catid=57:africa-watch-discussion-papers&Itemid=263; Moses Obenade and Gordon Amangabara, "The Socio-Economic Implications of Oil Theft and Artisanal Refining in the Niger Delta Region of Nigeria," *International Journal of Science and Research (IJSR)* 3, no. 7 (July 2014).

⁶⁹ Michelle Faul, "Fuel Shortages Dog Africa's Biggest Oil Producer," *ABC News*, April 5, 2014, <http://abcnews.go.com/International/wireStory/fuel-shortages-dog-africas-biggest-oil-producer-23206775>.

⁷⁰ *Ibid.*

⁷¹ *Ibid.*

⁷² Dennys, "'Blood Oil': Exploring the Illegitimate Oil Trade in Nigeria."

⁷³ Abell, "Eliminating Nigeria's Illicit Economy: Applying Lessons Learned from Afghanistan"; Dennys, "'Blood Oil': Exploring the Illegitimate Oil Trade in Nigeria"; Christopher J. Kinnan et al., *Failed State 2030: Nigeria - A Case Study*, Occasional Paper (Maxwell AFB, AL: Center for Strategy and Technology Air War College, February 2011); Obenade and Amangabara, "The Socio-Economic Implications of Oil Theft and Artisanal Refining in the Niger Delta Region of Nigeria."

⁷⁴ Oil bunkering is a complex process that involves thieves tapping into oil pipelines to siphon crude oil from the pipeline and onto barges that transport the oil through the creeks of the Delta to an illegal refinery. Once the crude oil is refined, the oil is typically shipped out of the country and sold in international. Individuals involved in the oil bunkering process can range from the poor, downtrodden people of the Delta region who have no access to formal jobs that instead generate income by serving as the thieves drilling into the pipelines; to boat yard personnel who help construct and supply barges to transport stolen oil; to camp workers, managers, and security personnel at the illegal refinery sites; to military personnel that take bribes to avoid combating the illegal activities taking place; to corrupt government officials who are not putting in significant effort to seriously combat oil bunkering as they are profiting behind the scenes from the bunkering.

⁷⁵ Abell, "Eliminating Nigeria's Illicit Economy: Applying Lessons Learned from Afghanistan"; Bouchat, *The Causes of Instability in Nigeria and Implications for the United States*; Dennys, "'Blood Oil': Exploring the Illegitimate Oil Trade in Nigeria"; Obenade and Amangabara, "The Socio-Economic Implications of Oil Theft and Artisanal Refining in the Niger Delta Region of Nigeria."

domestic or international markets.⁷⁶ Nigerians view this activity as a form of social justice; designed to take back what they believe is rightfully theirs⁷⁷ and correct their sense of disenfranchisement.⁷⁸ These activities have largely been carried out by the Movement for the Emancipation of the Niger Delta (MEND),⁷⁹ which has used oil bunkering to bring to light the grievance felt throughout the Niger Delta.

When an issue such as oil bunkering is identified, it is important first to determine scale as a means of gauging the likelihood that the stability implications identified by mapping to the StaM will actually be observed in this specific case. Estimates of the scale of oil bunkering range from 100,000 to 200,00 barrels stolen a day.⁸⁰ Nigeria has a maximum crude oil production capacity of 2.5 million barrels per day. Based on the estimates here, this represents a 4%-8% loss *every day* as a result of oil bunkering.

According to the StaM analysis, oil bunkering activities impact Nigeria's prospects for stability across all three model dimensions: economic, governing, and social. Issues that exert such a pervasive effect on model elements should be isolated for further exploration through a deep dive. Figure 6 below presents a summary diagram of the major stability dynamics of oil bunkering activity, as determined by deep dive analysis using the Nigeria StaM, and is followed by a discussion of these connections and crosscutting effects.

⁷⁶ Abell, "Eliminating Nigeria's Illicit Economy: Applying Lessons Learned from Afghanistan"; Bouchat, *The Causes of Instability in Nigeria and Implications for the United States*; Dennys, "'Blood Oil': Exploring the Illegitimate Oil Trade in Nigeria"; Obenade and Amangabara, "The Socio-Economic Implications of Oil Theft and Artisanal Refining in the Niger Delta Region of Nigeria."

⁷⁷ Abell, "Eliminating Nigeria's Illicit Economy: Applying Lessons Learned from Afghanistan"; Akintunde Akinleye, "Nigeria's Oil Thieves Say Government Leaves Them No Choice," *Reuters*, 2013, <http://www.reuters.com/article/2013/01/15/us-nigeria-oil-theft-idUSBRE90E0D020130115>; Dennys, "'Blood Oil': Exploring the Illegitimate Oil Trade in Nigeria"; Ogodo Douglas, "Oil Theft & Illegal Bunkering: The Way Forward | Nigerian Oil & Gas," *Nigerian Oil and Gas*, October 14, 2013, <http://nigerianoilgas.com/?p=1116>; Obenade and Amangabara, "The Socio-Economic Implications of Oil Theft and Artisanal Refining in the Niger Delta Region of Nigeria"; Alexis Okeowo, "Oil Thieves of the Niger Delta," *Bloomberg*, 2014, <http://www.businessweek.com/articles/2014-02-20/nigerias-delta-oil-thieves-scrape-out-a-precarious-living#p1>.

⁷⁸ Bouchat, *The Causes of Instability in Nigeria and Implications for the United States*.

⁷⁹ MEND is a group composed largely of dissatisfied, unemployed youth, and is listed as a criminal organization by the Nigerian government, as it has used oil bunkering activities in its attempt to force the government into returning a greater share of the nation's oil revenues to the Niger Delta region and its people (Kinnan et al., *Failed State 2030: Nigeria - A Case Study*). MEND's message is in large part a response to the stated mismanagement and corruption, which has enriched many in the Nigerian oil elite at the cost of improving social welfare for the majority of the population.

⁸⁰ Jon Gambrell and -Associated Press, "Oil Bunkering Threatens Nigeria's Economy, Environment," *The Washington Post*, July 20, 2013, sec. National, http://www.washingtonpost.com/national/oil-bunkering-threatens-nigerias-economy-environment/2013/07/18/e38cb4a0-e273-11e2-aef3-339619eab080_story.html; Heritage Foundation, "2014 Index of Economic Freedom," *Heritage Foundation*, 2014, <http://www.heritage.org/index/country/nigeria>.

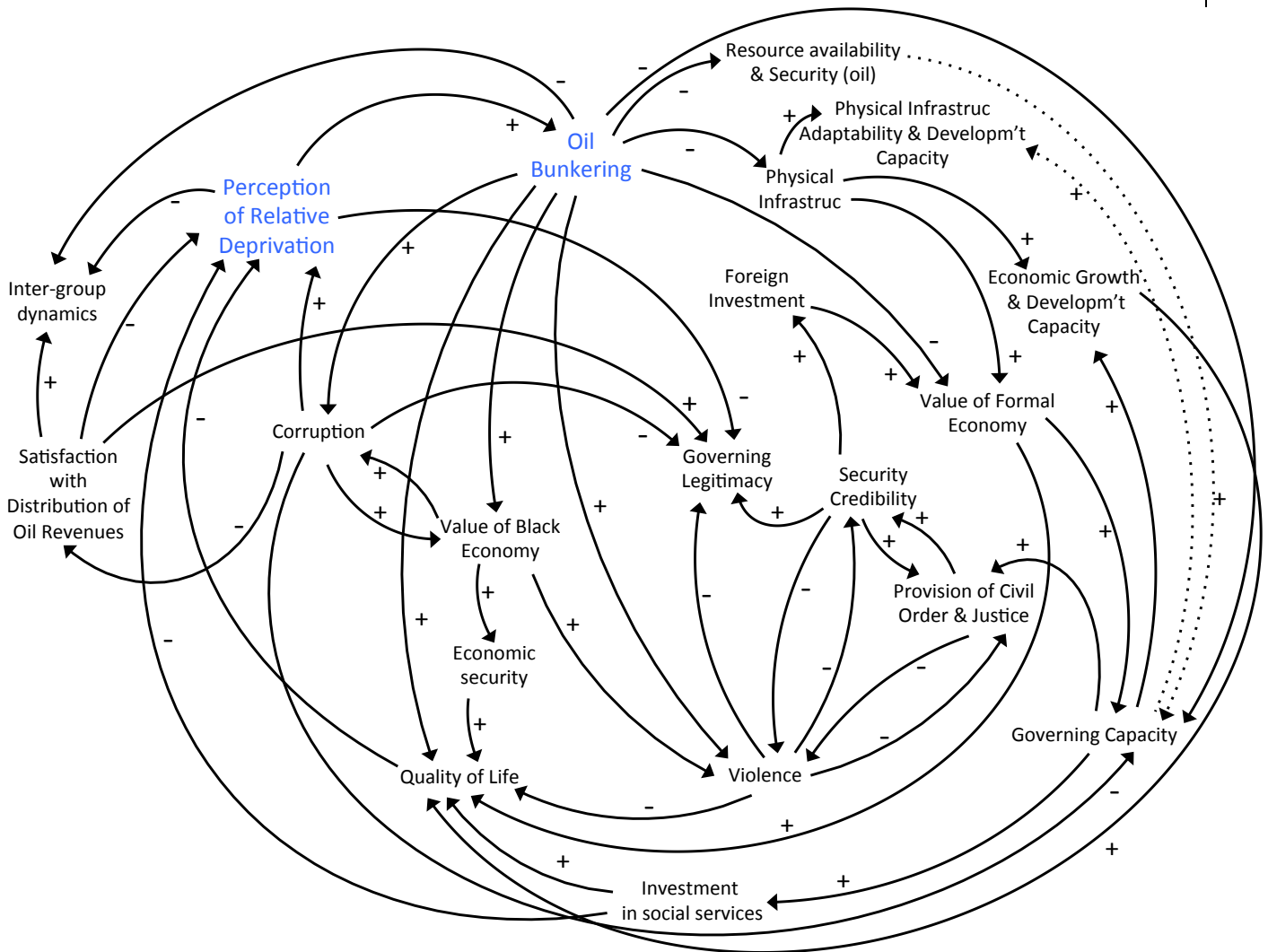


Figure 5: Loop diagram illustrating the direct and indirect relationships between relative deprivation, oil bunkering, and components of economic, social, and governing stability

Note: Solid lines indicate existing relationships and dotted lines represent likely (long-term) relationships. Arrows are directional and indicate the relationship between a predictor variable and an outcome variable. Arrows demonstrate the impact of the predictor variable on the outcome variable as the predictor variable increases in value

Oil bunkering and the formal economy

Oil bunkering has a direct negative effect on the value of the formal economy, through the loss of between \$6-\$12 billion USD in oil revenues annually from these illegal activities (roughly 1%-2% of GDP),⁸¹ damage physical infrastructure (i.e. oil pipelines). Constant damage to the oil infrastructure through the drilling or cutting into oil pipelines, directly impacts the country's future physical infrastructure adaptability and development capacity for the future. These activities steal revenues that would be generated from the sale of oil by the Nigerian government decreasing government capacity.⁸²

⁸¹ Abell, "Eliminating Nigeria's Illicit Economy: Applying Lessons Learned from Afghanistan"; Kelvin Ebiri, "Economic Insurgency: Why Oil Theft, Illegal Bunkering Persist," *Guardian*, February 2014, http://www.ocnus.net/artman2/publish/Africa_8/Economic-Insurgency-Why-Oil-Theft-Illegal-Bunkering-Persist.shtml.

⁸² William Jaffray, "Illegal Oil Bunkering: Stealing Nigeria's Lifeblood," *Oil & Gas Monitor*, August 1, 2012, <http://www.oilgasmonitor.com/illegal-oil-bunkering-stealing-nigerias-lifeblood/2671/>; Okeowo, "Oil Thieves of the Niger Delta"; "Unearthing Real Culprits Behind Illegal Oil

This has a direct negative effect on longer-term economic growth and development capacity, driving economic instability.

Widespread and persistent oil bunkering has also raised concerns among foreign economic investors over the safety of their investments, based on observed corruption and violence, along with decreased security credibility. In fact, the shift to offshore drilling by foreign oil companies in Nigeria occurred in part due to concern over the security of the oil infrastructure (as well as discovery of offshore oil resources). These concerns, if unheeded, could disincentivize additional or continued foreign investment and further impact both the value of the formal economy and the country's economic growth and development capacity.

Oil bunkering and quality of life

Oil bunkering was found to have a positive direct effect and multiple positive indirect effects on quality of life (physical and psychological), while at the same time having multiple negative indirect effects. One advantage of the StaM's focus on indirect and crosscutting effects is the discovery of these types of countervailing relationships. Involvement in oil bunkering provides a source of income that enables individuals to meet their basic physical needs, directly improving quality of life. These stolen revenues also bolster the size and value of the black economy, increasing employment opportunities for the significant number of unemployed Nigerians who cannot find employment in the formal economy.⁸³ In the short-term, therefore, the black economy may indirectly act as a buffer to social stability by providing for individuals' physical needs, which can also improve psychological well-being by increasing perceptions of economic security.

Counteracting these positive effects, increased black economic activity is associated with increased violence, which has a negative impact on quality of life. Oil bunkering steals revenues that would be generated from the sale of oil by the Nigerian government decreasing government capacity.⁸⁴ Governing capacity influences quality of life through multiple indirect relationships.

- Government revenues lost to oil bunkering could, potentially and absent any corruption, have been invested social services like healthcare, and education, which would have had a positive effect on quality of life.
- Violence and governing capacity form a series of feedback loops that negatively affect quality of life. The growing and increasingly valuable Nigerian black economy (dominate by oil bunkering) provides a steady source of revenue for violent criminal groups.⁸⁵ For example, MEND has used its oil bunkering profits to develop its criminal organization and broaden its operations into potentially more lucrative and more violent crime including sabotage, targeting political figures

Bunkering in Nigeria," June 10, 2014, <http://www.thisdaylive.com/articles/unearthing-real-culprits-behind-illegal-oil-bunkering-in-nigeria/180553/>.

⁸³ Abell, "Eliminating Nigeria's Illicit Economy: Applying Lessons Learned from Afghanistan"; Akinleye, "Nigeria's Oil Thieves Say Government Leaves Them No Choice"; Dennys, "'Blood Oil': Exploring the Illegitimate Oil Trade in Nigeria"; Okeowo, "Oil Thieves of the Niger Delta."

⁸⁴ William Jaffray, "Illegal Oil Bunkering: Stealing Nigeria's Lifeblood," *Oil & Gas Monitor*, August 1, 2012, <http://www.oilgasmonitor.com/illegal-oil-bunkering-stealing-nigerias-lifeblood/2671/>; Okeowo, "Oil Thieves of the Niger Delta"; "Unearthing Real Culprits Behind Illegal Oil Bunkering in Nigeria," June 10, 2014, <http://www.thisdaylive.com/articles/unearthing-real-culprits-behind-illegal-oil-bunkering-in-nigeria/180553/>.

⁸⁵ Abell, "Eliminating Nigeria's Illicit Economy: Applying Lessons Learned from Afghanistan."

and ethnic rivals, kidnapping foreign oil company employees for ransom, and offshore piracy.⁸⁶ Decreased governing capacity negatively affects provision of civil order and justice (PCoJ) when lack of funding results in reductions in personnel, inadequate training, facilities, and equipment. This reduces the state's ability to counter violence, creating greater strain on the system in return. Provision of civil order and justice and security credibility create a positive feedback loop, so when PCoJ is compromised, so is security credibility. As there is a negative feedback loop between security credibility and violence, the effects of increasing violence are even further compounded.

- Finally, decreased governing capacity reduces economic growth and development capacity, which is also critical for maintaining longer-term quality of life, particularly in a country like Nigeria with such large youth population.

The role of perceived deprivation

Returning to quality of life, we see that, in this context (oil bunkering), quality of life has a negative effect on perception of relative deprivation. That is, as quality of life increases, perceptions of relative deprivation decrease. As discussed earlier, perception of relative deprivation, driven by lack of satisfaction with distribution of oil revenues, and the corruption associated with oil bunkering and the black economy, is one of the identified motivations behind oil bunkering among residents of the Niger Delta. What is emerging from our analysis is that a vicious cycle exists where initial perceptions of deprivation drive individuals to engage in oil bunkering, directly improving their immediate quality of life, and thus reducing perceptions of deprivation, while in the longer term, through a complex series of indirect effects and feedback loops, decreasing their quality of life, thus perpetuating perceptions of deprivation and fuelling further oil bunkering, continuing the cycle. Furthermore, perceived deprivation, increases in violence and corruption, (and the dissatisfaction with distribution of oil revenues it exacerbates), and lack of security credibility all undermine governing legitimacy, which is critical to longer-term governing stability.

Oil bunkering and corruption

Oil bunkering's contribution to the growing size and value of the country's black economy has in turn opened the door for increased corruption, creating a feedback loop. Increasing oil bunkering revenues have piqued the interests of corrupt individuals who are interested in reaping the profits from this criminal activity. Increases in corruption naturally feed into and further augment the value of the black economy. The inability or unwillingness of some of the country's powerful, corrupt elite to end rampant oil bunkering ultimately serves to increase the perception of relative deprivation that is itself a driver of oil bunkering activity, negatively impacting social stability. This inability or unwillingness also negatively impacts the public's perception of governing legitimacy and acts as a driver of instability.

As discussed above, participation in oil bunkering by residents of the Niger Delta is motivated largely by perceptions of relative deprivation. However this activity is more widespread, with a diverse range of

⁸⁶ Ibid.

individuals and groups in both civil society and the government participating or benefitting indirectly. President Goodluck Jonathan has made public statements expressing a desire to end oil bunkering activities, but given the involvement of politicians, security forces, militants, oil-industry staff, and oil traders in profiting from oil bunkering,⁸⁷ a perception arises that there is little political will to effectively stop the practice.⁸⁸ Police and military personnel who are responsible for combatting oil bunkering activities have been willing to accept bribes to look the other way,⁸⁹ making it even less likely that oil bunkering activities will slow down in the short-run. Furthermore, it has been reported that Nigerian military personnel have paid large premiums for the opportunity to serve in the Delta and, thus, partake in illegal oil bunkering activities as the benefit of participation in the bunkering far outweighs the initial premiums and risks to employment.⁹⁰ As such, government and military officials who profit from oil bunkering activities have little incentive or motivation to enact effective measures to curtail the illicit practice, further undermining provision of civil order and justice and security credibility.⁹¹

Moreover, the large influx of wealth from oil reduces the government's reliance on taxpayers for its income, leaving the government less accountable to the people. The ongoing corruption stifles investment in physical infrastructure adaptability and development capacity (indirectly through governing capacity), and reduces the funds available for investment in social services,⁹² ultimately limiting economic growth and development capacity, once again threatening economic stability. Furthermore, perceptions of governmental corruption and lack of accountability themselves threaten governing legitimacy.

Implications for Analysts

Though a complete examination of all feedback loops and balancing relationships in the loop diagram is beyond the scope of this chapter, a couple of notable relationships are worth emphasizing given their implications for analysts. The first of these is the feedback loop among oil bunkering, corruption, and relative deprivation. As noted, a perception of unequal distribution of resources across groups gives rise to feelings of deprivation that in turn motivate attempts to rectify or rebalance, through whatever means possible. In the context of Nigeria, oil bunkering is the mechanism that groups such as MEND have pursued. Oil bunkering in turn creates opportunities for extensive corruption in the governing sector, which feeds back into unequal distributions of resources and perceived deprivation, thereby

⁸⁷ Dennys, "'Blood Oil': Exploring the Illegitimate Oil Trade in Nigeria"; Gambrell and Press, "Oil Bunkering Threatens Nigeria's Economy, Environment"; Oscarline Onwueanyi, "Oil Bunkering Undermining Nigerian Economy," *Vanguard News*, June 4, 2012, <http://www.vanguardngr.com/2012/06/oil-bunkering-undermining-nigerian-economy/>.

⁸⁸ Akinleye, "Nigeria's Oil Thieves Say Government Leaves Them No Choice"; G. P., "Oil Theft in Nigeria: A Murky Business," *The Economist*, 2013, <http://www.economist.com/blogs/baobab/2013/10/oil-theft-nigeria>.

⁸⁹ Akinleye, "Nigeria's Oil Thieves Say Government Leaves Them No Choice"; Okeowo, "Oil Thieves of the Niger Delta"; Onwueanyi, "Oil Bunkering Undermining Nigerian Economy."

⁹⁰ Onwueanyi, "Oil Bunkering Undermining Nigerian Economy."

⁹¹ Akinleye, "Nigeria's Oil Thieves Say Government Leaves Them No Choice"; Dennys, "'Blood Oil': Exploring the Illegitimate Oil Trade in Nigeria"; Gambrell and Press, "Oil Bunkering Threatens Nigeria's Economy, Environment"; O. Onwujekwe, K. Hanson, and B. Uzochukwu, "Are the Poor Differentially Benefiting from Provision of Priority Public Health Services? A Benefit Incidence Analysis in Nigeria," *International Journal for Equity in Health* 11, no. 70 (2012): 1–12; P., "Oil Theft in Nigeria: A Murky Business."

⁹² Michael Burleigh, "A Country so Corrupt It Would Be Better to Burn Our Aid Money," *Mail Online*, August 8, 2013, <http://www.dailymail.co.uk/debate/article-2387359/Nigeria-country-corrupt-better-burn-aid-money.html>.

reinforcing the system in place. As can be seen in the loop diagram (Figure 6), each of these model components in turn has direct and indirect impacts on other model components. As such, an intervention (e.g., diversifying the economy, equalizing distribution of resources, instituting measures to reduce or punish rampant corruption) will have significant downstream effects on a multitude of model variables. At the same time, we can also examine potential buffering or balancing factors, such as the impact of an increase in foreign investment. The loop diagram shows that increased foreign investment would provide a boost to the formal economy, thereby enabling an alternative mechanism to oil bunkering for increasing Nigerians' quality of life, and thus positively impacting social, and in turn, other forms of stability.

Nigeria's stable economic growth and rise to the largest economy on the African continent additionally appears to be a significant stabilizing factor for the country, particularly in the short run. As discussed throughout the chapters in this report, the country has not collapsed despite significant pressures on social stability—extremism from Boko Haram—and increasing pressure on governing stability, including concerns about government effectiveness among the public. However, the inability of economic growth to have any real significant effect on poverty levels and unemployment rates—giving rise to multiple second- and third-order effects—will likely pose a longer-term threat to social stability, and could compound with other existing issues to affect overall stability within the country. Based on the deep dive conducted on oil bunkering, one major implication that analysts should anticipate is the possibility of increased social disruption and expansion of oil bunkering activities in the Niger Delta if the perception of inequity stemming from dissatisfaction with the distribution and reinvestment of oil revenues back into the community remains pervasive throughout the region.

The loop diagram (Figure 6) and accompanying discussion presented here provide insight into the various cross-cutting connections that issues, such as oil bunkering, have on multiple dimensions of stability—economic, social, and governing—and helps to illustrate the existence and source of some of the seemingly paradoxical effects observed. Moreover, as noted above, use of loop diagrams enables the analyst to determine the ultimate downstream effects of changing or leveraging any singular element. These insights, which are specifically derived from the StaM process and illustrated through the use of a loop diagram, help to demonstrate the potential utility of using this model to inform decisions among various policy actions, as well as to gain a deeper and broader understanding of a given region of interest. Using this insight, more informed decisions can be made that guide the analyst whether to address a given issue and, if so, the best path forward in order to minimize negative consequences.

STAGE 4: Identifying AOI-specific intensifying factors

Over the course of a StaM analysis, certain factors may emerge that are exogenous to the model itself, yet still hold the potential to exert an effect on overall stability, either within or across model dimensions. We refer to these as intensifying factors. An example of an intensifying factor that we uncovered in the context of Nigeria is climate change. While climate change is not a component of the StaM, it is clear that climate change is affecting conditions, such as agriculture, that are a part of the StaM. Furthermore, there is evidence that climate change puts pressure on various components of the StaM, and in doing so, has begun to demonstrate an effect on stability dynamics. While climate change is not directly under the control of the Nigerian government, nor the population, there are measures that can be taken to help control its impact on the stability of the country in the longer-term. If appropriate measures are not taken to mitigate these effects, our analysis shows that it is likely to exacerbate the current conditions, resulting in longer-term consequences on the overall stability of the country. Below, we illustrate how an intensifying factor such as climate change can interact with model components to intensify the stability effects of those components. We begin with a high-level overview of the issue, and quickly move toward an assessment of the impact on a specific set of model components. Our discussion below is intended to be illustrative. As such, we do not address all possible concomitant effects of climate change, but instead focus on describing how one element of the model, quality of life (part of the social stability dimension), may be negatively impacted.

Overview of climate change in Nigeria

Prior to the discovery of natural oil resources in the 1960s, Nigeria had one of the largest and most promising agrarian economies in Africa. However in the interceding years, Nigeria's agricultural sector has dramatically declined, to the point that the once self-sufficient country now spends over 11 billion USD on importing basic food for the population.⁹³ This change is primarily due to investment in the extraction, refinement, and export of oil, as well as restrictive trade policies in the late 1970s and early 1980s,⁹⁴ in addition to the investment in cash crops at the expense of food for the population. However, the agricultural sector also suffers from a lack of preparedness to

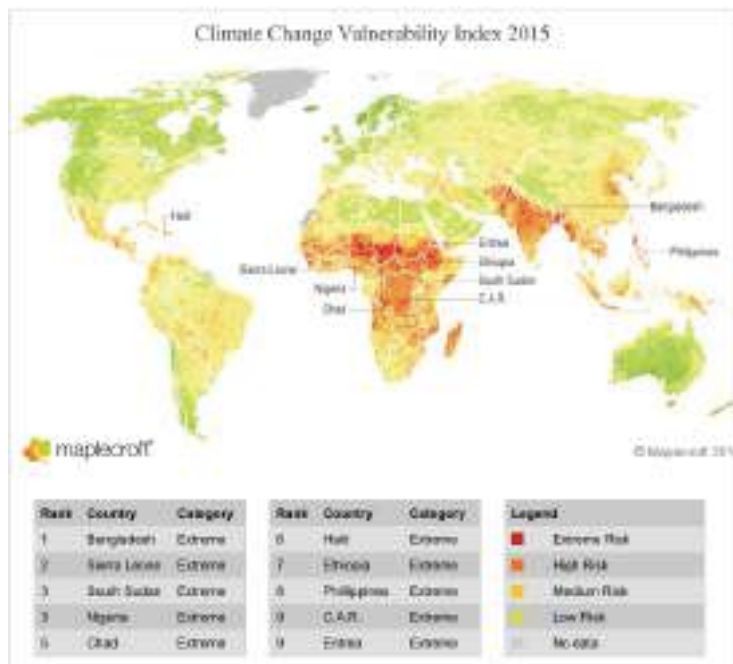


Figure 6: Nigeria's vulnerability to climate change, 2015

⁹³ Green, "Agriculture Is The Future Of Nigeria."

⁹⁴ Ibid.; Imo Jacob Otaha, "Food Insecurity in Nigeria: Way Forward," *African Research Review* 7, no. 4 (2013): 26–35.

adapt and respond to the recorded changes in the climate (e.g., fluctuating temperatures, rainfall), which will continue to stress the primarily agrarian society, along with the agricultural sector.⁹⁵ According to a recent 2015 report by Maplecroft (Global Risk Analytics)⁹⁶ Nigeria ranks as the third most vulnerable country to the effects of climate change on the population, industry, and the government (see Figure 7). It is critical to note that, in the 2014 assessment, Nigeria was ranked sixth, with the three-point ranking change in the vulnerability ranking for Nigeria primarily due to reported incidences of drought and corresponding rise in food insecurity for those areas affected by the drought.⁹⁷

Nigeria's vulnerability to the impacts of climate change is a direct result of several key factors that include their geographic footprint and associated susceptibilities to flooding and drought, inadequate infrastructure and policies that are ill prepared to handle climate-related events, and a lack of sufficient education and training on mitigation efforts for the population and industry (specifically oil and agriculture). In 2013, a multi-year study conducted by the World Bank and the Nigerian government concluded that, unless strong efforts are undertaken to mitigate the effects of climate change, Nigeria will likely experience the following adverse conditions, significantly impacting the longer-term stability of the country:

- Long-term reduction in crop yields of 20-30 percent
- Declining productivity of livestock, with adverse consequences on livelihoods
- Continued increase in the importing of basic food for the population
- Worsening food security, particularly in the north and the southwest
- Long-term decline in GDP of up to 4.5 percent.⁹⁸

In addition to directly impacting the value of the formal economy through diminishing agricultural output in Nigeria, climate change is believed to strongly impact Nigerians' quality of life.⁹⁹ Nigeria is currently battling with issues that negatively impact quality of life and, with increasing pressures introduced by climate change, should face significant challenges in meeting the needs of its citizens. While the full effect of climate change is yet to be understood, a 2006 case study of Nigeria suggests that the largest concern for the country will be the significant changes in temperature, which will result in a "significantly different world with implications...felt in multiple sectors including: health, water,

⁹⁵ Maplecroft, *Climate Change and Environmental Risk* (Maplecroft, 2014), <http://capacity4dev.ec.europa.eu/public-environment-climate/blog/released-climate-change-vulnerability-index>; Sayne, *Climate Change Adaptation and Conflict in Nigeria*; United Nations Environment Programme., *Livelihood Security Climate Change, Migration and Conflict in the Sahel* (Geneva, Switzerland: United Nations Environment Programme, 2011), http://postconflict.unep.ch/publications/UNEP_Sahel_EN.pdf.

⁹⁶ "Maplecroft's CCVI has been developed to identify climate-related risks to populations, business and governments over the next 30 years, down to a level of 22km² worldwide. It does so by evaluating three factors: exposure to extreme climate-related events, including sea level rise and future changes in temperature, precipitation and specific humidity; the sensitivity of populations, in terms of health, education, agricultural dependence and available infrastructure; and the adaptive capacity of countries to combat the impacts of climate change, which encompasses, R&D, economic factors, resource security and the effectiveness of government." Maplecroft, *Environment, Climate Change and Green Economy*.

⁹⁷ Ibid.

⁹⁸ Raffaello Cervigni, Riccardo Valentini, and Santini, eds., *Toward Climate-Resilient Development in Nigeria* (Washington, D.C.: World Bank, 2013).

⁹⁹ Ahmed Dio et al., "Farmers, Herders Clashes Causing Beef Shortage," *Daily Trust*, February 13, 2014, <http://www.dailytrust.info/agriculture/16701-farmers-herders-clashes-causing-beef-shortage>; Andohol Jerome, "Nigeria's Food Security Programme: Implications for MDG's Goal of Extreme Hunger Eradication," *International Journal of Business and Social Science* 3, no. 9 (2012): 243-53; Crusoe Osagie, "Fear of Food Insecurity Grips Nigeria," *This Day Live*, November 8, 2013, <http://www.thisdaylive.com/articles/fear-of-food-insecurity-grips-nigeria/163696/>; Sayne, *Climate Change Adaptation and Conflict in Nigeria*.

biodiversity, agriculture, and forestry.”¹⁰⁰ Without adequate preventative or adaptive measures in place, the effects of the changing climate will exacerbate existing issues, once again contributing to Nigeria's longer-term instability.

Impact of climate change as an exogenous variable on quality of life

A key factor of social stability, quality of life, is determined partly by the ability to meet basic physical needs, but also by how well individuals and groups perceive they are doing relative to other individuals and groups. Critical to attaining an acceptable quality of life is the ability to access and obtain basic needs for survival; needs such as water, food, and financial security. Changes in the climate have the potential to impact the populations' ability to obtain and maintain access to sufficient quantity and quality of goods needed to attain an acceptable quality of life. The StaM analysis, supported by a recent Nigerian government study,¹⁰¹ suggests that, without adequate counter-measures, continued fluctuation of severe weather patterns will negatively impact the ability to attain and retain an acceptable level of quality of life for the majority of Nigerians. For example, climate change can negatively affect quality of life in the following ways: food security, violence, and migration.

Food Security

As of November 4, 2014, the Nigerian Federal Ministry of Agriculture and Rural Development (FMARD) is reported to have met the Millennium Development Goal of food security for Nigeria.¹⁰² According to FMARD, this accomplishment is due to the implementation of the National Food Security Programme (NFSP) in 2008, the removal of the government's monopoly on seed, and the introduction of a subsidized loan system.¹⁰³ However, as recently as 2013, two national surveys suggest that it might be too soon to declare victory for long-term food security in Nigeria. According to a NOI-Poll conducted in March of 2013, the majority of Nigerians support the on-going reform efforts and believe the government has the ability to adequately feed the growing population; however, they expressed concern that the right agricultural policies need to be implemented and sustained over time in order to avert the “looming food insecurity issue.”

A critical question left unasked in the NOI-poll was whether or not the reform efforts currently underway or proposed were adequate to deal with a changing climate. However, a 2013 survey by the International Food Policy Research Institute investigated this issue and the findings suggest that the current farming systems will be challenged by changes in the evolving weather patterns and that ultimately “climate change will alter those systems in uncertain ways, affecting livelihoods, especially those of poor farmers.”¹⁰⁴ Together, these two polls suggest that, although the population believes that the Nigerian government is moving in the right direction and has the capability to address food

¹⁰⁰ James Adejuwon, *Food Security, Climate Variability, and Climate Change in Sub Saharan West Africe* (Assessments of Impacts and Adaptations to Climate Change (AIACC), 2006), xiii.

¹⁰¹ Cervigni, Valentini, and Santini, *Toward Climate-Resilient Development in Nigeria*.

¹⁰² Tola Akinmutimi, “Nigeria Has Met MDG on Food Security,” November 4, 2014, <http://nationalmirroronline.net/new/nigeria-has-met-mdg-on-food-security-fg/>.

¹⁰³ Federal Ministry of Agriculture and Rural Development, “My Past Field Experience Enables Me to Help Feed Nigeria,” *Welcome to: Federal Ministry of Agriculture & Rural Development*, September 2, 2014, http://www.fward.gov.ng/hmevent_inside/My-Past-Field-Experience-Enables-Me-to-Help-Feed-Nigeria1.

¹⁰⁴ Osagie, “Climate Change Threatens Food Security in Nigeria, Others.”

insecurity in the country, it appears to remain skeptical that the current efforts are forward thinking and designed to address the future challenges presented by climate changes. Additionally, as mentioned above, Nigeria's devolution from the sixth to the third most vulnerable country in the world in just one year is attributed to significant drought and corresponding food insecurity issues, further suggesting that a claim of victory on food security issues in Nigeria is premature.¹⁰⁵

Further, without adequate investment in alternative farming techniques and improved access to potable water, power, and road infrastructure,¹⁰⁶ Nigerian farmers, a population already struggling with their ability to meet basic needs, will be ill-equipped to mitigate the impact that the changing climate will have on their crops and farming techniques. As such, the physical needs of Nigerians will continue going unmet, negatively impacting their overall quality of life, and ultimately, contributing to instability in the social domain.

Violence

Nigeria is currently struggling with civil unrest, impacting access to food and perceptions on provision of civil order and justice. While a significant portion of the violence can be attributed to actions by Boko Haram in the north-east,¹⁰⁷ changing environmental conditions are also resulting in increased societal conflict.¹⁰⁸ The United States Institute of Peace (USIP) conducted a research study in 2011 and found that the primary impact of climate change on societal conflict in Nigeria is seen through increased competition over resources, which can result in deadly violence. Their results also suggest that the secondary effects of climate change, including increased rates of sickness, hunger, and unemployment, will be detrimental to long-term stability if not sufficiently addressed by the government.¹⁰⁹ Figure 8, from the 2011 USIP report, clearly illustrates the significant impact that climate change is beginning to have on conflict within Nigeria. These negative impacts on intergroup relations will contribute to social instability in the long-term.

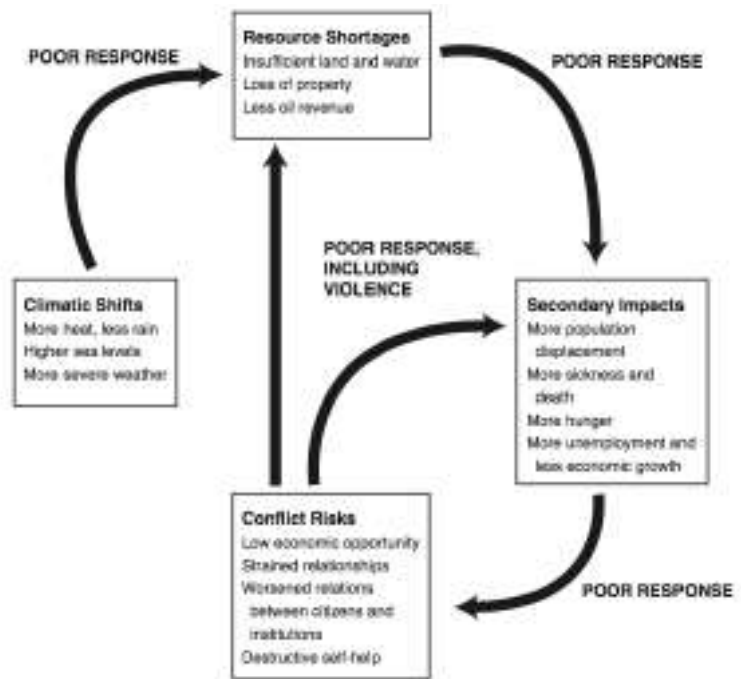


Figure 7: Climate Change and Conflict in Nigeria: A Basic Causal Mechanism. Source: Sayne, 2011.

¹⁰⁵ Maplecroft, *Environment, Climate Change and Green Economy*.

¹⁰⁶ Osagie, "Fear of Food Insecurity Grips Nigeria."

¹⁰⁷ Emily Atkin, "How Climate Change Helps Fuel Nigeria's Instability," May 11, 2014, <http://thinkprogress.org/climate/2014/05/11/3436492/nigeria-climate-change/>.

¹⁰⁸ Sayne, *Climate Change Adaptation and Conflict in Nigeria*.

¹⁰⁹ Ibid.

For example, the changing climate has had a significant impact on relations between two groups in the south, the Fulani herders and the local farmers.¹¹⁰ According to reports, the local farmers are increasingly planting crops on grazing routes, violating previously established understandings with the herders over land use and rights¹¹¹ and sparking violent conflict between the groups. This conflict has resulted in significant migration, over 1,000 deaths between December 2013 and April 2014, and reduced perceptions of governing legitimacy as some members of the groups have viewed efforts by the government as inciting rather than restorative.¹¹² As discussed in the social stability chapter, rising seawaters in the south have also exacerbated an existing dispute over land between rice farmers and fisherman. These changes resulted in not only a reduction in crops, impacting food security, but also affected social dynamics as the two previously interdependent groups no longer had a reason to cooperate. The rising violence in parts of the country, combined with the economic impact of climate change (including loss of economic opportunity and loss of land), is expected to continue pushing the growing population toward the already economically strapped cities and central areas of Nigeria,¹¹³ as well as outside of Nigeria (discussed further in the next section).

Migration

Nigeria is currently experiencing high rates of migration, resulting in rapid urbanization at an annual rate of 3.5%.¹¹⁴ This rapid urbanization is already taxing the ability of the Nigerian government to provide for its citizens, and will heighten the competition over resources, violence, and feelings of deprivation within the city boundaries made worse by climate change. A large proportion of internal migrants are individuals fleeing to escape violence, displaced due to changes in the physical landscape, or seeking opportunities to improve their socio-economic status.¹¹⁵ These are all factors that are intensified, or exacerbated, by climate changes. For example, changes in the climate and subsequent changes in the environment have already displaced thousands of Nigerians, and have the potential to continue displacing thousands, if not millions, of Nigerians. This displacement will occur either directly, through loss of suitable land upon which to place shelter, or indirectly, through diminished arability of the land or declining availability of water resources (e.g., Lake Chad). The impact of these climate changes and environmental changes on individuals is likely to be long-lived, if not permanent. According to the National Emergency Management Agency, over 100,000 people in central and eastern Nigeria remained displaced six months after severe flooding,¹¹⁶ and over 200 villages have disappeared in the north due to expanding desertification.¹¹⁷ While a majority of academic research and journalistic reporting on climate change is focused on droughts and desertification, the rising seawater is also of concern for the coastline of Nigeria. A 2011 study reported that the estimated rise in sea levels by upwards of three feet could

¹¹⁰ Dio et al., "Farmers, Herders Clashes Causing Beef Shortage"; Daniel Magnowski, "Nigeria Herder-Farmer Violence Kills 1,000 This Year, Group Says," *Bloomberg*, April 15, 2014, <http://www.bloomberg.com/news/2014-04-15/nigeria-herder-farmer-violence-kills-1-000-this-year-group-says.html>; Sayne, *Climate Change Adaptation and Conflict in Nigeria*.

¹¹¹ (A. Sayne)

¹¹² Human Rights Watch, "Nigeria: Escalating Communal Violence," April 15, 2014, <http://www.hrw.org/news/2014/04/15/nigeria-escalating-communal-violence>.

¹¹³ McLoughlin et al., *Nigerian Unity*.

¹¹⁴ Abbass, "Trends of Rural-Urban Migration in Nigeria"; McLoughlin et al., *Nigerian Unity*.

¹¹⁵ Abbass, "Trends of Rural-Urban Migration in Nigeria"; McLoughlin et al., *Nigerian Unity*; "Nigeria - International Organization for Migration." Office for the Coordination of Humanitarian Affairs, "2014-2016 Strategic Response Plan: Nigeria," January 2014.

¹¹⁷ Michael Werz and Laura Conley, "Climate Change, Migration, and Conflict in Northwest Africa," *American Progress*, April 18, 2012, <http://www.americanprogress.org/issues/security/report/2012/04/18/11439/climate-change-migration-and-conflict-in-northwest-africa/>.

result, by century's end, in the loss of 9.7 million homes.¹¹⁸ With civil unrest in the north caused by Boko Haram (see Chapter 3), loss of arable land in the north, rising sea levels in the south, and a significant youth bulge and rapidly growing urban areas taxing the infrastructure, Nigeria is expected to see rising rates of both in-migration and external migration.¹¹⁹ Through the effects of migration on the outcomes described here, we would expect downward pressure on economic stability (e.g., through stress on infrastructure) and social stability (e.g., through increases in relative deprivation, competition over resources, and intergroup strife) that, if unaddressed, could lead to increasing dissatisfaction with governing capacity and legitimacy.

¹¹⁸ Sayne, *Climate Change Adaptation and Conflict in Nigeria*.

¹¹⁹ Werz and Conley, "Climate Change, Migration, and Conflict in Northwest Africa."

The Effect of climate change on short-term and longer-term stability

In Table 3 below, we provide an overview of the short-term and longer-term implications of climate change for Nigeria, along with a list of potential buffers to stability.

Table 3: Stability implications of climate change for Nigeria

Short-Term Implications	Longer-Term Implications	Potential Buffers
<ul style="list-style-type: none"> Increased competition over resources 	<ul style="list-style-type: none"> Increased competition over resources 	<ul style="list-style-type: none"> Programs and polices to mitigate the impact
<ul style="list-style-type: none"> Migration: In-migration, external migration, brain drain 	<ul style="list-style-type: none"> Migration: In-migration, external migration, brain drain 	<ul style="list-style-type: none"> Continued agricultural reforms
<ul style="list-style-type: none"> Increased rates of violence 	<ul style="list-style-type: none"> Increased rates of violence 	<ul style="list-style-type: none"> Improved Infrastructure
	<ul style="list-style-type: none"> Food Insecurity 	<ul style="list-style-type: none"> Education and training on adaptable farming practices
	<ul style="list-style-type: none"> Loss of Revenue from Food Exports 	

Climate change will impact the entire Nigerian population. However, the changes in climate will directly, and quickly, impact the economic security of Nigeria, which relies upon the arability of the land, the quality of grass for grazing cattle, stocks of fish in the lake, and an oil industry that maintains operations close to, or at, sea level. A 2009 Nigerian Department of International Development study suggested that, without a strong response by the government, the impacts associated with changes in the climate would cost the Nigerian government between six percent and 30 percent of its GDP by 2050, which translates to between \$100 billion and \$460 billion USD.¹²⁰ The Federal Ministry of the Environment similarly has estimated that the rise in sea level alone will cost Nigeria \$43 billion (USD) in GDP over the next 25 years.¹²¹ The full longer-term impact of these factors is difficult to ascertain; however, it is certain that, if measures are not taken to mitigate the impacts of the youth bulge and climate change in the short-term, these factors will exacerbate the existing economic, governing, and social conditions, rapidly pushing Nigeria toward an unstable future.

¹²⁰ Sayne, *Climate Change Adaptation and Conflict in Nigeria*, 5.

¹²¹ Ibid.

Concluding remarks

The process of conducting a StaM analysis is both rigorous and comprehensive, leveraging theory and research from a variety of social science disciplines. The initial output of a StaM analysis is the creation of an AOI-specific tailored StaM. This tailored model can be used to conduct a variety of analyses of AOI-specific drivers of instability, buffers to stability and the exogenous conditions that can intensify these effects. It can also be used to guide subsequent data collection and analyses to monitor changes in stability factors identified as critical. This both increases the efficiency of analysts' tasks and thus can reduce cost while improving timeliness, but also increases the probability of early identification of significant but non-obvious threats to stability conditions in an AOI. A tailored StaM can also be used to map the system-wide effects of a specific event (e.g., natural disaster), or the activities of an external actor (e.g., AFRICOM engagement activity, foreign government investment in natural resources). It provides analysts and planners with a more systematic and comprehensive method of evaluating the risks and opportunities associated with their planned actions, as well as those of other significant actors. This ability to trace second and third order effects of actions or changes to the system means that the model can help uncover "lessons learned" without the need to make the mistakes that teach the lesson, and avoid negative unintended consequences from engagement activities.

One of the strengths of the StaM is that it is a comprehensive model of system stability, incorporating social, economic and governing dimensions. The importance of this holistic approach is demonstrated by the StaM analysis of oil bunkering in Nigeria. For example, at first glance oil bunkering would appear to be an economic issue; however a StaM analysis demonstrates that one of its primary drivers is rooted in a social stability phenomenon—perceived relative deprivation—and it has implications for all dimensions of stability. This immediately tells us that simple interdiction to the issue is unlikely to be an effective response, as the root cause (perceived deprivation) would remain, likely giving rise to other forms of compensatory action. StaM analysis exposes the fact that oil bunkering can have an immediate positive effect on quality of life for some (increasing social stability directly, and through this governing stability) by providing income to individuals and groups who have few economic opportunities. However, at the same time, the environmental damage has an immediate, negative effect on quality of life for others. When we consider both short term and longer-term stability implications, similar confounding findings emerge. In the short term, those who participate in oil bunkering directly, and those who benefit indirectly through the additional money it generates for poor regions, see increases in their economic security, which can buffer social and even governing stability. However, this must be balanced against the damage to physical infrastructure, loss of government revenue, and potential loss of foreign investment that this practice creates, each of which can be shown by the loop diagram to have a host of additional concomitant first and nth order effects (e.g., on economic growth and development, value of the formal economy, and ultimately even quality of life—counteracting the positive impact on quality of life that follows more immediately from oil bunkering activity).

Oil bunkering is a symptom of more systemic problems within Nigeria that have their roots in social and governing stability factors. Even if it were possible to stop or even limit the practice, the motivating

factors behind oil bunkering activities (viz., perceived relative deprivation, corruption, dissatisfaction with distribution of oil revenues) would remain as drivers of instability for the country. In this way, oil bunkering exemplifies one of the primary challenges facing Nigerian government moving forward; how to demonstrate to a socially diverse population experiencing vastly different outcomes from Nigeria's growth, that it is willing to and capable of translating that national level growth into measurable improvement in the lives of all Nigerians.

Appendix 1: First iteration StaM tailoring questions

DATA REQUIREMENTS

Observational	Perceptual	Scope (point / time series)	Type (Statistical/ polling)
Qualitative		Quantitative	

Governing Stability					
Political Legitimacy	<i>In general, do citizens accept the government (institutions) as the sole “game in town” for organizing and exercising political power?</i>				
	Are there challenges to governing legitimacy posed by the military or VEOs?	x	x	point	S/P
	Are there significant differences between geographical or political regions If so, what are they and where?	x	x	point	S/P
Political Voice	<i>How does policymaking affect political voice?</i>				
	In general, do citizens voluntarily agree to and use existing formal political institutions to:				
	Seek public goods and services;	x	x	point	S/P
	Voice political agendas and grievances;	x	x	point	S/P
	Engage in political activity	x	x	point	S/P
	Is there a political party system? How does it impact effective governance?	x		point	S
	What are the key interest groups in the political sphere?	x			
	Are all groups free to participate or are there instances of official or unofficial repression of group views?	x		time	S
	Are there any other factors (positive or negative) which affect policymaking?				
	Do each of the above have a positive or negative effect on political voice? If there is no effect on political voice, why not?				

	How does policy implementation affect political voice?				
	Are there any bureaucratic impediments (i.e., minority representation) to policy implementation?	x		time	S
	Are there any challenges to policy implementation posed by the military or VEOs?	x		time	S
	Are there any other factors (positive or negative) which affect policy implementation?				
	How does access to information in affect political voice?				
	In general, do citizens have access to uncensored political information? Consider the following: Television; radio; internet; newspapers	x		point	S
	Is there freedom of the press?			point	S
	Are there any other factors (positive or negative) that affect citizens' ability to access information?				
	Do each of the above have a positive or negative effect on political voice? If there is no effect on political voice, why not?				
Rule of Law and Justice	How does provision of civil order affect political voice?				
	Is the police force seen as free from undue political/sectarian/criminal (corruption) influence?	x		point	P
	Are officials held legally accountable?	x		point	S
	What is the level of actual corruption?			point	S
	What is the level of perceived corruption?	x		point	P
	What is the perceived impartiality of law enforcement institutions?	x		point	P
	Are there any challenges to civil order posed by the military?	x		time	S
	Are there any challenges to civil order posed by VEOs?	x		time	S
	Are there any other factors (positive or negative) that affect civil order?				
	How does provisions of justice affect political voice?				
	Is the judicial system (at the national level) regarded as fair and		x	point	P

	effective in resolving dispute?				
	Are there any challenges to provision of justice by the military?	x		time	S
	Are there any challenges to provision of justice by VEOs?	x		time	S
	Are there any other factors (positive or negative) that affect provision of justice?				
	Do each of the above have a positive or negative effect on rule of law and justice? If there is no effect on rule of law and justice, why not?				
Public Services	How does access to services affect perceptions of social services?				
	What basic services do people expect the government to provide or oversee? For example, but not restricted to: education; health; physical security; justice; access to food/water/electricity; job creation		x	point	P
	How does provision of justice affect political voice?				
	How satisfied are people with the services provided by the government? Take into consideration public discussion for example, in newspapers or newspaper editorials.		x	point	P
Bureaucratic Strength	How does bureaucratic expertise affect bureaucratic strength?				
	Does the government have the technical expertise to implement policy?	x		point	S
	How does the bureaucratic workforce affect bureaucratic strength?				
	Does the government have an adequate workforce, funding and equipment to implement policy?	x		time	S
	Does the above have a positive or negative effect on bureaucratic strength?			time	S
	Does each of the above have a positive or negative effect on bureaucratic strength? If there is no effect on bureaucratic strength, why not?	x		time	S
Revenue	How does internally generated revenue affect revenue?				
	Where does the government get its internally generated revenue? Consider the following: % generated from taxes; efficiency of tax collection system			time	S

	How does externally generated revenue affect revenue?				
	Where does the government get its externally generated revenue?			time	S
	Does each of the above have a positive or negative effect on revenue? If there is no effect on revenue, why not?			time	S
Governing Performance	How does political voice affect governing performance? Is the effect positive or negative? If there is no effect on governing performance, why not?				
	How does rule of law affect governing performance?				
	How do social services affect governing performance? Is the effect positive or negative? If there is no effect on social services, why not?				
Governing Capacity	How does bureaucratic strength affect governing capacity?			time	S
	How does revenue affect governing capacity?			time	S
Cross cutting effects	How does governing performance affect governing capacity? Is the effect positive or negative? If there is no effect on governing capacity, why not?				
	How does governing capacity affect governing performance? Is the effect positive or negative? If there is no effect on governing performance, why not?				
	How does governing performance affect governing legitimacy? Is the effect positive or negative? If there is no effect on governing legitimacy, why not?				
Bottom Line	How does governing performance affect governing stability in AOI?				
	How does governing legitimacy affect governing stability in AOI?				
	How does governing capacity affect governing stability in AOI?				

DATA REQUIREMENTS

Observational
Qualitative

Perceptual

Scope
(point / time series)
Quantitative

Type
(Statistical/ polling)

Economic Stability

Economic Stability					
Value of the Economy	What is the value of the formal economy?				
	What is the value by sector, e.g., agriculture, manufacturing, service			point	S
	What is the total value of tax revenue generated by the formal economy?			point	S
	What is the estimated value of the informal economy and how does it impact the formal economy and the value of the economy overall?				
	Informal economic activity such as barter and remittances from overseas workers	x		point	S
	Illegal economic activity such as kidnapping for ransom; arms trafficking (including nuclear); illegal timber trade; drug trafficking; smuggling (licit and illicit items)	x		point	S
Infrastructure	Is the infrastructure sufficient to meet the needs of the formal economy?				
	Physical; financial; legal / regulatory system; labor	x		time series	S
	Are there any structural / institutional problems that create barriers to economic activity and economic stability ?				
	Barriers to private investment (including FDI); protectionist policies; unclear property rights and investment protection; inconsistent / inappropriate government's economic policy; uncertain contract enforcement; corruption	x		time series	S
	How important are informal infrastructures to the economic infrastructure?				
What are the alternative financial infrastructures such as Hawala; provision of physical infrastructure, such as electricity? How important are these?	x		point	S	

Infrastructure Flexibility	Does infrastructure have the flexibility to respond to development needs?				
	Physical infrastructure such as roads, ports, electricity supply etc.; financial infrastructure (banking system); legal / regulatory system, such as property rights, contract law etc.	x		time series	S
	How do labor issues affect economic development?				
	Are there a sufficient number of workers to enable development, particularly development of manufacturing and service sectors of the economy?	x		time series	S
	How has education and training affected economic development?	x		time series	S
	Does the infrastructure exist to provide more individuals with the education and training necessary to work in more skilled jobs professions?	x		time series	S
	How has the role of women in the economy affected economic development?	x		time series	S
	How well has done in providing economic rights and opportunities (including education) to women?	x		time series	S
	To what extent are women able to participate independently in the formal economy?	x		time series	S
	Has the structure of the formal economic system affected the number of women involved in the informal or illegal economy?	x		time series	S
Questions to guide identification of crosscutting effects within governing stability and initial identification of drivers and buffers					
Crosscutting Effects	How does the value of the formal economy contribute to or detract from economic capacity ?	x		time series	S
	How does the value of the informal economy contribute to or detract from economic capacity?	x		time series	S
	How does formal infrastructure contribute to or detract from economic capacity?	x		time series	S
	How does informal infrastructure contribute to or detract from economic capacity?	x		time series	S
	How does resources security contribute to or detract from economic	x		time series	S

	development?				
	How does infrastructure flexibility contribute to or detract from economic development?	x		time series	S
	How does economic capacity contribute to or detract from economic development?	x		time series	S
	How does economic development contribute to or detract from economic capacity?	x		time series	S
Bottom Line	<i>How does economic capacity contribute to or detract from economic stability?</i>				
	<i>How does economic development contribute to or detract from economic stability?</i>				
	<i>How does economic stability contribute to or detract from governing stability?</i>				

DATA REQUIREMENTS

Observational
Qualitative

Perceptual

Scope
(point / time series)
Quantitative

Type
(Statistical/ polling)

Social Stability					
Group Dynamics	Over the past 15 years, has significant social change occurred? (Look at world values survey and demographic data)	x		time series	S/P
	Over the past 15 years, how have value changes and changes in the role of social groups affected speed of social change? (Consider both change that directly affects individuals and groups, and change that affects groups indirectly (through direct effect on those around them).		x	time series	S/P
	Are current government policies compatible with the traditional values of major social groups?	x	x	point	P
	If not, specify which groups and values are incompatible with which policies.	x			
	Has there been any backlash in response to incompatibilities?				
	Has there been resurgence of traditional / orthodox practices and customs?	x		point	S/P
	Has there been resort to traditional authority / decisional bodies?	x		point	S/P
	Has the role of any social group changed over the past 15 years? If so, has this change increased or decreased the influence of these groups?	x		time series	S/P
	Has there been a backlash in response to any loss of influence?	x		time series	S/P
	Over the past 15 years, how have urban migration and internal displacement of social groups affected speed of social change?				
	Consider both change that directly affects individuals and groups, and change that affects groups indirectly (through direct effect on those around them)	x	x	time series	S/P
What has been the social impact of urban migration over the past 15 years?	x	x	time series	S/P	

How significant (% population; relative to similar states) has the level of urban migration been?			time series	S
Which social groups have been most affected by this movement? (Either moving themselves or having new people enter their areas)	x		time series	S
How successfully have new groups integrated into urban centers?	x		time series	S
Are there government or private resources to help these migrants?	x		time series	S
What % are living in shanty towns or temporary shelters (slums) around urban centers?			time series	S
What has been the overall social impact of internal displacement due to conflict or natural disasters over the past 15 years?	x		time series	S
Is there tolerance for social integration between different identity groups?				
Rate of ethnic / tribal / religious intermarriage?			time series	S
Attitudes toward ethnic / tribal / religious intermarriage?			time series	S
Rate of ethnic / tribal / religious diversity in membership of women's groups and other social organizations?			time series	S
Is there political cooperation and organization between social groups?				
Are there political parties that draw support and membership from multiple social groups?			point	P
Are there instances of political support for politicians from different social groups?			point	P
Are there interest groups organized around interests that affect multiple social groups?	x		point	S
Is there tolerance for professional and workplace integration?				
Is there ethnic / tribal / religious diversity among co-located government personnel (including the military and police)?			point	S
What is the self-reported level of satisfaction with integration in the workplace?			point	S

	<i>To what extent are ethnic / tribal / religious groups organized and cooperative?</i>				
	Are social groups organized along these lines?			point	S
	Are there political parties that are identified as representing (and supported by) a single ethnic / tribal / religious group?		x	point	P
	Do social groups provide economic support for their members?			point	S
	To what extent is there conflict or violence between subgroups of a single ethnic / tribal / religious group?	x		point	S
	What proportion of individuals report that they are satisfied with the opportunities available to them; that they are treated fairly?			point	P
	What proportion of individuals estimate that they will be better off in the future, or that their children will have a better quality of life than them?			point	P
	Is there evidence that groups are acting out (protests; media coverage) or others (journalists; academics) consider any groups to be underserved by the government?	X		point	S
	Is there evidence that groups feel the government cares about various social groups' opinions and values?		x	point	P
	Is there evidence that any social groups perceive the government to give preferential treatment to another social group		x	point	P
	<i>Is there any evidence that any of the above factors have:</i>				
	Displaced a significant number of families, or forced them to migrate internally.			time series	S
	Been responsible for an increase in the number of individuals involved in illegal activities (growing poppy; smuggling; theft).			time series	S
	Made individuals vulnerable to recruitment by VEOs or criminal organizations?			time series	S
Quality of Life	<i>To what extent are people's basic needs (e.g., food, shelter) being met?</i>				
	What % of the population has access to sufficient affordable food and safe drinking water on a regular basis?			time series	S
	What % of rural families own land (clear uncontested title) sufficient to support their needs?			time series	S

	What % of urban population are living in shanty towns or temporary shelters (slums) around urban centers, with no legal rights (as either owners or tenants)			time series	S
	<i>To what extent do people feel safe and secure in their environment?</i>				
	What is the likelihood of being victim of a violent crime (including domestic violence) or loss of property?			time series	S
	How safe to people consider their community/district to be?	x		point	P
	How effective do people perceive the police and military to be in providing physical security?	x		point	P
	How effective are the police and military in providing physical security?			point	S
	How threatened to people feel by criminal (including government corruption) and VEO activity in their community?	x		point	P
	<i>Is there any evidence that any of the above factors have:</i>				
	Displaced a significant number of families, or forced them to migrate internally.			time series	S
	Been responsible for an increase in the number of individuals involved in illegal activities (growing poppy; smuggling; theft).			time series	S
	Made individuals vulnerable to recruitment by VEOs or criminal organizations?			time series	S
Questions to guide identification of crosscutting effects within governing stability and initial identification of drivers and buffers					
Crosscutting Effects	How does psychological displacement affect social uncertainty? Is the effect positive or negative? If there is no effect on social uncertainty, why not?				
	How does physical displacement affect social uncertainty? Is the effect positive or negative? If there is no effect on social uncertainty, why not?				
	How do physical needs affect quality of life? Is the effect positive or negative? If there is no effect on social uncertainty, why not?				
	How does perceived deprivation affect quality of life? Is the effect positive or negative? If there is no effect on quality of life, why not?				

	How does inter-group integration affect social cohesion? Is the effect positive or negative? If there is no effect on social cohesion, why not?				
	How does intra-group integration affect social cohesion? Is the effect positive or negative? If there is no effect on social cohesion, why not?				
	How do physical displacement and physical needs satisfaction affect each other?				
	How do perceived deprivation and inter-group integration affect each other?				
	How does physical displacement contribute to or detract from inter-group integration?				
	How does psychological displacement contribute to or detract from intra-group integration?				
	How does psychological displacement contribute to or detract from inter-group integration?				
Bottom Line	<i>How does social uncertainty affect social stability? Is the effect positive or negative? If there is no effect on social stability, why not?</i>				
	<i>How does quality of life affect social stability? Is the effect positive or negative? If there is no effect on social stability, why not?</i>				
	<i>How does social cohesion affect social stability? Is the effect positive or negative? If there is no effect on social stability, why not?</i>				

Appendix 2: Generic StaM definitions

The dimensions and factors comprising the generic StaM are not concrete things that we can go out and directly observe and measure. Rather, they are composites we create to capture an idea, or summarize a group of seemingly related observations and experiences. Concepts such as these are rather vague and imprecise. In day to day conversation this is not important; as long as we share a general agreement on what “government stability” or “political support” means we can discuss and communicate about these ideas. Social science models, however, require a much higher level of precision in defining the meanings – what is included and what is excluded – of the model concepts. The following are the operational definitions used for the dimensions, factors and sub-factors that make up the components of the generic StaM model (shown in Figure 1) beginning with the left with the governing section and moving to the right through economic and social factors.

Governing stability in the generic StaM

For the purposes of the StaM analysis, we define **Governing Stability** as the ability of core political institutions to function as a collective authority, adapt and respond to changing social and economic demands, and withstand internal and external shocks to the state, region or city under their jurisdiction.¹²² Governing stability is modeled as a function of three contributing factors: perceived governing legitimacy, governing performance, and governing capacity. It is important to note that the model was designed to apply both to formal and informal governing systems, rules and institutions.

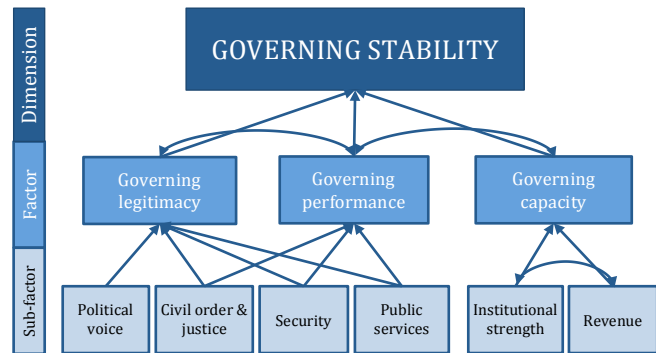


Figure 8: Generic StaM, governing stability

As Figure 7 illustrates, the vertical structure of the governing stability dimension of the generic StaM is highly interrelated. Legitimacy and performance both have shared sub-factors, and all the factors (as indicated by the horizontal arrows) are connected, indicating that stability in one governing stability factors is expected to effect, or be effected by, stability in others. The basic function of any government, and a source of its legitimacy, is generating, dividing and distributing “goods.” The ability of a government to serve this function (e.g., providing even limited services like public safety, justice, health, education, etc.) is contingent on its capacity, which is determined in part by the strength of its institutions. Even with the best of intentions, if a government lacks resources and the bureaucratic infrastructure to implement policy, it will not be able to perform. Moreover, if a population perceives that its government has capacity that is not being directed toward performance, for example due to

¹²² Florian Grotz and Till Weber, “Party Systems and Government Stability in Central and Eastern Europe,” *World Politics* 64, no. 04 (October 2012): 699–740; William Mishler and Anne Hildreth, “Legislatures and Political Stability: An Exploratory Analysis,” *The Journal of Politics* 46, no. 01 (February 1984): 25–59.

corruption or disinterest, satisfaction with performance is likely to be low, and perhaps bring into question the legitimacy of that government to rule.

Governing Legitimacy is a perceptual factor. We define it as the perception of a governing authority's constituents that those institutions have the right to govern, generally follow the rules adopted by that authority, and use governing institutions to seek public goods and services and to voice political grievances or needs.¹²³

Political Voice is defined as a population's capacity to express its political views, or which goods and services it desires the government to provide. The ability of individuals to access multiple forms of information, and to correspond or meet with functionaries in the political realm are typically associated with positive perceptions of one's having a political voice. Moreover, research shows that an individual's sense of political efficacy and the degree to which he believes his views and interests are represented in the formal governing system influence the extent to which his interactions with the governing system take place within the formal or informal institutions and processes. Interaction with and ideally satisfaction from those institutions and processes are one of the key sources of governing legitimacy and ultimately, governing stability. Conversely, exclusion or denial of political voice to certain individuals or groups can lead to a perceived lack of legitimacy and prompt groups or individuals to seek services from sources outside the system.¹²⁴

Governing Performance is defined as how well a government delivers the public goods¹²⁵ sought by individuals and groups.¹²⁶ In the generic framework, overall governing performance begins as a function of the four goods most commonly sought from governing systems: representation of one's interests or "political voice," the provision of civil order and justice, the provision of national security, and the provision of various public or social services.

Civil Order and Justice is defined as the presence of a functioning, transparent legal system applied equally to all citizens of the state. The main components of such a system are a clear set of laws

¹²³ For additional discussion of political legitimacy, see Robert A. Dahl, *Polyarchy: Participation and Opposition* (New Haven: Yale University Press, 1972); Russell Bova, "Political Dynamics of the Post-Communist Transition: A Comparative Perspective," *World Politics* 44, no. 01 (October 1991): 113–38; George Bugliarello, "Megacities: Four Major Questions," *Journal of Urban Technology* 16, no. 1 (2009): 151–60; Samuel P. Huntington, *The Third Wave: Democratization in the Late 20th Century* (Norman: University of Oklahoma Press, 1993); Kraas, "Megacities and Global Change: Key Priorities"; Scott Mainwaring, *Issues in Democratic Consolidation: The New South American Democracies in Comparative Perspective* (Notre Dame: University of Notre Dame Press, 1992); Guillermo O'Donnell, Philippe C. Schmitter, and Laurence Whitehead, *Transitions from Authoritarian Rule, Vol. 4: Tentative Conclusions about Uncertain Democracies* (Baltimore: Johns Hopkins University Press, 1986); Adam Przeworski, *Democracy and the Market: Political and Economic Reforms in Eastern Europe and Latin America* (Cambridge ; New York: Cambridge University Press, 1991).

¹²⁴ Terry Lynn Karl, "Dilemmas of Democratization in Latin America," *Comparative Politics* 23, no. 1 (1990): 1–21; Mainwaring, *Issues in Democratic Consolidation*; Jaime Joseph, "Sustainable Development and Democracy in the Megacities," *Development in Practice* 11, no. 2/3 (May 2001): 218–31; Christian Much et al., "Proceedings" (presented at the The World as a City, the City in the World – Globalization, Urbanization and Inter-National Politics, Federal Foreign Office: Task Force for Global Issues, 2006); O'Donnell, Schmitter, and Whitehead, *Transitions from Authoritarian Rule, Vol. 4*; Helga A. Welsh, "Political Transition Processes in Central and Eastern Europe," *Comparative Politics* 26, no. 4 (1994): 379–94; Sofia Wickberg, *Overview of Corruption and Anti-Corruption in Bangladesh* (Anti-Corruption Resource Centre, Transparency International, November 7, 2013); *Megacities Resilience and Social Vulnerability: Outcomes of the 2nd UNU EHS Summer Academy of the Munich Re Chair on Social Vulnerability* (Hohenkammer, Germany: United Nations University, Institute for Environment and Human Security, 2008).

¹²⁵ Terms such as "public goods," and "goods and services" are used in the broad sense and include material goods like health care, education and other social services as well as conditions like safety, rule of law, justice and representation of views.

¹²⁶ Carles Boix and Daniel N. Posner, "Social Capital: Explaining Its Origins and Effects on Government Performance," *British Journal of Political Science* null, no. 04 (October 1998): 686–93; Hindy L. Schachter, *Reinventing Government or Reinventing Ourselves: The Role of Citizen Owners in Making a Better Government* (SUNY Press, 1997).

accessible to all, strong civil order and incarceration structures (i.e., police and prisons), and an independent judiciary capable of providing justice and protecting citizens against the arbitrary use of

Security, as distinct from provision of basic civil order, is defined in this portion of the StaM with regard to a governing authority's capacity to control and respond to threats to the autonomy, prosperity or safety of the governing authority and its citizens either from external or serious internal sources.¹²⁷ Security may be achieved through a combination of military capability, security credibility and external political influence.¹²⁸

Public Services are defined as the additional public or social services that citizens expect the governing system to provide. Like security, these are very often activities that are best carried out by an entity that (typically) will hold greater resources than smaller groups.¹²⁹ Examples of public services include assistance with transportation as in the construction of roads and highways; energy production as in construction of power grids or power-generating dams; or establishment and maintenance of primary schools or universities. This is an area where significant tailoring of the generic StaM generally takes place as citizens' expectations regarding which services a government should provide over and above civil order, justice and security often are closely related to specific cultural values and norms.

Governing Capacity reflects the degree to which a government is able to carry out expected duties and responsibilities. One key component of a government's capacity to rule is its **Institutional Strength**. Institutional strength refers to the extent to which a government's institutions, including legislative bodies, the bureaucracy, and the judiciary, exist and are run effectively and *equitably in the pursuit of their intended missions or objectives*.

The second component of governing capacity is access to operating funds or, **Revenue**. In short, a governing body must have the ability to garner funds to allow for its operation (e.g., salaries for employees; material, etc.). In both formal and informal governing systems this typically comes in some combination of grants from other entities and taxation of constituents or residents of the area.

¹²⁷ Peter J. Katzenstein, ed., *The Culture of National Security* (New York: Columbia University Press, 1996); Joseph J. Romm, *Defining National Security: The Nonmilitary Aspects* (Council on Foreign Relations, 1993).

¹²⁸ Richard J. Samuels, *"Rich Nation, Strong Army": National Security and the Technological Transformation of Japan* (Ithaca: Cornell University Press, 1996).

¹²⁹ Patricia W. Ingraham, Philip G. Joyce, and Amy Kneeder Donahue, *Government Performance: Why Management Matters* (Baltimore: Johns Hopkins University Press, 2003).

Economic stability in the generic StaM

Economic Stability is defined as the ability of the economic system to withstand internal or external shocks to the system including changes in the global economy. A stable economy is able to grow, respond and adapt to changing domestic and international needs. As shown in Figure 8, the stability of the economic system is measured in StaM as a function of two broad underlying factors: economic capacity and economic growth and development.¹³⁰

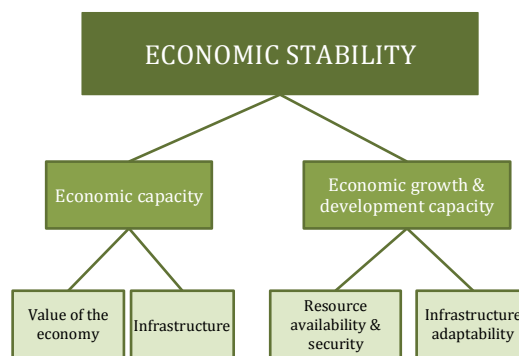


Figure 9: Generic StaM, economic stability

Economic Capacity is defined as the limits of the ability of an economic system to produce goods and services. The generic StaM measures capacity in terms of two factors: the total value of the economy and its economic infrastructure. An increase in economic capacity may have a positive effect on governing stability as it has the potential to provide additional revenue to fund services provided by the government.

Value of the Economy refers to the total monetary worth of the formal sectors of the economy plus the values of grey and black economies if present. Observed over time, the value of the economy provides a measure of economic growth.

Infrastructure is defined as is defined as the internal structures that allow economic activity to occur. These include the physical infrastructure, the labor infrastructure and the financial/legal infrastructure.¹³¹

Economic growth and development capacity is defined as the ability to expand economic activity and sustain these increases in productivity. Economic growth and development capacity is dependent on two components.¹³² First, **Resource Availability and Security**, defined as the ability of the state to meet the demand for resources in a sustainable, reliable, and affordable manner. Second, **Infrastructure**

¹³⁰ Alberto Alesina et al., "Political Instability and Economic Growth," *Journal of Economic Growth* 1, no. 2 (June 1996): 189–211; Yi Feng, "Democracy, Political Stability and Economic Growth," *British Journal of Political Science* 27, no. 03 (July 1997): 391–418; Ben Shepard, "Political Stability: Crucial for Growth?" (LSE IDEAS, n.d.).

¹³¹ J. Bhagwati, "Trading for Development: The Poor's Best Hope," *The Economist*, 2002; P.W. Daniels, "Urban Challenges: The Formal and Informal Economies in Mega-Cities," *Cities* 21, no. 6 (December 2004): 501–11; David Dollar and Aart Kraay, "Spreading the Wealth," *Foreign Affairs*, February 2002, <http://www.foreignaffairs.com/articles/57626/david-dollar-and-aart-kraay/spreading-the-wealth>; John F. Helliwell, *Empirical Linkages Between Democracy and Economic Growth*, NBER Working Paper (National Bureau of Economic Research, Inc, 1992); Saori N. Katada and Timothy J. McKeown, "Aid Politics and Electoral Politics: Japan, 1970–1992," *International Studies Quarterly* 42, no. 3 (1998): 591–602; Peter H. Koehn and Olatunde J. C. B. Ojo, *Making Aid Work: Innovative Approaches for Africa at the Turn of the Century* (University Press of America, 1999); Kraas, "Megacities and Global Change: Key Priorities"; Seymour Martin Lipset, "Some Social Requisites of Democracy: Economic Development and Political Legitimacy," *The American Political Science Review* 53, no. 1 (1959): 69–105; John B. Londregan and Keith T. Poole, "Does High Income Promote Democracy?," *World Politics* 49, no. 01 (October 1996): 1–30, doi:10.1353/wp.1996.0024; Antonio Merlo, "Economic Dynamics And Government Stability In Postwar Italy," *The Review of Economics and Statistics* 80, no. 4 (1998): 629–37; Przeworski, *Democracy and the Market*; Peter J. Schraeder, Steven W. Hook, and Bruce Taylor, "Clarifying the Foreign Aid Puzzle: A Comparison of American, Japanese, French, and Swedish Aid Flows," *World Politics* 50, no. 02 (January 1998): 294–323; Arthur K. Smith, "Socio-Economic Development and Political Democracy: A Causal Analysis," *Midwest Journal of Political Science* 13, no. 1 (1969): 95–195; Jakob Svensson, "Investment, Property Rights and Political Instability: Theory and Evidence," *European Economic Review* 42, no. 7 (July 1998): 1317–41; Rick Travis and Nikolaos Zahariadis, "A Multiple Streams Model of U.S. Foreign Aid Policy," *Policy Studies Journal* 30, no. 4 (2002): 495–514.

¹³² Friedrich Hinterberger, Fred Luks, and Friedrich Schmidt-Bleek, "Material Flows vs. 'natural Capital': What Makes an Economy Sustainable?," *Ecological Economics* 23, no. 1 (October 1997): 1–14.

Flexibility, defined as the ability of the basic physical and financial systems of a nation and its economy to be altered or adapted in response to changing circumstances and environments. An economic system will be capable of growth and development if it is able to obtain, and maintain, sufficient levels of resources and if the existing infrastructure has the ability to adapt to changing needs and demands.¹³³

¹³³ Alesina et al., "Political Instability and Economic Growth"; *Megacities Resilience and Social Vulnerability: Outcomes of the 2nd UNU EHS Summer Academy of the Munich Re Chair on Social Vulnerability*; James K. Mitchell, "Megacities and Natural Disasters: A Comparative Analysis*," *GeoJournal* 49, no. 2 (1999): 137–42; Brian F. Crisp and Michael J. Kelly, "The Socioeconomic Impacts of Structural Adjustment," *International Studies Quarterly* 43, no. 3 (1999): 533–52; Shahadat Hossain, "Social Characteristics of a Megacity: A Case of Dhaka City, Bangladesh," in *Proc TASA 2006 Conf, Perth, Australia, 2006*, 4–7, <http://www.tasa.org.au/conferences/conferencepapers06/papers/Urban%20and%20Rural/Hossain.pdf>; John B. Londregan and Keith T. Poole, "Poverty, the Coup Trap, and the Seizure of Executive Power," *World Politics* 42, no. 02 (January 1990): 151–83; Jan Lundqvist et al., "Water Management in Megacities," *Ambio* 34, no. 3 (May 2005): 267–68; David Mage et al., "Urban Air Pollution in Megacities of the World," *Atmospheric Environment* 30, no. 5 (1996): 681–86; Robert Jackman, "On the Relationship of Economic Development to Political Performance," *American Journal of Political Science* 17, no. 3 (1973): 611–21; Saul Newman, "Does Modernization Breed Ethnic Political Conflict?," *World Politics* 43, no. 03 (April 1991): 451–78; Dankwart A. Rustow, "Transitions to Democracy: Toward a Dynamic Model," *Comparative Politics* 2, no. 3 (April 1970): 337, doi:10.2307/421307; John Rourke, *International Politics on the World Stage*, 12 edition (Boston: McGraw-Hill Humanities/Social Sciences/Languages, 2007); John Sheahan, *Patterns of Development in Latin America: Poverty, Repression, and Economic Strategy* (Princeton University Press, 1987).

Social stability in the generic StaM

For the purposes of the StaM, **Social Stability** is attained within a population when a significant proportion of the population is able to provide for, and improve their quality of life and the relationships among sub-groups (group dynamics) serve to reduce the population's social, physical and psychological uncertainty.¹³⁴

Group Dynamics are the relationships and interactions between (**Inter-group**), and within (**Intra-group**) members of a community. Groups provide individuals with a set of common norms and values, shaping social behavior and providing a social identity, to reduce social and psychological uncertainty. Competition between groups within an established boundary (political, social, or geographic) over conflicting interests or objectives, or varied access to resources, can become destabilizing over time. Furthermore, perceived threats to a group's identity, values and norms can become a source of instability if groups are willing to fight to maintain the integrity of those ideals.¹³⁵

Quality of Life is defined as an individual's ability to meet basic physical needs and more prospective psychological desires. Although the two types of needs are closely related, research suggests that under stress people tend to prioritize satisfaction of **Physical** needs like water, food, safety, shelter, and health over psychological desires.

With regard to quality of life, StaM defines **Psychological** desires in terms of potential for betterment; namely the possibility of socio-economic mobility, economic security and food security.¹³⁶

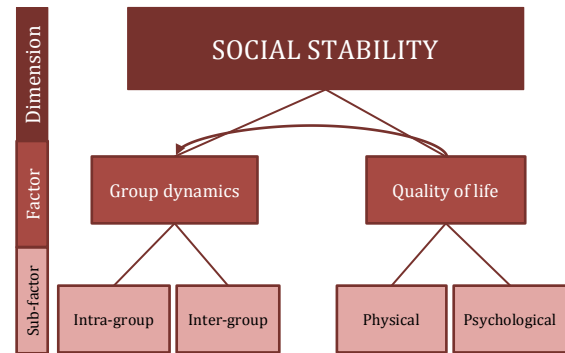


Figure 10: Generic StaM, social stability

¹³⁴ Aaron C. Kay and Justin Friesen, "On Social Stability and Social Change Understanding When System Justification Does and Does Not Occur," *Current Directions in Psychological Science* 20, no. 6 (December 1, 2011): 360–64; Svetozar Pejovich, "The Effects of the Interaction of Formal and Informal Institutions on Social Stability and Economic Development," *Journal of Markets & Morality* 2, no. 2 (2012), <http://www.marketsandmorality.com/index.php/mandm/article/view/624>.

¹³⁵ Butsch, "Access to Healthcare in the Fragmented Setting of India's Fast Growing Agglomerations - A Case Study of Pune"; Sengupta and Sibley, "Perpetuating One's Own Disadvantage Intergroup Contact Enables the Ideological Legitimation of Inequality"; Chatterjee, "Shifting Vulnerabilities: A Study of Flood Affected Slums of Mumbai"; Frauke Kraas, "Megacities as Global Risk Areas," *Petermanns Geographische Mitteilungen* 147, no. 4 (2003).

¹³⁶ Diener and Suh, "Measuring Quality of Life: Economic, Social, and Subjective Indicators"; Kenrick et al., "Renovating the Pyramid of Needs"; Maslow, *Motivation and Personality, 3rd Edition*.

Appendix 3: Governing, economic, and social stability tailored to Nigeria

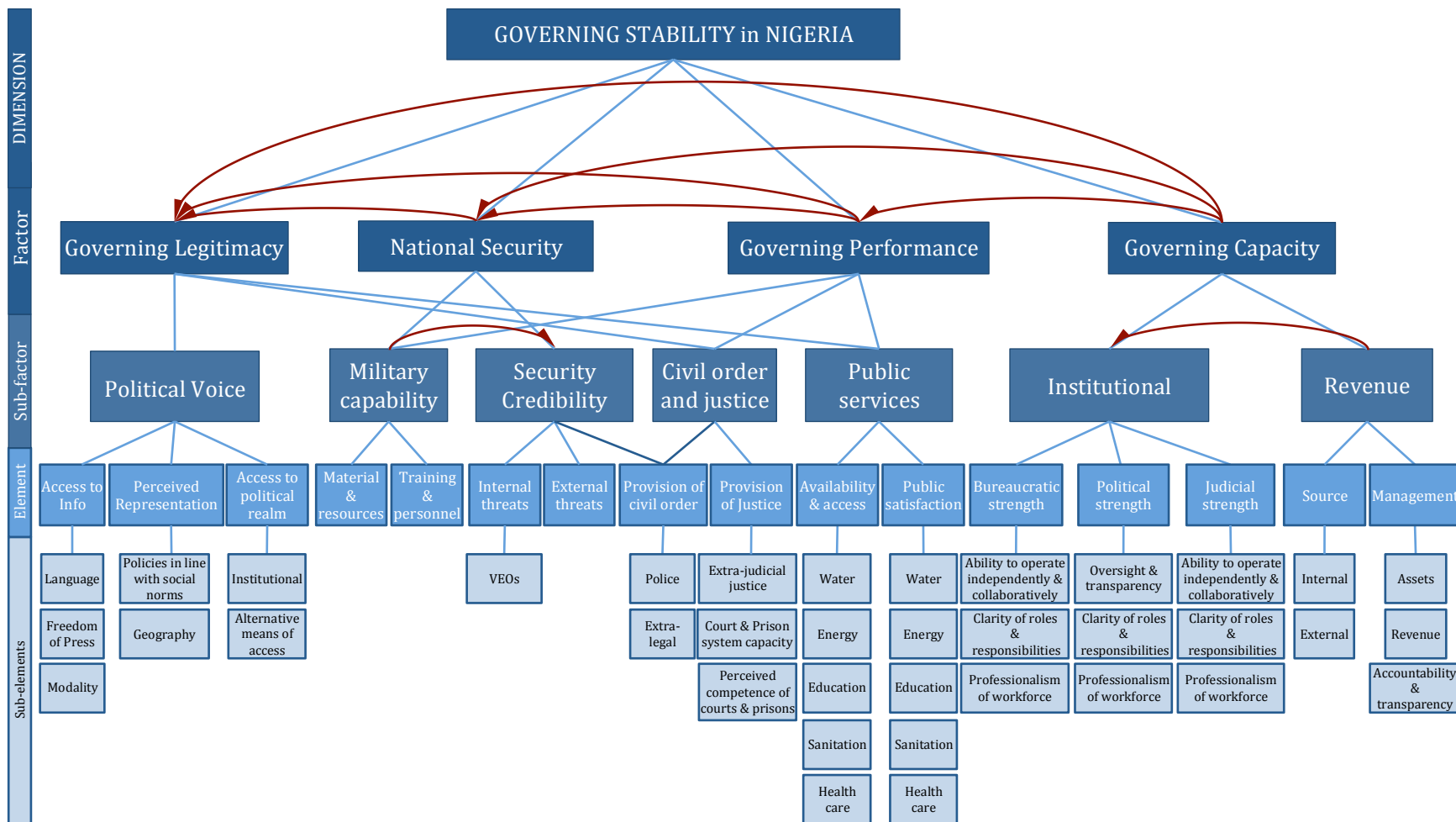


Figure 11: Governing stability tailored to Nigeria; vertical structure and internal crosscutting effects

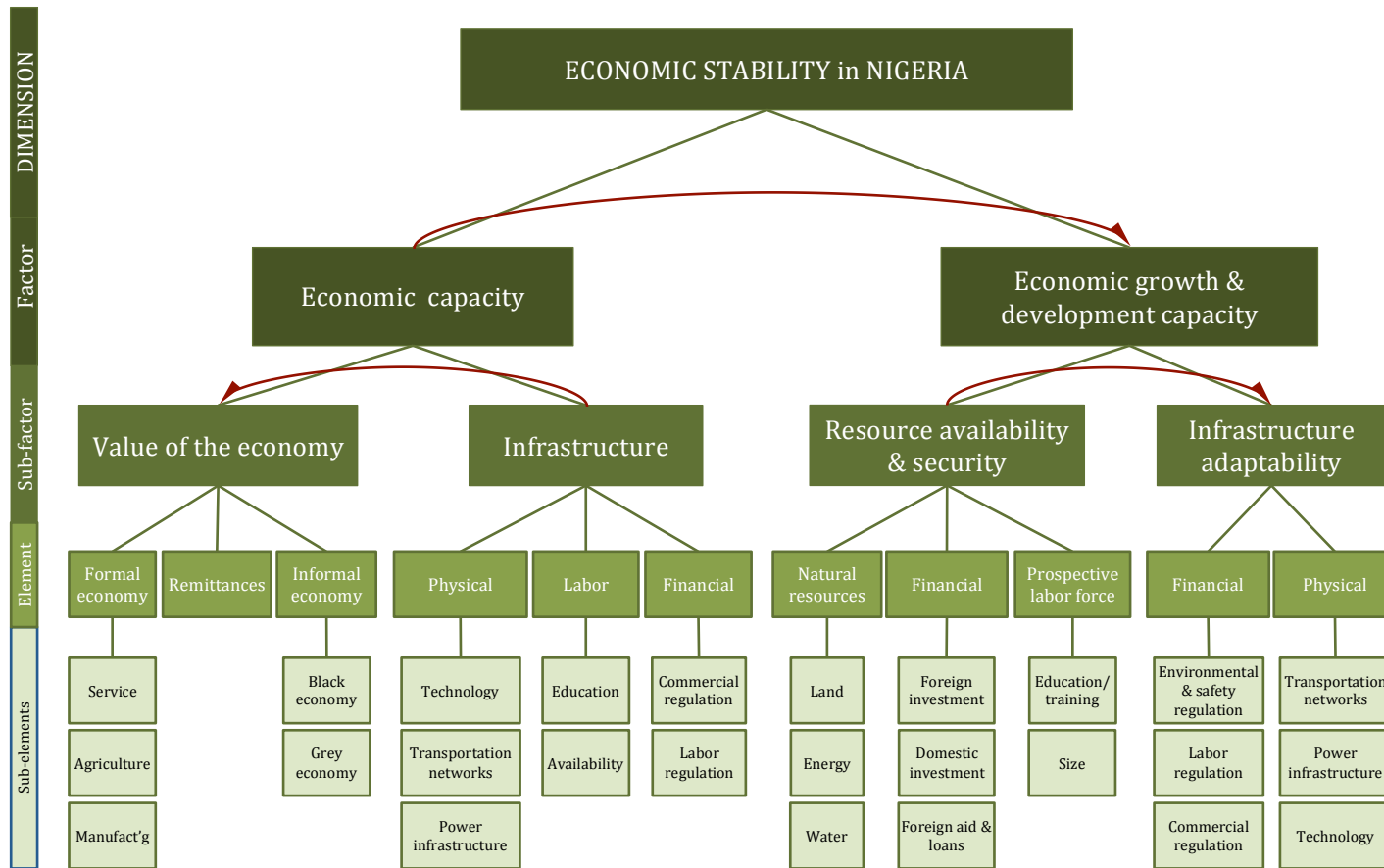


Figure 12: Economic stability tailored to Nigeria; vertical structure and internal crosscutting effects

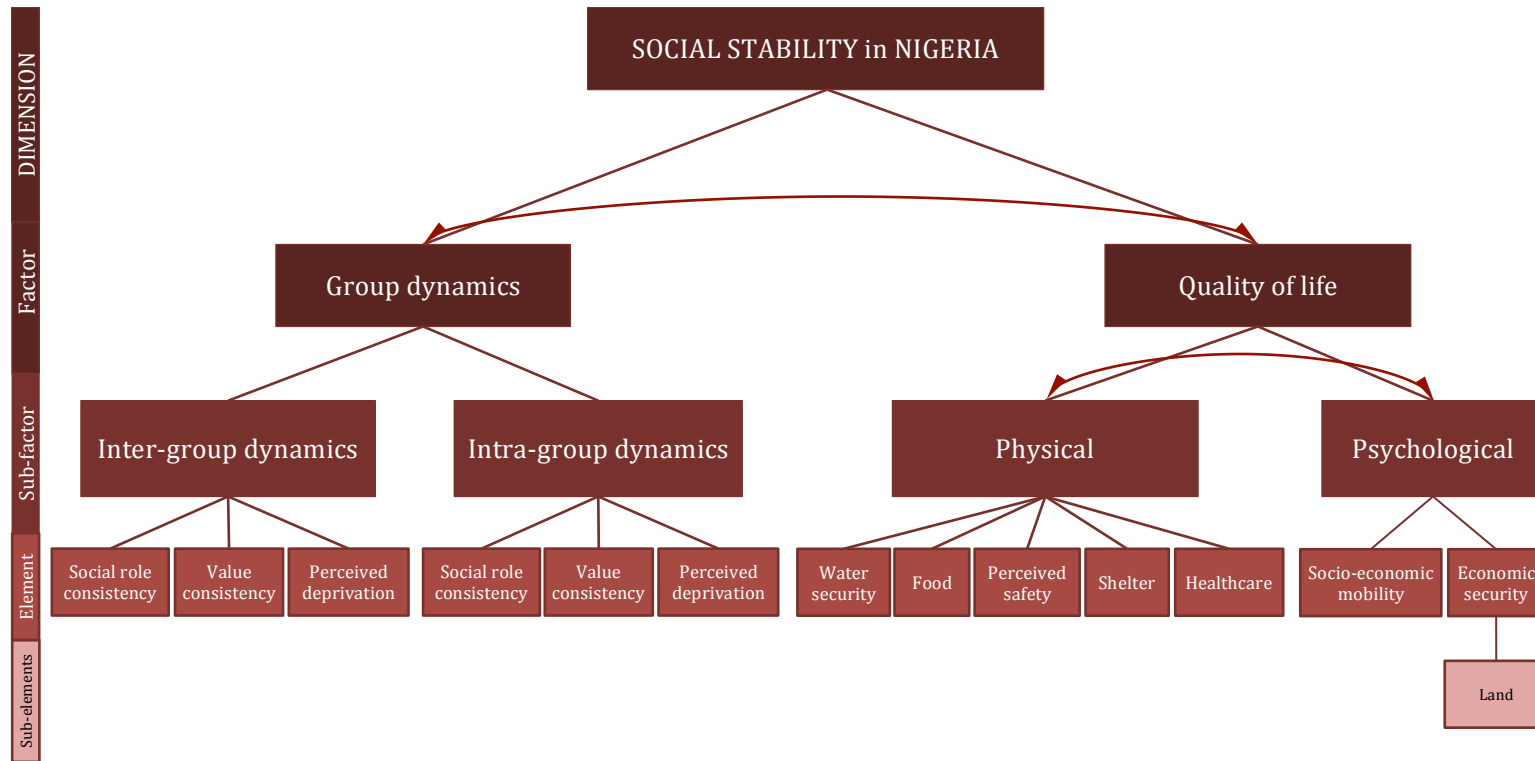


Figure 13: Social stability tailored to Nigeria; vertical structure and internal crosscutting effects

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