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COMMUNITY RESILIENCE: A META-STUDY OF
INTERNATIONAL DEVELOPMENT RHETORIC
IN EMERGING ECONOMIES

A Thesis
Presented in partial fulfillment of requirements
For the degree of Master of Arts
In the Department of Sociology and Anthropology
The University of Mississippi

by

Rachel A. Haggard

May 2019

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ABSTRACT

Understood generally, community resilience is the ability of communities to adapt, absorb, mitigate, and recover from shocks and stressors in such a way that facilitates positive future outcomes and reduces overall vulnerability to future shocks and stressors (Adger, 2000; Norris, Stevens, Pfefferbaum, Wyche & Pfefferbaum, 2008; USAID, 2013; Walker et al., 2004). The core of this definition relates to sustainability and the capability of socio-ecological systems and communities to adapt and transform to both day to day fluctuations and stressors as well as major disasters (Milman & Short, 2008; Walker et al., 2004). This meta-study seeks to shed light on how the large body of international development literature addresses, measures, and operationalizes community resilience. This analysis uses two resilience frameworks to understand and codify dominant themes in community resilience to assess whether the international development literature is holistically studying community resilience: touching upon nutrition, food security, economic security, and ecological sustainability.

DEDICATION

To my family, friends, and yoga community—thank you for all the love,
support, and deep breathing through this process.

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This thesis would not have been possible with the endless support of my family, friends and committee. Thank you to my parents for believing in me even when I did not believe in myself. To my friends, Heather, Katrina, and Justin, thank you for reading endless drafts of this manuscript and thank you for listening to presentations on repeat. You all pushed me to be the best writer and presenter I could be; I would not be at this point without all the love and support. Finally, thank you to my committee, Dr. Anne Cafer, Dr. John Green, and Dr. Jeffrey Jackson, for challenging me and pushing me theoretically and methodologically.

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CHAPTER I: INTRODUCTION

Communities in emerging economies experience some of the highest levels of vulnerability globally. With high dependence on agricultural and industrial vocations, emerging economies experience high rates of poverty, food insecurity, and undernourishment as well as disproportionate impacts from climate change and ecological fluctuations (Collier, Conway, & Venables, 2008; ILO, 2017; NOAA, 2015; Tompkins & Adger, 2004; World Bank, 2016). Fluctuations create undue stress for families and communities who often experience unpredictable yields and volatile markets, correlating with unsteady incomes and decreased household food security and nutrition (Cooper et al., 2008).

To address many of these issues, the United Nations passed the 17 Sustainable Development Goals (SDGs) in 2016 to implement a plan of action to address poverty, food insecurity, malnutrition, and climate change, among other global crises (UNDP, 2016). Sustainability and sustainable development are commonplace in international development practice and policy (Folke et al., 2002; Magis, 2010; Milman & Short, 2008; Walker et al., 2004). Within the international development arena, practitioners, politicians, and other stakeholders have started to evaluate progress to achieve the sustainable development goals using a community resilience (CR) lens. Since the passing of the SDGs, community resilience has transitioned from being a buzzword to being endemic to international development practice (Adger, 2000; Béné, Chowdhury, Rashid, Dhali, & Jahan, 2017; Walker, Holling, Carpenter, & Kinzig, 2004).

Understood generally, CR is a community's ability to transform, adapt, absorb, mitigate, and recover from shocks and stressors in such a way that facilitates positive future outcomes and reduces overall vulnerability to future shocks and stressors in a sustainable way (Adger, 2000; Magis, 2010; Norris, Stevens, Pfefferbaum, Wyche & Pfefferbaum, 2008; USAID, 2013; Walker et al., 2004). The concept of CR addresses how communities can capitalize on existing resources to improve the agency and the capacity to face adversity and achieve long-term sustainable development (Berkes & Ross, 2013; Magis 2010; Norris et al., 2008).

Sustainability, agency, and independence are essential to achieve the major outcomes of CR: food security, adequate nutrition, economic viability, and ecological sustainability (USAID, 2013). Adaptation and transformation, hallmarks of community resilience, are inherent qualities of sustainable communities and are often constructed through community development processes. Therefore, CR provides practitioners and scholars with a means through which to evaluate the effectiveness of sustainable initiatives within communities and assess how success can be measured.

Many international development organizations like the United States Agency for International Development (USAID), the United Nations Food and Agriculture Organization (FAO), the Department of International Development, Oxfam, CARE USA (an international non-profit organization), and others have established frameworks to measure resilience (Béné et al., 2017). However, the struggle persists for agencies and organizations to measure and affirm that the actions and programs implemented actually improve community resilience and achieve the outcomes of improved food security, decreased malnutrition, stable economic status, and ecological sustainability (Béné et al., 2017). Despite CR's ubiquity within international development discourse, studies often use the concept as a catchall term while only addressing specific elements of what it means to be a resilient community (Béné et al., 2017). There is a gap

between whether a study claiming to measure community resilience is actually measuring resilience or merely addressing certain livelihood strategies. This gap is due, in part, to western development agencies like USAID, World Bank (WB), and the International Monetary Fund (IMF) focusing on achieving economic development goals, such as improved market access and participation (McMichael, 2016; Peet & Hartwick 2015; USAID, 2018). Western development organizations considered capitalist market solutions the answer to all problems plaguing countries in the Global South (McMichael, 2016; Peet & Hartwick 2015; USAID, 2018). Furthermore, this prioritization of economic development by western agencies spills over into the field of economics dominating the discourse about development and market solutions for developing countries (David, 2000; Fine, 1999).

Given the historical context of prioritizing economic development and infrastructural related problems, coupled with the current increased use of community resilience in the development rhetoric, this meta-study seeks to shed light on how the large body of international development literature addresses, measures, and operationalizes the outcomes of community resilience (Béné, Godfrey-Wood Newsham, & Davies, 2012; Béné et al., 2017; Frankenberger & Nelson, 2013a, 2013b; Osbahr, 2007). To assess this, this meta-study uses two resilience frameworks, USAID and FAO, that measure community resilience outcomes. These frameworks provide the scaffolding for this meta-study to codify major community resilience outcomes to assess which components of CR are addressed most frequently and which are excluded from assessment in the development literature

CHAPTER II: LITERATURE REVIEW

Community resilience framework

The general concept of resilience has evolved over time to explain natural and social systems with four major iterations: mechanical and systems resilience, ecological resilience, socio-ecological resilience, and finally, community resilience (Berkes & Ross, 2013; Folke et al., 2002; Holling, 1973; Norris et al., 2008).

In the bio-physical sciences, resilience is understood as “...the capacity of a material or system to return to equilibrium after a displacement” (Norris et al., 2008, p. 1). Resilience is the ability of the material or system to return to homeostasis (Norris et al., 2008). Recognizing the usefulness of this model, Holling (1973, 1996, 2001) adapted the concept of resilience from the bio-physical sciences to focus on ecological resilience (Norris et al., 2008). Ecologists define resilience as “the persistence of relationships within a system; a measure of the ability of systems to absorb changes of state variables, driving variables, and parameters, and still persist,” even with the presence of vulnerability (Holling, 1973, p. 173; Klein, Nicholls, & Thomalla, 2003; Waller, 2001). The ecological resilience rhetoric emphasizes that an ecosystem has critical thresholds within a given state before it is forced to become a new system (Berkes & Ross, 2013; Gunderson & Holling, 2002; Folke et al., 2010).

The evolution of ecological resilience to socio-ecological resilience stems from research demonstrating that ecological systems are intricately linked to people and to social systems – i.e. humans rely on ecological systems for jobs, food, fuel, water and more, yet certain human

behavior can render an ecological system incapable of providing these services (Berkes & Ross, 2013; Folke et al., 2002). More resilient socio-ecological systems are able to cope, adapt, and shift in response to shocks and stressors (Folke et al., 2002). Diversity and diversification (of species, social opportunities, and economic options) have been key to examining whether socio-ecological systems are resilient and have also been utilized as a mechanism for increasing resilience (Folke et al., 2002). Improving the resilience of socio-ecological systems demands that local inhabitants of an ecosystem have knowledge of the ecological surroundings. Thus, knowledge and the ability to learn of the ecosystem's capacity, in a local context, results in higher resilience (Berkes & Ross, 2013; Folke et al., 2002).

Unlike the previous forms of resilience, community resilience adds a deeper layer by defining community (Norris et al., 2008). In sociology and other fields, defining "community" is a widely contested topic and debate. However, for the sake of this meta-study, a community is defined as "...an entity that has geographic boundaries and shared fate. Communities are composed of built, natural, social, and economic environments that influence one another in complex ways" (Norris et al., 2008, p. 128). Similarly, Wilkinson (1991) notes that "...the community is where the individual and society meet" and it is where individuals can choose to associate with others outside of their home and where they can come together for cooperative action and collective agency (p. 70-71). Flora and Flora (2004) define collective agency as "the ability of a group of people—in this case, those living in the same community—to solve common problems together" (p. 433). It is necessary to note that if an article claimed to measure a community's resilience (even with a varying definition of community), it is still included in this meta-study analysis.

Community resilience is an amalgam of several concepts of the preceding types of resilience allowing for a transdisciplinary understanding of what makes a community resilient

(Berkes & Ross, 2013). Brown and Kulig (1996) note that resilience is not a passive process where a system can just “bounce back”. Rather, communities and collectives are resilient when they can act and recover from negative physical, environmental, or social events and then subsequently transform (which implies action) these physical and social environments to mitigate such shocks in the future (Brown & Kulig, 1996). This denotes that community resilience is about power and about having agency to achieve the desired outcomes of improved food security, nutrition, economic status, and ecological sustainability. Frankenberger et al. (2013) claim that ample emphasis has been placed on measuring individual and household resilience. However, what differentiates community resilience from household and individual resilience is a focus on a “community’s capacity for collective action” (Frankenberger et al., 2013, p. iii). Thus, community resilience is differentiated from other forms of resilience because it looks at a collective (Norris et al., 2008; Pfefferbaum et al., 2005).

An essential component of a resilient community is the ability to absorb, adapt, and transform in response to change. Absorptive capacity is how much a community can withstand an impact and be able to recover on its own (Cutter et al., 2008). Adaptability refers to a community’s agency and ability to respond to such changes and transformability is the ability to alter the system (Osborne, Twyman, Adger, & Thomas, 2010; Walker et al., 2004). This implies that a resilient community has a strong sense of agency—community members are able to prepare for a shock and subsequently, respond to it (Berkes & Ross, 2013). This means individuals in a community have the knowledge and resources to change their community in a way that allows them to keep functioning and make improvements for the future (Berkes & Ross, 2013). Resilience appears differently at various stages of shock and stress experienced by a community. Further, community resilience is not an end goal, but rather, a means to bolster communities to achieve greater well-being as seen through improvements in nutrition, food

security status, economic standing, and ecological sustainability (Béné et al., 2017; Frankenberger, Mueller, Spangler, & Alexander, 2013; USAID, 2013). Similarly, a community's adaptive capacity, as well as the various capitals it possesses, impact its ability to self-organize and adapt to or mitigate shocks (Berkes & Ross, 2013). The focus is on enhancing a community's ability to employ the various capitals within their community and withstand, adapt, and transform in response to adversity, shocks, and stressors (Adger, 2000; Ahmed, 2004; Berbes-Blazquez et al., 2017; Brown, 1996; Coles, 2004; Ganor & Ben-Lavy, 2003; Kimhi & Shamai, 2004; Paton & Johnston, 2001; Pffefferbaum et al., 2005; Sonn & Fisher, 1998; Walker et al., 2004). This also includes community members' ability to synthesize their environment, make choices, and move forward.

Community resilience is best measured when considering place-based communities (Berkes & Ross, 2010; Wilkinson, 1991). The locality of a community directly impacts "the spatial manifestation of a fundamental organization of interdependence among people"; so spatial context will affect a community's ability for collective action and social organization (Wilkinson, 1991, p. 53). This renders context oriented spatial and temporal analysis paramount when attempting to understand how a community can become more resilient. Osbahr et al. (2010) analyze how institutions impact a community's agency and ability to adapt to risk (climatic or other). They state, "evidence suggests that processes of adaptation draw on natural, social, human, and financial capital, with actions limited by the scarcest of those capitals" (Osbahr et al., 2010, p. 2). The notion of capital is critical (Bourdieu, 1985) when assessing community resilience (Frankenberger & Nelson, 2013a, 2013b). The diversity of community assets/capitals can impact a community's adaptive capacity or subsequent vulnerability, depending if the community has the agency and knowledge to use existing capitals in the face of adversity (Frankenberger & Nelson, 2013a, 2013b). As Flora and Flora (2004) emphasize in their

Community Capitals Framework, the seven different forms of capital – natural, cultural, human, social, political, financial, and built – can “individually and together contribute to, or detract from, sustainable communities” (p. 10).

This ties into community resilience because the more capital communities have the ability to employ and utilize in the face of adversity, the more agency and capability they have to achieve the community resilience outcomes: food security, proper nourishment, economic stability, and ecological sustainability. Nyamwanza (2014) discusses how building resilience varies depending on the cultural context and level of vulnerability of a particular group. Thus, a resilient community often has, “the ability to recover from some sort of event or shock to the system; the capacity to learn, plan for, and communicate about possible disruptions; the ability to self-organize and to be self-reliant in times of crisis; strong social connectedness that serves as a ‘core engine’ for response”; and the ability to transform the shock or adverse event into a positive outcome for improved community well-being (Frankenberger et al., 2013, p.2). Community resilience is context-specific and empirically difficult to measure (Frankenberger & Nelson, 2013a, 2013b). Given the rise of community resilience in the development arena, empirically driven, field certified standards are necessary to establish how to measure resilience (Frankenberger & Nelson, 2013a, 2013b).

USAID resilience framework

USAID’s (2012) resilience framework is based on economic and ecological factors as well as food security and nutrition. This framework was established in 2012 to provide a policy model to help build resilience and to create a more effective way to reach both development and humanitarian goals. USAID’s (2013, 2015) framework measures resilience at multiple levels of analysis (i.e. individual, household, community and larger systems). This framework draws on indicators, data, and surveys from other well-established organizations like the World Health

Organization and Feed the Future (USAID, 2013). They employ three objectives to understand and measure resilience (USAID, 2013). These three objectives include, (1) “increased sustainable economic well-being,” (2) “strengthened institutions and government,” and (3) “improved health and nutrition status” (USAID, 2013, p. 4) achieved through “increased adaptive capacity,” “improved ability to address and reduce risk,” and “improved social and economic conditions of vulnerable populations” (USAID, 2012, p. 5). These objectives are understood by measuring the four outcomes of community resilience: nutrition, food security, economic security, and ecological sustainability.

FAO resilience framework

Similar to USAID’s resilience framework, FAO (2014a) defines resilience as “...a capacity that should be indexed to a given development outcome [(e.g., food security, poverty, health)] with a normative threshold” (p. 7). Measures of resilience should therefore be developed in relation to the instrumental value that such capacity has for a particular outcome. FAO (2014b) created an index to measure resilience based on empirical data from research in multiple countries.

FAO draws on the international NGO, CARE USA’s, conceptual framework of household livelihood security for its resilience framework. “Household livelihood security is defined as adequate and sustainable access to income and resources to meet basic needs (including adequate access to food, potable water, health facilities, educational opportunities, housing, time for community participation and social integration)” (Frankenberger & McCaston, n.d., p. 1). This relates to USAID’s (2012, 2013, 2015) idea of resilience, which acknowledges that livelihoods are meant to be sustainable and communities should be able to cope and recover from stresses of internal and external shocks.

In FAO’s Resilience Framework, there are two measurement principles. Measurement

Principle 1 includes: “Resilience as a Normatively Indexed Capacity Resilience,” which entails assessing measures of resilience in relation to the instrumental value and capacity a community has to achieve a particular outcome, such as improving nutrition and food security, or decreasing poverty (FAOb, 2014). The outcome of interest should include a normative boundary that defines a threshold condition below which the well-being of an individual, household, or community is unacceptable” (FAOa, 2014:7). Measurement Principle 2 includes: “Subjective states and qualitative data;” the role played by subjective states in resilience, such as perceptions of shocks, perceived utility of actions taken or not taken, and general expectations of future states, should be included as key components of resilience measurement (FAOb, 2014). Measurement Principle 2 measures perceptions of shocks, perceived utility of actions taken or not taken, as well as general expectations of future states (FAOb, 2014). Given that measurement principle 2 is more subjective, this meta-study does not incorporate these qualitative aspects of resilience into the code. Also, given the strong overlap between the two frameworks, this justifies the outcomes of community resilience this meta-study codes for: food security, nutrition, economic standing, and ecological sustainability.

Montpellier panel report

The Malabo Montpellier Panel is comprised of a myriad of experts from Africa and Europe specialized in various agricultural fields who drive policy intended to advance Africa’s nutritional and food security status (Malabo Montpellier Panel, 2018). In 2013, the Montpellier Panel published “Sustainable Intensification: A New Paradigm for Agriculture,” a technical report that details what nutrition and food security look like and the definitions of each. This report provides concrete definitions for the individual outcomes of community resilience. This report therefore, provides a way to operationalize how the literature and development organizations address and measure community resilience. The World Health Organization and

FAO confer on the definitional outcomes provided in this Panel Report regarding nutrition, economic status, and food security (Ghattas, 2014; WHO, 2010).

CHAPTER III: METHODS

Research questions and hypotheses

Based on the literature, this research seeks to address two questions. First, how does the international development literature define community resilience outcomes? Second, are studies claiming to use the community resilience framework addressing all four outcomes of community resilience as laid out in the two frameworks: USAID and FAO? To address these questions, this research has two hypotheses. One, the international development literature discusses some, but not all of the outcomes laid out in the two frameworks. And two, there will be a preference for the outcomes discussed, where the literature addresses certain outcomes more than others.

Research design

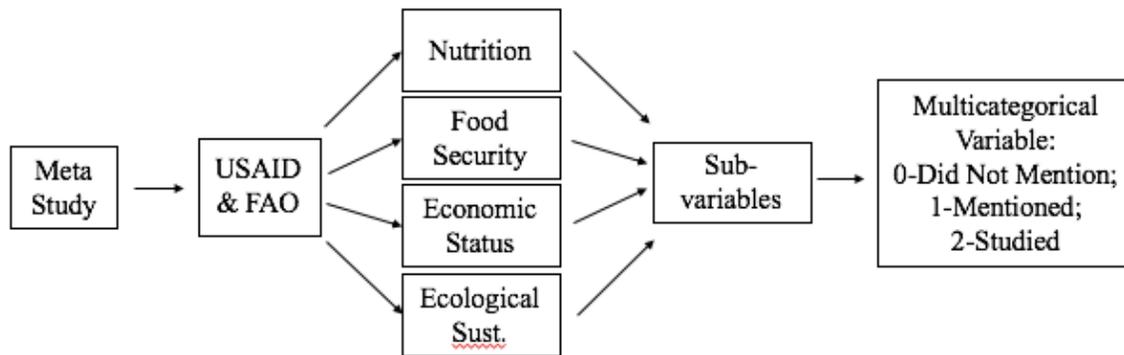
A meta-study provided a useful methodology to address these research questions and to understand and document how community resilience is considered in the literature regarding emerging economies. Two frameworks, one from USAID and one from FAO, provided the coding system for the analysis. USAID and FAO confer and intersect on how to measure resilience in an international context, but have slightly different elements; thus, the two frameworks provide the basis to establish a comprehensive code and guide to define and measure resilience outcomes in the existing literature. FAO (2014a) states that “resilience is a capacity that should be indexed to a given development outcome,” addressing nutrition, food security, and economic status (p. 7). USAID’s (2013) resilience measurement framework also addresses these three outcomes, but additionally considers the ecological outcome of resilience. Therefore, to

establish the codes for measuring how the literature addresses resilience outcomes in emerging economies, nutrition, food security, economic status, and ecological sustainability are considered the four main outcomes of community resilience.

Operationalization and measurement

To define these four concepts of community resilience, the Montpellier Panel Report, the International Food and Policy Research Institute, and Coates' food access scale serve as prime sources for establishing the sub-variables in each outcome for the code included in this meta-study. To operationalize the research questions, each CR outcome is assigned sub-variables as laid out in the Montpellier Panel Report, IFPRI, and Coates' Household Food Insecurity Access Scale (HFIAS) tool. Each sub-variable within each of the four outcomes of community resilience is coded as a multicategorical variable. A variable is coded as a zero if the article did not mention it at all, a one if the article mentioned the variable briefly, and a two if the article studied the specific concept. Mentioned versus studied pertains to how in depth a study addresses a concept/variable. "Mentioned" means the article addresses or discusses a topic briefly, but the concept is not a critical piece of the research or framework. A sentence or topic is coded as "studied" if the article incorporates the particular outcome into the research framework (i.e. in the research question or hypotheses or research design). For example, if an article briefly touches upon poverty rates in the community of interest, but it is not further discussed in the article, the sub-variable poverty is coded as a one for mentioned. If an article studying a fishing community goes on to discuss the strategies this community employed to diversify their incomes such as by growing other agricultural goods at length, the sub-code diversification of non-farm income is coded as a two, for studied. A visual overview of the coding process can be seen in Figure 1.

Figure 1. Methods Overview of Coding Process



Nutrition

The Montpellier Panel Report (2013) defines nutrition as “human consumption of nutrients per unit input” (p. 8). They establish that nutrition occurs as a result of “new varieties of staple crops or breeds of livestock with improved nutritive value” as well as “diversification of production towards higher overall nutritive value” (Montpellier Panel, 2013, p. 8). Similarly, experts discuss improved nutrition by referencing reduced stunting rates in children, established through the “cultivation of a wide range of nutritious foods, including staples fortified with the following micronutrients: vitamin A, zinc and iron” (Montpellier Panel, 2013, p. 9). In addition to these individual parts listed above comprising the subcodes, stunting and biofortified crops are also included as part of the subcode for nutrition.

Food security

The meta-study code for food security is based on the Household Food Insecurity Access Scale (HFIAS) version 3 (Coates, Swindale, & Bilinsky, 2007). This tool is intended to measure food access, consumption, and food security, generally. Coates et al. (2007) employ USAID’s (1992) definition of food security, which states that food security occurs when “all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life” (p. 1). The HFIAS tool is comprised of nine questions that measure

physical and economic access to food as well as consumption of it, which provides the basis for the food security code. Some parts of the HFIAS tool include: going a whole day or night without eating, eating undesirable things, skipping meals, having no food of any kind to eat, and going to bed hungry.

Economic status

The Montpellier Panel Report (2013) and Heady and Ecker (2012) from IFPRI provide the framework for the economic status code. Income and poverty status are major aspects of the economic status code. Income is accrued via “access to fair and efficient output markets; greater market and price information; shifts from low value to high value crops or livestock; diversification of income-generating activities including: adjustment of the farm or household enterprise, exploiting new market opportunities, [and] increasing non-farm income” (Montpellier Panel Report, 2013, p. 8). Headey and Ecker (2012) reference a community’s economic status when alluding to improved net income, monetary poverty, or discussion of utilizing nonfood items as food. If an article also mentions changes to built infrastructure, current production patterns, changes in farm size, changes to assistance or other social protection safety nets, as well as changes to household living conditions, this is also included in the economic status code (Montpellier Panel Report, 2013).

Ecological sustainability

The final outcome of resilience is ecological sustainability. The Montpellier Panel Report (2013) provided the elements for this outcome code. Some of these elements include: decreased use of pesticides, decreased use of fertilizers, and mention of conservation agriculture practices (e.g. no tillage, reduced tillage, integrated pest management, cover crops, livestock grazing within crops, biochar, controlled burn, crop rotation etc.) (Montpellier Panel Report, 2013).

Additional codes

Paterson, Thorne, Canam, and Jillings' (2002) book, "Meta-Study of Qualitative Health Research" provide the foundation for the methodology of conducting the multiple stages of a meta-study. Therefore, in addition to the codes for the four outcomes, an article's year of publication, an article's theoretical frame, author name, author origin, author institution, journal publication, and country and region of the study are included in the coding process. Methodological aspects of each article such as sample size, sampling procedure, research setting, research questions and data collection techniques are also coded for in each article (Paterson et al., 2001). It is also noted whether the study is qualitative, quantitative, or mixed methods, whether it is primary versus secondary analysis, and the type of survey the authors use (if applicable). These aspects of an article are essential to assess themes in discipline and theoretical frameworks for who, where, and how resilience outcomes are discussed in the literature and international development arena.

Analysis: Pre-coding and exclusion criteria

This meta-study only included peer-reviewed journal articles that focus on emerging economies because peer-reviewed articles are often the accepted standard in academia. Further, given that the academic literature often lags behind the fieldwork of other institutions of development (i.e. government agencies, NGOs, etc.) the pervasiveness of a framework used in the literature serves as a litmus test for the usefulness and validity of the framework itself. Articles are obtained from three databases: EBSCOhost, Google Scholar, and Agricola. When using keywords: "community resilience emerging economies," EBSCOhost had 14 search results, Google Scholar had 199,000 results, and Agricola had 381 results. The World Bank (2016) classifies countries as emerging economies based on the GNI per capita and provides a list of these countries: this list is used to decide which articles to include in this meta study. The term "emerging economies" is also replaced with "developing countries", "low income

countries”, “Global South”, “Heavily Indebted Poor Countries” (HIPC), and “least developed countries” in the search engines, since these have been historically synonymous. The focus is on articles that use the term “community resilience.” Once chosen, the article’s terminology are compared to the pre-determined code developed (mentioned previously) to assess how the literature captured the various elements of community resilience as stated in USAID’s and FAO’s frameworks.

Books and general reviews of community resilience are excluded given the time constraint of this meta-study. Additionally, only articles post 1996 and those written in English are included. This is the year community resilience first emerged in the literature (see Brown & Kulig, 1996). This article is the first to employ resilience in the context of communities and human agency. Therefore, 1996 as the cutoff year for article inclusion provided the most robust body of literature that addresses community resilience. For this analysis, articles that used primary or secondary data, as opposed to general literature reviews of community resilience, are used in order to capture how practitioners address and measure resilience as opposed to how it is just discussed abstractly in the literature.

Analysis: Post-coding and statistical analysis

After further scrutiny, based on the exclusion criteria, 87 articles are included in this meta-study and within those 87 articles, 42 countries (mostly clustered in South America, Sub-Saharan Africa, and Southeast Asia) are represented. Subsequently, during the coding process, Microsoft Excel is used to document the code (0, 1, or 2) for each sub-variable in each CR outcome. The page number that corresponded with its designated code in this Excel file is recorded. On the physical copy of the article, the variable mentioned or studied is highlighted and the corresponding column designation from the Excel file is written next to it in order to cross match the quote, the page number, and the code designated for the particular variable.

Following the coding process, the Excel file is exported into SPSS to run descriptive statistics and frequencies on each variable and outcome. The primary goal is to see, from a macro view, the breakdown of how many articles address one, two, three, or all four CR outcomes. A summated index is established to carry out this analysis. To create the index, the sub-variables are horizontally summed for each of the four outcomes individually. This resulted in an integer for each outcome. Then, this integer is recoded into zero and one to get a binary outcome code. So, if the summated outcome score is zero, this remained a zero and all other values are coded as one. A one indicated that this article either mentioned and/or studied a particular aspect of the outcome. Then, these binary scores are horizontally summed for all four outcomes to produce a score from zero to four. A score of zero denotes that the article does not address any of the four CR outcomes, where a score of four signifies that the article touches upon all four CR outcomes by either mentioning or studying at least one of the sub-variables.

To look more closely at the breakdown of the sub-variables within each outcome, frequencies are run to assess how many articles did not mention, mentioned, or studied each of the outcomes as a whole. To assess this, frequencies are run on the calculated binary outcome variable aforementioned. The number of articles coded denote the articles that *did not mention* an outcome at all. To estimate the articles that *mentioned* some aspect of each CR outcome, articles with a code of one are filtered and selected, and then, a frequency table is run. This same procedure is followed to calculate how many articles *studied* a particular aspect of each outcome by selecting sub-variables with a code of two.

The next step in the analysis is to isolate the number of articles that *mentioned or studied* each overall outcome, singularly. To assess which articles *mentioned* a single outcome, the sub-variables with a code of one are filtered and selected within each outcome and summed to get a single score value for each of the four outcomes. For example, if an article had at least one sub-

variable coded as a one for mentioned in each of the four outcomes, that article mentioned all four outcomes in some way. If that same article This same process is performed to assess which articles *studied* a single outcome by filtering articles with a code of two. So, if in article had at least one sub-variable coded as a two for each of the four outcomes, then this article studied all four outcomes in some way. It is necessary to note that mentioned and studied are not mutually exclusive categories since an article can both *study* and *mention* different sub-variables within an outcome, simultaneously.

After breaking down the articles by outcome, the outcomes are compared to one another to evaluate whether articles coupled certain CR outcomes with others. To do this comparison, the binary outcome variable is selected and filtered for those articles with a score of one. A frequency table is then created to compare one outcome to the other three to assess how many articles that address one of the outcomes also touch upon the other three. This filtering process is performed for all four outcomes.

Furthermore, frequency tables are also run on only articles that address all four outcomes to see which sub-categories are most addressed by those articles that discuss all four outcomes. Then, frequency tables are run for each individual variable within each outcome to see which articles either did not mention, mentioned, or studied the sub-categories.

CHAPTER IV: FINDINGS

The following analyses are based on the 87 coded articles. The analyses on both the four outcomes as well as the individual sub-variables result in some noteworthy patterns and findings. Table 1 displays the frequencies for how many articles address zero, one, two, three, or four of the CR outcomes.

Table 1. Counts for Articles Addressing None, One, Two, Three, or All Four CR Outcomes

Number of Outcomes Addressed	Article Frequency	Percent
0	1	1.1
1	12	13.8
2	31	35.6
3	26	29.9
4	17	19.5
Total	87	100.0

Only one article claiming to measure community resilience did not address any of the four CR outcomes laid out in the USAID, FAO CR frameworks. As can be seen in Table 1, a majority of articles only address two or three outcomes and only about 20% of articles address all four CR outcomes in their research.

Table 2 (below) displays the descriptive statistics of how in-depth the articles discuss each of the four outcomes. This breakdown shows how many of the articles did not mention each CR outcome, how many articles mentioned an outcome, and how many articles actually studied an aspect of an outcome. Although mentioned and studied are mutually exclusive codes for the sub-variables, given that an outcome could have different sub-variables that are mentioned and studied, these categories are not mutually exclusive for the overall outcome. Thus, a valid

percent could not be calculated for the mentioned and studied categories for each outcome.

Table 2. Descriptive Statistics of Level of Outcome Discussion

	Malnutrition	Food Security	Economic	Ecological
Did Not Mention	68 (78.2)	42 (48.3)	1 (1.1)	17 (19.5)
Mentioned or Studied	19 (21.8)	45 (51.7)	86 (98.9)	70 (80.5)
Mentioned	14	27	69	59
Studied	7	26	71	55

Note: n=87; percentages in parentheses

Values in mentioned and studied cells are not mutually exclusive and therefore, cannot have a percent value.

It is evident from Table 2 that malnutrition and food security are the least mentioned CR outcomes. Sixty-eight (78.2%) articles failed to mention any aspect of malnutrition or nutrition and 42 (48.3%) articles failed to mention food security. Given that these two outcomes are the ones that deal with health and nourishment, this has major implications in terms of how researchers view resilient communities. Only seven articles actually studied or measured nutritional status in some way when assessing community resilience making it a critical part of the article's focus. If an article did mention an aspect of nutrition, it is not central to the research framework, questions, or hypotheses and therefore, not a focus compared to other outcomes or topics related to community resilience.

Looking at the economic outcome, we can see that this is by far the most studied and mentioned outcome in the literature. Only one out of 87 articles failed to mention any aspect of economic status. Sixty-nine articles mentioned economic status in some way and 71 articles studied economic status and made it a priority to measure and research it when assessing community resilience. Additionally, only 17 articles did not mention ecological sustainability. A majority (59) of articles mentioned ecological sustainability and 55 articles studied this outcome.

After analyzing how many articles did not mention, mentioned, and studied each of the

four outcomes, I extended the analysis to assess which articles coupled certain outcomes with others. Referring to Table 3 below, this table compares each outcome with the others to identify patterns of association to determine which outcomes are most addressed with the other outcomes.

Table 3. Descriptive Statistics Comparing Community Resilience Outcomes

Outcome Compared	Malnutrition	Food Security	Economic	Ecological
Malnutrition (19)	-	17	19	18
Food Security (45)	17	-	45	42
Economic (86)	19	45	-	70
Ecological (70)	18	42	70	-

Note: n=87

This table shows that of the 19 articles that address malnutrition, 17 articles also address food security, 18 articles touch upon ecological sustainability, and all 19 articles address economic status. One major theme imperative to point out is for the three outcomes, malnutrition, food security, and ecological sustainability, the economic outcome is also addressed with these three outcomes 100% of the time. Forty-five articles address food security in some aspect. By the same token, these same 45 articles also address economic status in some way. Of the 45 articles that touch upon food security, 17 articles also discuss malnutrition – which, surprisingly one might think would be higher given the tie between malnutrition and food security. However, this may be explained by the minimal number of articles that address malnutrition in the sample. Interestingly, articles addressing ecological sustainability couple their research with the food security outcome in some aspect (42 of 45 food security articles address ecological sustainability). Essentially, 86 of the 87 articles address the economic status outcome in some way, but 70 of these 86 articles also address ecological sustainability as well. When measuring community resilience in the international development rhetoric, it is apparent that economic status is the most coupled outcome with the other three outcomes, followed by ecological sustainability, when measuring or referring to community resilience.

To focus the analysis, the 17 articles that measure all four outcomes are deconstructed to assess which sub-variables are most prominent in the literature. Most articles that address all four outcomes, mentioned/studied malnutrition or consumption of nutrients, generally. However, a majority of the other nutrition sub-variables are not considered when the researchers measured a community's resilience. Looking at the sub-variables within the food security outcome for the 17 articles that address all four outcomes, all 17 articles either mentioned or studied the general sub-variable, food security. Access to food is the second most discussed sub-variable within the food security outcome; seven articles mentioned/studied access to food as a means to measure community resilience. Yields related to household production is the third most address food security sub-variable, but only five of the 17 articles mentioned/studied this sub-variable. The least discussed sub-variables for the food security outcome are body mass index (BMI) and eating fewer meals.

For the economic outcome, the three prominent economic sub-variables accounted for in the 17 articles included income, poverty, and built infrastructure as measures to assess community resilience. Fourteen of 17 articles mentioned/studied income, 13 of 17 articles mentioned/studied poverty, and 13 of 17 articles mentioned/studied built infrastructure as a measure of community resilience. Other common economic sub-variables addressed in the 17 articles include diversification of income by increasing non-farm activities (two articles mentioned and seven articles studied) and greater access to output markets for selling goods (six articles mentioned and five articles studied). The least addressed economic sub-variables included: upgrading household living conditions, increasing farm size, and food substitution with non-food items.

For the ecological outcome, natural capital is the most addressed ecological sub-variable in the 17 articles. Five articles mentioned natural capital and 10 of the 17 articles actually studied

natural capital. This is followed by the soil fertility (nine articles mentioned and five articles studied) and climate change (eight articles mentioned and five articles studied) sub-variables.

CHAPTER V: DISCUSSION

This meta-study had two main goals. One, to assess whether the international development literature addresses the four major outcomes of community resilience, as outlined by major international development agencies. And two, to determine if certain outcomes are discussed or measured more than others.

Prioritization of economic development

Based on the findings, there is an evident differential in the discussion of the four outcomes in the literature on community resilience in emerging economies. Economic status is by far the most prominent outcome discussed in the literature. We can explicate why the economic outcomes are prioritized as the main measure of development and resilience based on the history and goals of western development agencies like USAID, WB, and IMF, to name a few (McMichael, 2016; Peet & Hartwick, 2015; USAID, 2018).

Given that the goal of these agencies has historically been to establish economic markets and bring about the rise of capitalism through built infrastructure and loan disbursement, it is evident why and how the literature discusses development and resilience outcomes in terms of economic aspects. Both the United States and other developed countries have historically emphasized free-market, capitalist economic goals as a means, often the only means, of development, thus driving a neoliberal agenda (McMichael, 2016; Peet and Hartwick, 2015; USAID, 2018). Organizations like USAID, WB, and IMF, among others, have prioritized decreasing global poverty via neoliberal, market-based solutions (McMichael, 2016; Peet &

Hartwick, 2015). This is demonstrated through the community resilience literature since 86 of 87 articles address economic elements as a way to measure community resilience.

However, from a dependency theory standpoint, this drive for market solutions to enhance development, results in strengthening developed countries at the expense of developing countries (Peet & Hartwick, 2015). Development goals are therefore, part of a global system where a neoliberal agenda has been prioritized and economic solutions have been the means to achieve said goals; but, in actuality, this is often at the detriment to those countries receiving attention and aid (Peet & Hartwick, 2015). Peet and Hartwick (2015) state, “Dependency theory argues... that contact with Europe may indeed bring modernization to some people in the societies of the Third World, but that modernity arrives bearing the price of exploitation” (p. 19). Thus, the systematic influence of capitalist, market-based solutions clarify how and why economic development has been prioritized over other forms of development, historically. This explains why authors presently prioritize measuring economic aspects such as built infrastructure, income, diversification, and poverty measures more than other outcomes.

Shift in the development needle: Addressing other outcomes

Despite the clear emphasis on economic outcomes to measure community resilience in the literature (86 out of 87 articles), the findings demonstrate that authors and researchers are focusing on other outcomes, like ecological sustainability. The increased discussion and measurement of ecological outcomes is a definite shift in the international development discourse (Sneddon, Howarth, & Norgaard, 2006). This shift from an economic development focus to incorporating ecological outcomes in the discussion could be explained by the rise in sustainability and sustainable development in the global discourse (Sneddon, Howarth, & Norgaard, 2006). The passing of the Millennium Development Goals (MDGs) in 2000 furthered the advance of an ecological emphasis needed in the development arena (Folke et al., 2002;

Milman & Short, 2008; Walker et al., 2004). Given that all 87 articles included in this meta-study are post 2000, it follows that the literature would be influenced by the passing of the MDGs and would prioritize measuring ecological sustainability. Scholars and practitioners became aware that the economic-based solutions are occurring at the expense of ecological integrity (McMichael, 2016). This prioritization is seen in the more recent literature as the average article publication year for those articles who studied some aspect of ecological sustainability is 2014. Thus, the MDGs in 2000 and the SDGs in 2016 encouraged governments, development agencies, and practitioners to couple economic initiatives with ecological aspects such as water security, climate change, and sustainable agriculture practices (UNEP, 2016). Moreover, groundbreaking work by scholars such as Holling (1973, 1996, 2001) and Flora and Flora (2004) have aided in expanding the rhetoric to include ecological factors. Holling (1973, 1996, 2001) emphasized the importance of ecosystems being able to bounce back and maintain their current state, known as ecological resilience. Flora and Flora (2004) developed the Community Capitals Framework to measure social well-being outside of just economic development – including natural capital (Flora, 1998; Magis, 2008). Further, the work of Berkes and Ross (2013), Folke et al. (2002), and other scholars tied ecological systems with socio-ecological systems underscoring that human behavior has a strong impact on continued ecological function. Thus, this meta-study demonstrates that the focus on sustainability and the importance of ecological systems is a catalyst shifting the international development literature to account for ecological outcomes linked with economic outcomes to assess the resilience of a community.

Community capitals

While the literature has prioritized measuring ecological and economic outcomes, the findings from this meta-study demonstrate that most articles (70 out of 87) did not measure all

four outcomes laid out in the two CR frameworks. Failure to include certain outcomes when measuring community resilience provides an unbalanced viewpoint of that particular community's ability to be resilient and does not necessarily provide a complete picture of that community's assets and the way they are able to leverage them. As Frankberger and Nelson (2013a, 2013b) and Flora and Flora (2004) point out, a community's ability to absorb, adapt, and transform is both improved and limited by the capitals possessed within said community. Building absorptive and adaptive capacity to improve a community's resilience is influenced by the various capitals that both exist and that are leverageable by community members (Flora and Flora, 2004). Being able to access and employ community capitals and assets influences a community's overall agency, which then impacts their ability to transform for the future – the pinnacle of community resilience (Berkes & Ross, 2013; Flora & Flora, 2004; Magis, 2010; Norris et al., 2008). However, Flora and Flora (2004) note that the stacking up of any of the seven capitals renders a community more vulnerable, detracting from overall resilience. Gutierrez-Montes, Emery, and Fernandez-Baca (2009) echo the importance of having balance among capitals in a community. They note that community capitals are intertwined and interdependent; therefore, the enhancement of one or two capitals should not come at the cost of the others (Gutierrez-Montes, Emery, & Fernandez-Baca, 2009). Flora and Flora (2004) state, “When one capital is emphasized over all others, the other resources are decapitalized, and the economy, environment, or social equity can thus be comprised” (p. 9). Hence, only focusing on certain capitals, like built or natural capital and certain outcomes like economic and ecological in the literature, does not provide a complete, in-depth understanding of how that community employs, or fails to employ, certain capitals to improve their overall resilience, or lack thereof.

There is more than disaster resilience

To this point, this discussion has addressed whether the literature discussed all four

outcomes of community resilience and whether these outcomes are addressed more than others. This section touches upon a third theme that arose, which aids in understanding why and how the economic status outcome is of major focus.

Whilst coding, one of the main themes that arose is the use of disaster resilience when claiming to measure community resilience. Much of the literature claiming to measure community resilience is actually assessing a community's response to a major natural disaster such as to a hurricane, flood, tsunami, or earthquake. Forty-one of 87 articles mentioned some sort of disaster in their study. Cutter, Burton, and Emrich (2010) note the individual drivers of disaster resilience are "social, economic, institutional, infrastructure and community capacities" (p. 1547). The focus of disaster resilience aligns with the findings of this meta-study as seen with the dominance of using infrastructure and other economic elements to measure resilience. Subsequently, the most dominant journal publication in this meta-study is the *International Journal of Disaster Risk Reduction* – 15 of the 87 articles published in this journal. Often, the response to disaster is about what a community did ex post facto to recover, which is a measure of how resilient a community is to major disasters (Cimellaro, Reinhorn, & Brunau, 2010). However, many of the articles failed to assess what a community does prior to an event to increase its absorptive and adaptive capacity.

While it is important to measure a community's resilience post-disaster, it is also essential to measure a community's ability to respond to small shocks and stressors preemptive to a disaster. Disaster resilience is an essential aspect of the resilience literature, but so is assessing communities' adaptive capacity to everyday shocks or long-matriculating shocks. Berkes and Ross (2013), Gunderson and Holling (2002), and Holling (1973) have emphasized the importance of "bouncing back" after a shock or stressor to measure how resilient a community is. However, instead of just being able to "bounce back" after a major disaster,

community resilience allows practitioners the ability to consider how communities are able to respond proactively to minor shocks and stressors in their day to day lives to keep functioning (Adger, 2000; Berkes & Ross, 2013; Norris et al., 2008; USAID, 2013; Walker et al., 2004).

CHAPTER VI: CONCLUSION AND RECOMMENDATIONS

Strengths, limitations, and critiques

The results of this meta-study demonstrate how the history of development and measurement of community resilience are intricately intertwined. We see that western aid and development agencies have historically emphasized economic outcomes often as the primary measurement of development. This meta-study displays that while the assessment of ecological factors in the literature has grown, priority is still placed upon measuring economic measures of success. There is a disparity between how the extant literature is measuring resilience in a community and what a truly resilient community is (one that addresses economic status, but also ecological sustainability, food security and malnutrition), based upon USAID and FAO frameworks. This disparity relates to the focus on certain outcomes over others when referencing community resilience, as evidenced by only 17 of 87 articles addressing all four outcomes. This indicates that the literature is failing to provide a holistic picture of what makes a community resilient and the full-capacities communities have to employ both proactively and reactively in the face of shock, stress, and disaster.

While these two frameworks, USAID and FAO, provided the most robust code to operationalize community resilience outcomes of any current model or framework, there are inherent weaknesses and limitations. These two frameworks do not comprehensively cover every aspect that results in a resilient community. For example, both frameworks do not acknowledge certain health aspects such as disease and mental illness; another existing community resilience

framework may address these aspects of resilience more so than the two used in this meta-study.

Similarly, another limitation pertains to the sub-variables, which for some, arguably, are individual or household indicators that in development we are forced to aggregate up to apply to the community level. This presents a challenge in the field of development, because these are the existing indicators to measure community, which relates back to the challenge of defining “what is a community” to begin with. This study acknowledges that some of the indicators are micro-level, such using the components of the Household Food Insecurity Access Scale Tool; but these micro-level indicators can be aggregated up to the community level to assess how individuals or households come together to form a community and work together, collectively, in the face of day to day challenges and stress. However, scaling up from individual to household, household to community, or even regionally can cause researchers to overlook nuances in how communities improve their resilience (Robinson & Carson, 2016).

The final limitation when conducting a meta-study pertains to the possibility of publication bias (Paterson et al., 2001), “...which is the bias attributable to unpublished or unidentified studies” (Sadoghi, 2012, p. NP27). There is inherent bias that occurs within the results of meta-study findings due to the utilization of only published literature. Thus, as an extension of this, future research could replicate the methodology of this meta-study and also include grey literature, books, book chapters, and technical reports.

Every framework carries its weaknesses, however, there are also inherent weaknesses pertaining to the model of community resilience itself. An illustration of this weakness is the intrinsic differences between spatial locations. Some critics challenge the generalizability of resilience frameworks, like USAID’s and FAO’s, given the variation in ways communities in different spaces go about improving their resilience (Robinson & Carson, 2016).

Another such critique of community resilience pertains to how it is used in a political setting and public policy. As aforementioned, community resilience has become a dominant theme in global governance to improve and address severe issues such as climate change, poverty, and malnutrition. However, MacKinnon and Derickson (2012) argue that resilience is “...conservative when applied to the social sphere... [and] ...privileges established social structures, which are often shaped by unequal power relations and injustice” (p. 254) Thus, the model of community resilience not only fails to account for disparities between spatial locations, it also fails to acknowledge the global inequalities that exist by race, class, and gender (MacKinnon & Derickson, 2012; Robinson & Carson, 2016). However, it is necessary to note, that a number of articles address these inequalities, such as by accounting for space by comparing rural urban places; however, there is no CR framework that provides a systematic way to measure these inequities.

The four outcomes of CR assume *ceteris paribus* conditions. All things being equal, improvements in economic status for some, should theoretically evolve into improvements for all community members (Cordero-Guzman & Auspos, 2007). However, structural and systemic inequalities often inhibit those considered lower status (i.e. low socioeconomic status and women) from reaping the benefits of development outcomes, at least initially (Ahluwalia, 1976; Young, 2005). Moser (1993) emphasizes this in her book, *Gender Planning and Development*, when she states: “Social categories, therefore, differentiate the experience of inequality and subordination within societies” (p. 3). Thus, a realized hierarchy exists where advancements in one area, such as improved access to export markets, benefit some in the community, but then subsequently, can have a negative impact and exploitative effect on the most vulnerable (Young, 2005).

Community resilience is not achieved in a vacuum; the communities often of focus in the

literature are those disproportionately affected by globalization (Robinson & Carson, 2016). These communities are expected to accept the shocks that occur, transform, and become more resilient in the face of change, despite the global inequities created by most-developed countries and the dominance of capitalism (Robinson & Carson, 2016). The dichotomy that exists with the increased use of community resilience in public policy with subsequent budget cuts in developed countries, results in the reification of the global power system and the continuation of the current international social hierarchy (Joseph, 2002; Robinson & Carson, 2016).

Recommendations for future research

Such weaknesses in the existing frameworks measuring community resilience and the perpetuation of social inequities via the discourse in the political arena, indicate that either additional frameworks, or an overhaul of current frameworks, may be required if practitioners want to truly measure community resilience. This may mean we need to establish a framework that accounts for inequities that exist on a systematic level. For example, stronger incorporation of the Community Capitals Framework into community resilience frameworks would address this issue of accounting for systematic inequities. Continual use of frameworks that perpetuate the agenda of dominant global governments means that practitioners and researchers fail to truly address and measure community resilience, which inhibits the possibility of transformation. Communities cannot transform when the current global discourse is continually focused on achieving economic outcomes while not accounting for variations within communities. At the heart of community resilience is the idea that communities can absorb, adapt, and *transform* in the face of shock and stress. Many practitioners view resilience on a continuum that has various sectors. Some practitioners believe that resilience models should be separate from all other domains like race, class, and space to serve as a point of comparison to see how well resilience models fit within this particular place. Other practitioners fall on the other end of the spectrum in

which the belief is all domains should be housed under the same framework or model. This meta-study proffers a stance in the middle of this continuum. Community resilience's strength as a concept and model comes from the notion that it can consider various domains of resilience together in a way that accounts for the socio-political context and inequalities that exist by race, class, and gender that communities navigate every day. This would allow practitioners to capture a holistic picture of how communities become more resilient that is context specific without ignoring how global inequalities manifest within these communities.

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VITA

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EDUCATION

University of Mississippi, 2017-2019

Department of Sociology and Anthropology

Second year M.A. student

Interdisciplinary Applied Statistics Certificate

4.0 GPA

University of Missouri, 2014-2016

B.S. in Agriculture with emphasis in Sustainable Agriculture

Minor: Agriculture Economics

4.0 GPA, *Summa Cum Laude*

ACADEMIC POSITIONS

University of Mississippi, Graduate Instructor Course: SOC 349 Applied Demography

January 2019-May 2019

University of Mississippi, Graduate Research Assistant for the *Center for Population Studies*,

January 2017-Present

University of Mississippi, Graduate Teaching Assistant, January 2017-May 2018

Courses: Sociology 101 (SOC 101), Judicial System & African American Community (AAS 302)

PUBLICATIONS

Peer Reviewed

(Under Review) **Haggard, Rachel A.**, Anne M. Cafer, and John J. Green. 2018. Community Resilience: A Meta-Study of International Development Rhetoric in Emerging Economies. *Community Development Journal*.

(Under Review) Haggard, Rachel A. 2018. [Review of the book *The Community Resilience Reader Essential Resources for an Era of Upheaval*, edited by Daniel Lerch]. *Community Development Journal*.

Green, John, Jim Worstell, Caroline Canarios, **Rachel Haggard**, Katrina Alford, and Sydney Bush. 2018. "Exploring the Relationships between Local Agrifood System Resilience, Multiple Measures of Development, and Health in the Southern United States." *Community Development Journal*. doi: [10.1080/15575330.2018.1527778](https://doi.org/10.1080/15575330.2018.1527778)

(Under Review) **Haggard, Rachel A.**, John J. Green. 2018. "Understanding the SNAP Gap: Assessing County Level Patterns in Poverty and Nutrition Assistance in the Southern U.S." *Journal of Rural Social Sciences*.

Technical Reports

Bush, Sydney and **Rachel A. Haggard**. 2018. *Workforce Development Alliance: Sunflower County Policy Brief*. University of Mississippi, MS: Center for Population Studies for (Workforce Development Alliance).

Cafer, Anne M. and **Rachel A. Haggard**. 2017. *Mississippi Public Health Region Policy Brief for Northern, Central, and Southern Region*. University of Mississippi, MS: Center for Population Studies.

Haggard, Rachel A., Anne M. Cafer, John J. Green. 2017. *Mississippi Health and Hunger Atlas*. University of Mississippi, MS: Center for Population Studies.

CONFERENCE PRESENTATIONS AND POSTERS

Haggard, Rachel. "Community Resilience: A Meta-Study of Rural Development Rhetoric in Emerging Economic Countries." Rural Sociological Society, July 2018.

Haggard, Rachel. "A Multimethod Analysis Assessing How Presumptive Eligibility Policy May Benefit Birth Outcomes." Delta Regional Forum, July 2018.

K.D. Alford, H. Costa-Greger, M.A. Fratesi, **R. Haggard**, J.J. Green, & L. Woo (*University of Mississippi Center for Population Studies*); K. Willett, C. Thornton, & B. Avula (*UM School of Pharmacy Division of Environmental Toxicology*); S. Otts & C. Janasie (*UM National Sea Grant Law Center*). "The Dangers of Lead Exposure in Drinking Water: An Interdisciplinary Approach to Community Engaged Research and Environmental Health Policy in the Mississippi Delta." Delta Regional Forum, July 2018.

Haggard, Rachel. "Understanding the SNAP Gap: Assessing County Level Patterns in Poverty and Nutrition Assistance in the Southern U.S." Southern Rural Sociological Association, February 2018.

Green, J.J., J. Worstell., C. Canarios, **R. Haggard.**, K. Alford, and S. Bush. "Exploring the Relationships between Local Agrifood System Resilience and Multiple Measures of Development in the Southern United States." Southern Rural Sociological Association Annual Conference, Jacksonville, FL, February 2018

Haggard, Rachel, Anne Cafer, and John Green. “Mississippi Health and Hunger Atlas.” Rural Sociological Society, July 2017.

Haggard, Rachel, Anne Cafer, and John Green. “Mississippi Health and Hunger Atlas.” Delta Regional Forum, July 2017.

Haggard, Rachel, Anne Cafer, and John Green. “Mississippi Health and Hunger Atlas.” DeSoto County Hunger Summit, April 2017.

Haggard, Rachel, Anne Cafer, and John Green. “Mississippi Health and Hunger Atlas.” University of Mississippi Research Day, April 2017.

Haggard, Rachel, Anne Cafer, and John Green. “Mississippi Health and Hunger Atlas.” Universities Fighting World Hunger, Ohio, March 2017.

HONORS AND AWARDS

University of Mississippi Graduate Student Council GSC Grant of \$1000. May 2017.

Travel Grant Award of \$350 for attending Universities Fighting World Hunger Conference. March 2017.

Summer Research Grant Award from the University of Mississippi Graduate School of \$2500. April 2017.

Total: \$3850

RESEARCH EXPERIENCE

Delta Scholars Program, Starkville and Clarksdale, MS. Presenter and facilitator. July 2018.

New Pathways Workshop, Sunflower, MS. Facilitator. April 2018.

Data Utilization Workshop Event, Clarksdale, MS. Presenter and facilitator. March 2018.

Neighborhood Table Community Event, Oxford, MS. Data Collector. April 2017.

Problem Solving for Better Health workshop facilitator for youth, Clarksdale, MS. April 2017.

Race Diaries Coding, Oxford, MS. April 2017.

INTERNATIONAL EXPERIENCE

Graduate Experiences:

Zambia – Research Fieldwork. June 2018.

Zambia – Research Field School. May-June 2017.

- Graduate Teaching Assistant for the field school

Undergraduate Short Study Abroad Courses:

Italy – Hunger in the World: Causes, Consequences, and Remedies. January 2016.

- Emphasis on Food Security and Policy
- Took place at the Food and Agricultural Organization, United Nations in Rome

Bulgaria – Agricultural & Rural Policy & the Emerging Value Chain in a Transitional Economy. May 2016.

- Emphasis on rural development and how entering a free market economy has affected Bulgarian livelihoods
- Emphasis on the EU and the Common Agriculture Practice policies

AFFILIATIONS

Mississippi Public Health Association

Rural Sociological Society

Rural Sociological Society Co-Chair for the International Development & Studies Research Interest Group. July 2018-July 2019.

Rural Sociological Society Graduate Representative for the Population Research Interest Group. July 2017-July 2018.

Southern Rural Sociological Association