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Identifyin gCapacities an Extension Network May Need to Effectively Support the Professionalization of Extension Providers

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Keywords

Authors

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Introduction

Rural advisory service (RAS) providers, also referred to as extension professionals in many parts of the world, aim to support farmers by collecting, organizing, and disseminating research-driven techniques and ideas that enhance agricultural production and help solve local stakeholder needs (Khurshid, Khan, Pervaiz, Khan, & Nawaz, 2017). According to Abbott (1991), "the core of the phenomenon of profession was a special relation between client and professional, and the core of professionalization was the evolution of guarantees for this relationship" (p, 356). However, unlike other professions that include more formal professionalization structures such as medicine (e.g. Marcus, 1999), law (e.g. Applemen, 2004), law enforcement (e.g. McClellan & Gustafson, 2012), and accounting (e.g. Cooper & Robson, 2006), there remains a fundamental gap as it relates to establishing the needs of RAS professionals, as well as the professionalization structures (Noordegraaf, 2011) necessary to address such needs (Davis & Sulaiman, 2014). Professionalization is therefore necessary in establishing, disseminating, and to a certain extent enforcing the knowledge and standards that legitimize a field by providing the necessary qualifications for a profession (L'Etang, 2008).

Despite the need for professional standards and codes the ever changing landscape of agricultural development, particularly within international contexts, presents a fundamental challenge. For example, farmers have recently exhibited an increased need for technological information (Eastwood, Klerkx, & Nettle, 2017; Singh, Malhotra, & Singh, 2016). To address the technological information needs of farmers, RAS providers must build capacity within the farming communities they are a part of while delivering the latest information and addressing clientele needs (McCole, Culbertson, Suvedi, & McNamara, 2014). In an attempt to remain relevant to clientele, RAS professionals must have an orientation towards ongoing professional development to provide the best possible information and services to those they work with (Davis & Sulaiman, 2014). However, poor coverage of advisory services and low literacy rates have resulted in fragmented systems within many developing countries with the result being inconsistent levels of professional services provided by RAS professionals (FAO, 2014; McCole et al., 2014). Additionally, inconsistent coverage due to a lack of RAS providers in the field is a result of insufficient funds. The funding challenges are compounded when limited resources must be adjudicated between known coverage gaps or the further professional development of RAS professionals that are employed. At times finite resources are prioritized to fill gaps with professional development considered a secondary priority (Swanson, 2006). Therefore, the fundamental gap may not necessarily reside within the professionals themselves but rather within the professionalization infrastructure in which the professional resides (Abbott, 1991).

Previously deemed a public responsibility, most governments supported and coordinated RAS providers (Umali-Deininger, 1997). However, escalating fiscal deficits and poor governance of public programs has redirected policy encouraging the potential privatization of RAS (Benin, Nkonya, Okecho, Randriamamonjy, Kato, Lubade, & Kyotalimye, 2011; Swanson & Rajalathi, 2010). This is observed even in developed countries, like the United States, where extension's ability to perform has been challenged by reduced government budget allocations (Wang, 2014). To reduce the financial burden of public RAS providers, governments have started contracting out RAS services (Rivera & Alex, 2006). What is known about this change, is that RAS services have become demand driven and some small-scale farmers have been left behind (Labarthe & Laurent, 2013). As a result, many farmers are left depending on private information providers, such as retailers and Certified Crop Advisors, for information on the latest production technologies (Wang, 2014). These are individuals hired by companies who have not

received the same training that RAS providers had received in the past. Getting information from somewhat unreliable sources has impacted productivity of both farms and farmers around the globe (Klerkx & Jansen, 2010; Rivera & Sulaiman, 2009). Similar to other professional occupations, without an entity to provide and enforce standards and expectations of professional conduct within RAS efforts and to provide professionalization standardization, the value and credibility of RAS professionals is in jeopardy (Davis & Sulaiman, 2014; Forsyth & Danisiewicz, 1985; Freidson, 1988; Richardson, 2017).

Over time, a lack of standards for RAS networks has led to compartmentalized attempts to provide services without consistent professional development (GFRAS, 2015). In a needs assessment conducted by Conklin, Hook, Kelbaugh, and Nieto (2002) professional development was ranked as the top need for RAS providers; however, attendance for process skill training was not a priority. In a recent empirical study in Nigeria, "the findings revealed that although both public and private extension agents had a basic knowledge on the concept of professionalization and its components, the observed disparities in the level of knowledge between them needs to be addressed" (Olorunfemi & Oladele, 2018, p.46). These results are consistent with previous studies finding even when professional development training was available, which was severely limited, many RAS providers were not attending because of ineffective training delivery methods (Lakai, Jayaratne, Moore, & Kistler, 2012). These findings support the notion that there may be institutional challenges associated with professionalization that are distinct from the specific needs of RAS professionals themselves (Abbott, 1991). To address the fundamental gap in professionalization support and consistency some RAS networks have started to establish entities to support professionalization at the regional level (e.g., Davis & Terblanché, 2016). The preliminary evidence indicates RAS networks may serve as a viable platform for RAS professionalization to occur; however, there is currently no set of standard capacities an RAS network should embody to effectively support RAS professionalization activities across multiple geographies and stages of development. Therefore, there is a need to establish a set of common capacities for RAS networks to effectively support the professionalization of RAS providers (GFRAS, 2015).

Conceptual Framework

The conceptual framework for the present study is based on a synthesis of an ordering of professionalization proposed by Abbott (1991), a capacity building model proposed by Moyer, Coristine, MacLean, and Meyer (1999), and social capital (Lin, 2001; Lin, 2008; Woolcock, & Narayan, 2000). The integration of these concepts provided a diverse literature upon which to consider the development of RAS networks' ability to support professionalization activities. In addition to providing a structure for the study the RAS network as an entity is also germane. The World Bank (2012) defined an innovation network as "a diverse group of actors that voluntarily contribute knowledge and other resources (such as money, equipment, and land) to jointly develop or improve a social or economic process or product" (p. 16), for the purposes of this research an RAS network was defined as: a diverse group of actors that share common beliefs, are affiliated through a formal or informal structure, and contribute knowledge or other resources to jointly develop or improve RAS practice within a particular geography whether at the local, country, region, or global level.

Ordering of Professionalization

The term professionalization is not only related to the roles of individuals, but also related to the structure and management needed to acquire and maintain power (Forsyth & Danisiewicz, 1985; Negrine & Lilleker, 2002). In an analysis of the professionalization of American medicine Abbott (1991) identified five critical milestones; however, the author emphasized that although the sequence of events may occur in an anticipated manner, the sequence is less important than the milestones. The basic milestones Abbott (1991) identifies are: association, control of work, interest in professional education, the pursuit of professional knowledge, and profession-dominated work sites.

The first milestone identified was association and the inherent need for a group of professionals to "exchange information, to provide mutual support, to lobby, to control practitioners, or to control work" (p. 361). However, association may or may not proceed the other milestones from a professionalization perspective. For example, the need for interest in professional education may precipitate the need for association. Within the international extension context an analysis of the network emergence of the Global Forum for Rural Advisory Services (Davis, Dolly, Lamm, & Lamm, 2018) identified similar themes, specifically: emancipation, consolidation, positioning, broadening, strengthening, deepening, and partnering outside of the network. The emancipation and consolidation themes are therefore similar to the association milestone (Abbott, 1991).

Control of work is the next milestone Abbott (1991) identifies. At this stage "there is a desire for professional and personal status and for economic security. There may also be a sincere professional desire to protect the public against dangerous quacks" (p. 362). Within a pluralistic endeavor such as extension, the desire to protect clientele from incorrect or potentially harmful information is a likely driver in the need for establishing professionalization. This milestone is therefore similar to the positioning theme from the GFRAS analysis (Davis et al., 2018).

Next, Abbott (1991) identifies interest in professional education as a core milestone. At this stage, "trained skill is necessary for practice and helps differentiate the officially competent from the unofficially competent as well as from the officially incompetent" (p. 363). Without a set of standards upon which to evaluate the competency of a professional there is the potential that incompetent individuals may present themselves as professionals. As it relates to the network emergence themes (Davis et al., 2018), strengthening is most closely associated. Establishing protocol, procedure, and norms are steps necessary to inform professional education as grounded within the network.

The pursuit of professional knowledge follows next (Abbott, 1991). For professionals "knowledge permits effective practice and may help legitimate professional authority" (p. 363), it may also "enable the defense of a profession's jurisdiction and the potential seizure of others" (p. 363). In both contexts the pursuit of professional knowledge further establishes the differences between those within a profession and those outside of the profession. The themes of broadening and deepening are related from a network emergence perspective (Davis et al., 2018) as a network may seek to establish what is within the scope of interest and expertise, and what may not be appropriate from a professionalization perspective. Considering the diversity of professional backgrounds within RAS internationally the need for both a broad and simultaneously deep perspective is relevant (Cohn, Fehr, & Maréchal, 2017; Feder, Willett, & Zijp, 2001).

Lastly, Abbott (1991) proposes profession-dominated work sites as a milestone within the professionalization process. Under these conditions "organizations deliver services more effectively and so increase the efficacy of a fixed body of professionals" (p. 364). Identifying what is the purview of the profession and what is not establishes logical boundaries and supports the logical interaction between groups. In the case of GFRAS (Davis et al., 2018), partnering with organizations outside of the network may indicate the establishment of what the network represents and the value it can contribute to outside entities. The results of empirical studies further support this milestone within contexts such as non-profit organizations (Sanzo Pérez, Rey García, & Álvarez González, 2016) and public administration (Meier & O'toole, 2010).

Capacity Building Model

The United Nations (2010) defines capacity as "the ability of individuals, institutions, and societies to perform functions, solve problems, and set and achieve objectives in a sustainable manner" (p. 2). Therefore, capacity building is the process by which to improve, or increase, individuals, institutions, and societies capacity. Within a community health context Moyer, Coristine, MacLean, and Meyer (1999) propose a four-stage process to build capacity. First, there is a need to identify common ground. Specifically, identifying the areas in which there is general consensus on what is relevant, important, and feasible. Second, working cooperatively. Focusing on the role the actor or actors must fulfill in pursuit of the common objective. Third, working in partnership. Focusing efforts on a common endeavor ensures all actors are aligned. Lastly, working on a multi-agency/multi-sectoral project. As the scope of an effort increases the ability for local actors to manage all aspects of the effort deceases. Span of control limits what is reasonable to enforce therefore it is necessary to engage other actors and agencies.

Similar to the model proposed by Moyer and colleagues (1999), Ritter (1999) found the ability to orient organizational capacity building with external sources was important in professional development within a network. The exploration of the competencies needed to manage a network effectively provide input into suitable organizational structures within a network necessary to support professionalization (Chandler, 1990). Strengthening underperforming competency areas has been found to result in improved resource mobilization and utilization through collective action (Jenkins, 1983). For example, Gendron and Barrett (2004) studied a group of accountants and found that professionalization supported their communication processes with external audiences by developing extensive and secure internal networks. Similar expectations were found amongst public relations professionals (Fitch, 2016).

Social Capital

Social capital helps to understand the complexity of an issue within organizations and allows for the exploration of solutions (Allan, Ozga, & Smyth, 2009; Inkpen & Tsang, 2005; OECD, 2001) based on the premise "investment in social relations with expected returns" (Lin, 2001, p. 30). Social capital considers the value of the social contexts that exist within an organization, system or network including ties, relationships, and value systems (Tsai & Ghoshal, 1998). Social capital has been established as an important element in effective group, organization and network functioning (Borgatti, Everett, & Johnson, 2018; Curry, 1997; Curry & Winter, 2000; Penuel, Riel, Krausem, & Frank, 2009; Ritter, 1999; Tandi Lwoga, 2011).

Conceptual Synthesis

The integration of the three primary concepts associated with the study include: an ordering of professionalization proposed by Abbott (1991), a capacity building model proposed by Moyer, Coristine, MacLean, and Meyer (1999), and social capital (Lin, 2001; Lin, 2008; Woolcock, & Narayan, 2000). The core of the study is focused on the professionalization; however, the stages associated with professionalization are somewhat incomplete in isolation. Therefore, it is important to consider first, capacity building, or the capacities necessary for a RAS network to support professionalization efforts. However, capacity building is also incomplete as an antecedent condition because the nature and utility of the capacity information is dependent upon inputs from experts. Therefore, social capital is also considered as a component within the framework as the source for capacity insights that will ultimately inform RAS network support of professionalization activities. A visual representation of the framework is provided in Figure 1.
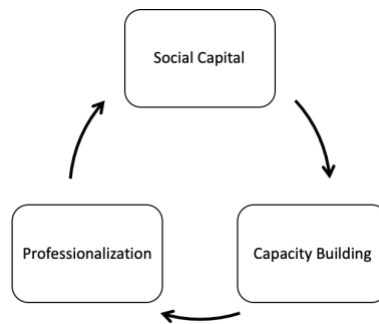

Figure 1. Conceptual framework integrating social capital, capacity building, and professionalization.

Purpose and Research Objectives

The purpose of this study was to identify the capacities needed for a RAS network to support the professionalization of RAS providers. The study was driven by the following research objectives:

1. Create a comprehensive list of potential capacities a network may need to effectively support the professionalization of RAS providers.
2. Arrive at a global consensus on the specific capacities necessary for a RAS network to support the professionalization of RAS providers.

Methods

The methods associated with this article are identical to those described in detail in Lamm, Lamm, Davis, and Swaroop, (2017), which was part of a larger project that gathered multiple thematic areas (Lamm et al., 2017). Nevertheless, in accordance with recommendations in the literature (Zhang, Jia, Lin, & Tan, 2013) a summary of the methods are provided; however, readers are encouraged to review the source manuscript (Lamm et al., 2017) for additional details.

A modified Delphi method research design was used to address the identified research objectives and gain consensus on the capacities needed for a RAS network to be effective in professionalization across a panel of experts. (Dalkey & Helmer, 1963; Ziglio, 1996). Based on the context of the research, RAS networks, experts were identified by the Global Forum for Rural Advisory Services (GFRAS) organization (Okoli & Pawlowski, 2004). The GFRAS

organization identified 31 individuals to constitute the expert panel. The individuals were identified based on a variety of considerations. Specifically, individuals were selected based on stakeholders, geographies, and experience levels among other considerations.

> The 31 experts that participated in the panel represented RAS practitioners, funding organizations, farmer and advocacy groups, academic institutions, research institutes, policy makers, and other affiliated RAS support organizations (for example consultants and agricultural supply companies). Panelists had a range of experience with RAS exposure ranging from four to 45 years, with an average tenure of 18 years. Panelists represented the following countries: Bangladesh, Belgium, Bulgaria, Ecuador, Fiji, Georgia, Ghana, Guyana, India, Ireland, Italy, Lao People's Democratic Republic, Malawi, Nicaragua, Nigeria, Pakistan, Philippines, Samoa, Solomon Islands, South Africa, Switzerland, Uganda, United States of America, and Uzbekistan. (Lamm et al., 2017, p. 97)

To arrive at consensus amongst the expert panelists a three round Delphi process was employed. Researchers followed literature recommendations to develop the processes and instrumentation (e.g. Delbecq, Van de Ven, & Gustafson, 1975; Lamm et al., 2017; Lamm, Lamm, Davis, & Swaroop, 2018; Nistler, Lamm, & Stedman, 2011). During the first round of the process, experts listed, using a short phrase or word, up to five of the most important capacities a RAS network should possess to be effective in professionalization (Gliddon, 2006). As an emergent process, respondents were allowed to provide insights according to their expertise and experience. Using the Dedoose qualitative analysis software program, responses were analyzed and aggregated, or expanded, where appropriate (Dedoose, 2016; Garson, 2014; Gliddon, 2006). There were 29 respondents to the first round for a response rate of 94%.

Results from the first round of the Delphi process were then used to develop the second-round questionnaire used to capture experts' level of agreement with the capacities identified in round one. Panelists were asked to indicate their level of agreement or disagreement to each item, regarding the importance on a five point Likert-type scale (1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Agree nor Disagree*, 4 = *Agree*, 5 = *Strongly Agree*). The scores for each item were averaged, and each item had to receive a mean score greater than 3.25 for the item to continue to the third round (Garson, 2014). There were 27 respondents to the second round for a response rate of 87%.

The third, and final, Delphi round was used to establish expert consensus with the capacities identified in the second round. Panelists indicated whether or not each professionalization capacity should be kept or removed. Item with a minimum of 75% expert agreement to keep were retained (Garson, 2014). There were 29 respondents in the third and final round for a response rate of 94%.

Before initiating the research, Institutional Review Board approval was obtained from the University of Florida. All three rounds of the Delphi were administered online and were distributed according the Tailored Design Method (Dillman, Smyth, & Christian, 2008). In accordance with recommendations a pre-notice email sent to all panelists to initiate the process. The pre-notice message was followed by an email invitation to complete Round One of the Delphi approximately two days later. For all three rounds of the process the protocol included at least three reminder messages after the original invitation was sent. Results from the process were downloaded and analyzed using the Statistical Package for the Social Sciences (SPSS) version 21 with further thematic analysis of responses in the Dedoose qualitative analysis software package (Dedoose, 2016). Overall the response rates for each round of the process were

deemed acceptable based on previous empirical study thresholds where response rates of 70% or greater per round are adequate (Keeney, Hasson, & McKenna, 2011).

Results

At the conclusion of the first round of the Delphi process there were 33 capacities identified by the expert panel (Table 1). Of the 33 capacities from Round One, all items achieved the minimum threshold with a mean score greater than or equal to 3.25 to be retained in Round Two. Therefore all 33 capacities identified were included in the third and final round. Mean values for the capacities ranged from 4.44 to 3.27 following the Round Two analysis (Table 1). The highest level of importance was the statement "A country fora or regional RAS network should…advocate for RAS professionalisation."

Table 1
Delphi Round One and Two Results: Level of Importance Associated with Capacities a RAS Network May Need to Effectively Support the Professionalization of RAS Providers (n = *33*)

Capacity	M	SD
Advocate for RAS professionaliation	4.44	0.70
Provide an effective platform for information exchange and communication with other RAS professionals through face to face opportunities (e.g. sharing of ideas, tools, experiences, skills, approaches at meetings)	4.22	0.70
Provide a clear vision of the role of a RAS professional	4.15	0.66
Build leadership capacity (includes strategy development and managerial skills)	4.12	0.91
Offer an understanding of rural advisory services	4.07	0.68
Provide opportunities for networking with external stakeholders	4.00	0.83
Be aware of existing strengths and weaknesses within the RAS system	4.00	0.78
Provide an effective platform for information exchange and communication with other RAS professionals through asynchronous online platforms (e.g. sharing of ideas, tools, experiences, skills, approaches on a website)	3.96	0.90
Provide opportunities for collaboration with external stakeholders	3.93	0.87
Encourage partnerships with universities and learning institutes	3.93	0.96
Build relationships with universities and learning institutes to provide education, training and skill development for RAS professionals	3.93	1.04
Provide an effective platform for information exchange and communication with other RAS professionals through synchronous online platforms (e.g. sharing of ideas, tools, experiences, skills, approaches on Skype calls)	3.89	0.93
Offer a standardized set of materials for network members to use (e.g. training manuals, best practices, guidelines, tools, learning kits)	3.89	0.93
Provide opportunities for communication with external stakeholders	3.89	0.97
Encourage needs assessments	3.85	0.95

Assist in the development of facilitation skills (includes ability to build capacity of staff and stakeholders)	3.81	0.88
Offer opportunities to build partnerships with universities and learning institutes	3.74	1.06
Offer opportunities to build public/private partnerships	3.74	0.86
Enhance knowledge of educational practices (educational methods and program development expertise)	3.70	1.03
Provide standards for RAS performance	3.70	0.87
Support the identification of the resources needed to be successful	3.70	0.87
Offer professional development to enhance subject matter specific knowledge (e.g. farming practices, disease management, rural development, economics, etc.)	3.67	1.21
Support the development of appropriate program monitoring and evaluation systems	3.63	1.04
Offer opportunities for the development/education of new RAS professionals	3.63	1.28
Provide support for needs assessments	3.59	1.05
Provide incentives for engagement in best practices (awards, scholarships, certifications, etc.)	3.59	1.05
Bring experts in to deliver specific professional development training	3.48	1.09
Support and reward program monitoring and evaluation systems once in place	3.44	1.19
Provide opportunities for professional development plan management	3.41	0.97
Provide opportunities for professional development plan creation	3.37	0.97
Support the procurement of the resources needed to be successful	3.33	1.07
Reward positive attitudes	3.33	1.04
Offer research to support RAS efforts	3.27	1.25

Following the third and final round of the Delphi process there were 24 of the original 33 capacities retained. The nine capacities that were not retained failed to reach the minimum threshold of 75% consensus amongst panelists to keep the item. The results of the analysis are presented in Table 2.

Table 2
*Delphi Round Three Results: Level of Consensus Associated with Capacities a RAS Network May Need to Effectively Support the Professionalization of RAS Providers (*n = 33)

Capacity	Consensus %
Advocate for RAS professionalisation	96.6
Provide an effective platform for information exchange and communication with other RAS professionals through face to face opportunities (e.g. sharing of ideas, tools, experiences, skills, approaches at meetings)	96.6
Provide a clear vision of the role of a RAS professional	96.6
Support the development of appropriate program monitoring and evaluation systems	93.1
Provide opportunities for collaboration with external stakeholders	93.1
Provide opportunities for networking with external stakeholders	93.1

Build relationships with universities and learning institutes to provide education, training and skill development for RAS professionals	89.7
Enhance knowledge of educational practices (educational methods and program development expertise)	89.7
Provide opportunities for communication with external stakeholders	89.7
Offer an understanding of rural advisory services	89.3
Build leadership capacity (includes strategy development and managerial skills)	86.2
Be aware of existing strengths and weaknesses within the RAS system	86.2
Assist in the development of facilitation skills (includes ability to build capacity of staff and stakeholders)	86.2
Provide an effective platform for information exchange and communication with other RAS professionals through asynchronous online platforms (e.g. sharing of ideas, tools, experiences, skills, approaches on a website)	85.7
Provide incentives for engagement in best practices (awards, scholarships, certifications, etc.)	82.8
Provide opportunities for professional development plan management	82.8
Provide an effective platform for information exchange and communication with other RAS professionals through synchronous online platforms (e.g. sharing of ideas, tools, experiences, skills, approaches on Skype calls)	82.8
Encourage partnerships with universities and learning institutes	82.8
Offer a standardized set of materials for network members to use (e.g. training manuals, best practices, guidelines, tools, learning kits)	82.8
Support the identification of the resources needed to be successful	79.3
Provide opportunities for professional development plan creation	79.3
Provide support for needs assessments	79.3
Encourage needs assessments	79.3
Offer opportunities to build public/private partnerships	79.3
Bring experts in to deliver specific professional development training	72.4
Provide standards for RAS performance	72.4
Offer opportunities for the development/education of new RAS professionals	72.4
Support and reward program monitoring and evaluation systems once in place	69.0
Offer opportunities to build partnerships with universities and learning institutes	67.9
Support the procurement of the resources needed to be successful	62.1
Offer professional development to enhance subject matter specific knowledge (e.g. farming practices, disease management, rural development, economics, etc.)	62.1
Offer research to support RAS efforts	58.6
Reward positive attitudes	58.6

Conclusions, Implications, and Recommendations

Although there are previous studies examining the professional needs for RAS providers, there has been limited analysis of the capacities RAS networks need to support the professionalization of RAS providers. As Abbott (1991) found, professionalization typically does not emerge spontaneously, rather it is typically a sequence of milestones that occur in support of the effort. The findings from the present study are intended to serve as a set of baseline capacity recommendations for RAS networks to consider when establishing and environment in which to support the professionalization of RAS providers.

The purposive targeting of RAS professionals with a diverse set of experiences and perspectives helps to ensure the results are applicable under various conditions. Additionally, acknowledging the social capital aspect of the data collection process to inform the development of professionalization capacity identification provides a model for future research within international agricultural and extension education contexts. Specifically, the development of common capacities that are appropriate under various conditions around the globe should be approached with care and caution. For both international agriculture academics and professionals, studies should provide value and an appropriate context upon which to evaluate the utility of the results (Bodin & Crona, 2009).

Most of the 24 capacities identified in this research revolve around common themes: access to knowledge, resources, or technologies (Inkpen & Tsang, 2005), resources which are embedded within a network that can be accessed for utilization (Lin, 2001), understanding the complexity of the profession (Allan et al., 2009), and communicating shared norms and values (OECD, 2001; Tsai & Ghoshal, 1998). A recommendation from the study would be to focus on not only the individual capacity items, but to consider common themes within the results. While it may not be appropriate for all networks to attempt to build capacity across all areas simultaneously, it is important to begin the process and start identifying and pursing those capacities that are reasonable and appropriate. For example, using Abbott's (1991) and Moyer and colleagures (1999) recommendations a RAS network may wish to first consider their level of maturity within the capacity building process. Is the network aligned? If so, are the right actors engaged? If so, is there collective effort to improve professionalization support? If all the criteria for capacity building in place an analysis of Abbott's (1991) milestones may help to inform efforts. For example, is there an association of RAS professionals established? Is there interest in professional education? Are there opportunities to formalize and enforce professional standards with policymakers? A recommendation for RAS networks is to utilize not only the results of the study in isolation, but to also consider using the conceptual framework as a guide on other network capacity building endeavors such as improving knowledge management capacity (Lamm, Lamm, Davis, & Swaroop, 2017).

An additional recommendation for future study would be to analyze and formalize the individual capacities into a functional diagnostic instrument or scale that RAS networks could use to evaluate and plan their professionalization support capacity development activities. A robust and valid instrument would provide a consistent resource to RAS networks and would help promote knowledge sharing and communication using a common vernacular.

Although the results and approach in the current study provide both practical and theoretical insights, there are limitations that must be acknowledged. First, despite efforts to be inclusive and providing a platform for individuals representing RAS networks across the globe (Bodin & Crona, 2009), the quality of the result remains dependent on the knowledge and expertise of the panel of experts. Acknowledging this potential limitation, steps were taken to

minimize potential bias amongst panelists such as involving individuals familiar with the underlying content, but with differing roles, backgrounds, and perspectives (Garson, 2014). A second limitation is the utility of the results within the study, specifically, the need for RAS professionalization in a context of decreasing financial support and resources is well established in the literature (e.g. Rivera & Alex, 2006; Swanson & Rajalathi, 2010; Umali-Deininger, 1997; Wang, 2014). However, the intent of the study is not focused on the individual RAS provider, it is focused at the RAS network level, and in particular the capacities a RAS network needs to support the professionalization of RAS providers. Nevertheless, the conceptual overlap and potential for confusion should be acknowledged.

Overall, the results of the study provide an opportunity for RAS networks to begin meaningful dialog regarding the nature and needs of RAS professionalization, and the capacities needed to support the professionalization of RAS providers. As readily observed on a global scale, funding and financial support RAS professionals is declining (Swanson, 2006). While it is well established that there will always be other needs competing for limited resources the need for nations to adequately feed for their populations is paramount (FAO, 2014). Professions such as medicine, law, or accounting (e.g. Gendron, & Barrett, 2004) generally require rigorous professionalization standards, a recommendation from this research be that RAS networks globally consider doing the same using a thoughtful, pragmatic, and appropriate approach.

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