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Organizational Partnerships for Food Policy Research Impact

A Review of What Works

Athur Mabiso

Teunis Van Rheenen

Jenna Ferguson

Development Strategy and Governance Division

Partnership, Impact and Capacity Strengthening Unit

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

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AUTHORS

Arthur Mabiso (a.mabiso@cgiar.org) is a postdoctoral fellow in the Development Strategy and Governance Division of the International Food Policy Research Institute (IFPRI), Washington, DC.

Teunis Van Rheenen (t.vanrheenen@cgiar.org) is a senior research fellow in the Partnership, Impact and Capacity Strengthening Unit of IFPRI, Washington, DC.

Jenna Ferguson (j.ferguson@cgiar.org) is a senior research analyst in the Partnership, Impact and Capacity Strengthening Unit of IFPRI, Washington, DC.

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ABSTRACT

Recently discourse has grown about the importance of partnerships for adding value to agriculture research, strengthening policy capacities, and enhancing food policy impact on global food security and poverty reduction. However, the literature on partnerships specifically focusing on food policy research impact is still mostly emerging. This paper contributes to our understanding of food policy–research partnerships and provides a review of the theory and empirical literature about the factors that contribute to effective food policy–research partnerships. The literature points to the emergence of organizational partnerships as primarily driven by subjective perceptions about potential partners, the complex and uncertain external environment, access to resources through partnership and expectations of potential impact of the partnership. Perceptions that are found to be important include trust, mutuality of partner goals, legitimacy of partner and the perception that partnering will achieve more than what one organization can accomplish independently through cost sharing, lower transactions costs and increased competitiveness. Effectively implementing each phase of the partnership cycle, from scoping to reviewing and revising, with effective communication throughout all phases, is critical to achieve high quality and impactful food policy–research partnerships.

Keywords: partnership, governance, boundary organizations, policy process, food security

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1. INTRODUCTION

“Many hands make light work.”

“Too many cooks spoil the broth.”

-English idioms on collaboration and partnership

Recently there has been ample discourse about the importance of partnerships for adding value to agricultural research, strengthening policymaking capacities, and enhancing food policy impact. However, the literature on partnerships specifically focusing on food policy research and the potential impact on policy processes is still mostly emerging. Past experiences of partnerships in development policy settings depict mixed results and are highly context dependent (Brinkerhoff 2002a, 2002b; Murphy and Bendell 1999). Notwithstanding, the importance of organizational partnerships operating in food policy processes has continued to be highlighted by practitioners, policymakers, donors, and researchers alike (Acharya et al. 2010; Tontisirin et al 2002; Spielman and von Grebmer 2004; Spielman et al 2007).

The recent collaborative reform of CGIAR and the new donor–community initiatives to harmonize investments and work in partnership (for example, the New Alliance for Food Security and Nutrition initiated by the G-8 as well as the Global Agriculture and Food Security Program stewarded by the World Bank) are indicative of the importance being attached to partnerships for global food security and poverty reduction. Growing interest in partnerships stems in part from the shift in global perspectives on the food security and poverty reduction challenges: from predominantly national problems of supply and demand to far more complex global and multidisciplinary issues requiring a wide array of expertise, resources, and transdisciplinary collaboration (Bruijn de and Tukker 2002).

To address the multidimensionality of food security (FAO 1996), food policy frameworks are increasingly based on partnerships that span multiple fields and sectors (Pinstrup-Andersen 2009). Moreover, a greater focus on results- and impact-oriented research requires the uptake and application of research results by a wide range of actors from various sectors of society, contributing to the need for greater collaboration (Bruijn de and Tukker 2002). Therefore, partnerships between food policy researchers and nonresearch sectors are increasingly being explored to find innovative ways of pooling resources and complementary expertise to achieve greater impact as well as cost-effectiveness and timeliness, especially given limited resources and time constraints (Smith 2004).

However, a food policy research partnership is not an objective in itself but often a prerequisite to achieving research impact on food security and poverty reduction. Partnerships at the same time can make the research-to-impact pathway ever more intricate, potentially compromising efficiency and leading to increased transaction costs. The added complexity of working in partnership may lead to pronounced information asymmetries that result from communication breakdown, ultimately making the partnership achieve less than would have been achieved independently. One major challenge often occurs when goals among partners are not entirely shared and complementarities are limited in reality. Although this may be the case, partnerships continue to be an explicitly recognized way of organizing food policy research activities due to the potential of achieving synergies, building competencies, and enhancing outcomes. Given the continued and growing interest in partnerships for food policy research and policy impact, there is need to assess if and when food policy partnerships work and how best to measure their performance (CGIAR, 2012). This paper contributes to this emerging literature on partnerships and boundary organizations¹ in food policy research, providing evidence about what determines the emergence and effectiveness of food policy–research partnerships.

¹ Boundary organizations can be defined as administrative or functional units that interface between two communities or spheres of operation in society, such as between science and public policy or between knowledge and action, to link the two spheres for achieving impact (Cash et al. 2003). Guston (2001) defines boundary organizations as formal structures designed to facilitate collaboration and information flows between scientific research and public policy/action communities.

The rest of the paper is organized as follows: In the following section we provide an overview of definitions and theoretical frameworks that have been developed in the literature to analyze research-to-policy partnerships. Section 3 presents a typology of food policy–research partnerships, while section 4 reviews some of the methodological issues of conducting research on food policy–research partnerships. We also propose indicators and methods of research in this section. Finally, section 5 concludes by summarizing the literature review and synthesis as well as pointing to promising areas of future research.

2. DEFINITIONS AND THEORETICAL FRAMEWORKS

Defining Food Policy–Research Partnerships

The literature on partnerships is quite extensive, though it remains relatively inconclusive on the definition and impact of partnerships from both theoretical and empirical perspectives (Barringer and Harrison 2000; Gajda 2004; Mol 2007; Lister 2000; Selsky and Parker 2005). Partnerships are highly context specific and dynamic, giving way to a great deal of variation in both the types of relationships that are labeled “partnerships” and the overall partnering process (Murphy and Bendell 1999; Selsky and Parker 2005). As a result, and as interest in partnerships continues to rise, the term partnership has become something of a catchall for almost any interorganizational relationship or governance form that involves multiple organizations (Gajda 2004; Fowler 1998). Moreover, terminology in the literature lacks consistency, with *partnership*, *collaboration*, *cooperation*, *collective action*, *alliance*, *coalition*, and *network* often used interchangeably (Selsky and Parker 2005; Mol 2007; Waddock 1991). Continued efforts to advance the theory of partnerships offer a growing pool of contending definitions of the term partnerships (Gray, 1985; Gray and Wood 1991a, 1991b; Brinkerhoff 2002a). Some of the more widely used definitions of partnership and related terminology found in the literature are shown in Box 2.1.

Box 2.1 Definitions of *partnership*

“An arrangement existing between two or more organisations (or individuals or institutions) in working towards a commonly defined goal.” (Darlow and Newby 1997, 74)

“Mutually enabling, inter-dependent interaction with shared intentions.” (Fowler 1998, 144)

“A formidable, mutually reinforcing system which combines the unique capabilities and resources of each party to deliver outcomes that surpass those of any one sector acting in isolation.” (Googins and Rochlin 2000, 128)

“A dynamic relationship among diverse actors, based on mutually agreed objectives, pursued through a shared understanding of the most rational division of labor based on the respective comparative advantages of each partner.” (Brinkerhoff 2002a, 21)

“An inter-organizational effort to address problems too complex and too protracted to be resolved by unilateral organizational action.” (Gray and Wood 1991a, 4)

“The voluntary collaborative efforts of actors from organizations in two or more economic sectors in a forum in which they cooperatively attempt to solve a problem or issue of mutual concern that is in some way identified with a public policy agenda item.” (Waddock 1991, 481–82)

“People and organizations from some combination of public, business and civil constituencies who engage in voluntary, mutually beneficial, innovative relationships to address common societal aims through combining their resources and competencies.” (Nelson and Zadek 2000, 14)

“Cross-sector projects formed explicitly to address social issues and causes that actively engage the partners on an ongoing basis.” (Selsky and Parker 2005, 850)

Source: Compiled by authors.

For the purpose of this study, we define *food policy–research partnerships* as “mutually enabling collaborations entered into voluntarily by two or more organizations that intend to influence food policy based on research evidence.”

As shown in Box 2.1, mutuality is a major theme emerging from the definitions. The notion of mutuality is an integral feature and precondition for the establishment of a partnership that helps to distinguish partnerships from other organizational or governance forms involving multiple entities. The concepts of contribution, joint effort, risk sharing, and synergy are also evident from the definitions. In addition, there is the understanding that organizations that work in partnership are diverse and unique entities that maintain their autonomy and organizational identities (cultures). This is opposed to mergers and acquisitions that entail the morphing or absorbing of one entity into another through ceding of at least one entity’s governance.

Thus, partnerships imply collaboration of separate and likely different entities with unique organizational cultures potentially from different sectors, where *sector* can be defined as a dimension of society such as health, agriculture, education, and finance. This is relevant for the discussion about partnerships for food policy research, a far-reaching, multisector field that is well embedded in social science. Although research into food and agricultural systems is quite extensive and has linkages to a wide range of sectors, more focus needs to be given to partnerships for food policy research. Therefore, this paper focuses on food policy research partnerships and combines literatures on partnerships from different disciplines, particularly within the social sciences and sustainable development fields.

Determinants of Partnership Emergence

Partnerships are increasingly considered a “growing organizational imperative” for solving problems of any kind (Selsky and Parker 2005). They are often seen as necessary to solve complex problems in a fast-changing uncertain world. The literature on market-oriented and socially-oriented partnerships dates the rise of partnership popularity to the early 1990s when globalization entered a new phase of increased economic and political liberalization and rapid technological advancements (Faulkner and de Rond 2000; Reed and Reed 2009; van Tulder 2010). The year 1992—when the Business Council for Sustainable Development was formed (Najam 1999)—is also cited in the international business literature as a turning point in perspectives on corporate social responsibility and global governance, which contributed to the rise of partnerships (Reed and Reed 2009; Glasbergen 2007; Benner, Reinicke, and Witte 2002).

Through a development lens, health, poverty, governance, agriculture, and the environment were also being understood as increasingly complex global issues, and the responsibility for addressing them no longer fell under the strict purview of national governments (Benner, Reinicke, and Witte 2002; van Tulder 2010). New players in international development circles had emerged, such as the private sector, research organizations, nongovernmental, and civil society organizations. There was recognition that effective and sustainable solutions would require collaboration among these players and across multiple sectors (Benner, Reinicke, and Witte 2002; Spielman and von Grebmer 2004; van Tulder 2010). At the same time some partnerships were emerging as a reaction to heightened activism and criticism of the lack of inclusiveness and democratic/participatory engagement, particularly criticism that was targeted at governments and the private sector (Brinkerhoff 2002a). Thus, some partnerships are thought to have emerged as rhetoric, primarily to quell the criticism and promote public relations objectives as part of window dressing. Also, part of the rise in partnerships may have emerged as part of a fad, with limited intent for impact on development outcomes (Brinkerhoff 2002a).

Although the proliferation of partnerships was accompanied by due attention in the literature and the development of hypotheses about why partnerships emerge, there remains no unified theory or methodology for studying the emergence of partnerships as a governance approach (Faulkner and de Rond 2000; Googins and Rochlin 2000; Gajda 2004). Partnerships are increasingly touted as best practice for solving complex problems; however, “many untested assumptions exist. In short partnerships remain increasingly practiced but poorly understood phenomena” (Googins and Rochlin 2000, 133). Barringer and Harrison (2000) begin to review alternative explanations for why organizations enter into

partnerships. Figure 2.1 organizes some of the main theoretical approaches to explaining partnership emergence along a conceptual continuum. Moving from left to right, this continuum starts with economic motivations and transitions toward a more social or behavioral orientation (Barringer and Harrison 2000, 381).

Figure 2.1 Partnership motivation: Theoretical approaches

Source: Adapted from Barringer and Harrison (2000).

In explaining the motivation for partnership emergence as a governance approach, *transaction cost economics* focuses on organization and management decisions for achieving greater efficiency (Ding, Akoorie, and Pavlovich 2009; Williamson 1991; 1981). Under this theory it is postulated that greater efficiency can be achieved when organizations seek engagements or organizational arrangements that lower transaction costs. In other words, organizational partnerships will emerge as a valid governance approach if they result in lower costs associated with the exchange of resources, services, or products, including the internal cost of negotiations, management, and monitoring. Essentially, the organization of boundary-spanning activities across two or more organizations is seen as motivated by prospects to minimize each organization's transaction costs (Barringer and Harrison 2000; Hagedoorn 2002). Though transaction cost economics is typically used to explain organizational form in industries and the market system (Williamson 1981), it has been adapted to explain the emergence of partnerships and other hybrid collaborative forms of governance (Barringer and Harrison 2000; Williamson 1991).

The *resource-dependency approach* is another explanation: that organizations enter into partnerships to gain access to resources or expertise that complements their capabilities and enables them to better achieve their goals. In this view, individual organizations partner primarily to serve their own interests. In addition, other external factors may contribute to an organization's need to gain access to external resources or expertise through partnership including when an organization must overcome turbulence, when it needs a competency that it cannot develop internally or cannot develop in a timely fashion, or when access to a given resource or expertise helps the organization gain a competitive advantage (Hemphill and Vonortas 2002; Selsky and Parker 2005). Although it is argued that the existence of resources or expertise in a potential partner organization drives the emergence of the partnership, it is critical to note that in many cases it is actually the perception or belief that the resources or expertise is needed in the first place and the expectation that these will enhance outcomes that acts as the impetus for partnering. Moreover, it may not be possible for an organization to verify the extent of resources or expertise possessed by the potential partner *ex ante*.

The *learning approach* is an alternative theory about why partnerships emerge; it focuses on knowledge as the key competitive asset (Hemphill and Vonortas 2002). Based on absorptive capacity, this view explains the emergence of partnerships vis-à-vis an organization's ability first to recognize the value of new knowledge, second to absorb or integrate the new knowledge, and third to apply it (Barringer and Harrison 2000). In this view, partnerships are pursued for the purpose of strengthening an organization's ability to assimilate, build, reconfigure, and develop new competencies to remain competitive and to address, adapt to, and cope with changing environments (Hemphill and Vonortas 2002).

The *strategic choice model* shifts the theory behind partnership emergence away from a focus on resources or learning aspirations toward organizational interaction for problem solving. Where an issue exceeds the scope of a single organization, partnerships are sought and formed to increase the chance of successfully addressing the issue at hand. The strategic model therefore explains the emergence of

partnerships that are issue focused (Selsky and Parker 2005). Taking this approach a step further, the *societal-sector approach* broadens the strategic choice model and incorporates some of the learning approaches to explain issue-focused partnerships that deal with issues whose solutions exceed the scope of traditional sector solutions. In this case, organizations from different sectors partner with one another not only to increase the chances of resolving certain issues but also to learn and borrow from each other (Selsky and Parker 2005). Closely related to this is the *convergence analysis framework*, which argues that it is critical to first determine if convergence or partnership across sectors is indeed necessary (Ved and Menon 2012). Establishing whether the cross-sector partnership is necessary is determined by theoretical and empirical considerations, which entail determining the cross-sector inputs required to solve the problem (undernutrition in the case studied by Ved and Menon 2012) and whether inputs can be assembled and implemented with or without convergence (partnership) of the different sectors. This approach mirrors that of organization theory, where need dictates organizational form (partnership) with consideration of the associated benefits and costs *ex ante*.

The *strategic network approach* further expands the focus on relational and behavioral aspects and explains partnerships and collaborative arrangements among multiple entities and during a longer term. Moreover it incorporates a combination of factors mentioned in the previous approaches, arguing that organizations may engage in network alliances, which may be issue driven, to reduce uncertainty; increase their ease of access to resources, skills, and expertise; strengthen their capacity and competitiveness; improve their flexibility; and enhance their ability to take advantage of competitive opportunities (Hemphill and Vonortas 2002). With the impetus for partnering still based primarily on an issue, the notion that certain issues are best resolved by the society as opposed to individual organizations is an additional aspect of the strategic network approach.

Theories of Partnership Impact Pathways in Policy Processes

The policymaking process is complex, involves multiple partners, non-partnering actors and inputs, and takes place in dynamic political spaces; the theories that attempt to explain this process are equally varied (Hajer 2003; Young et al. 2002; Stone, Maxwell, and Keating 2001). Weiss (1979) proposes six models of research use, which remain widely cited, pertaining to evidence-based public policymaking (Estabrooks et al. 2006; Nutley 2003; Bowen and Zwi 2005).

The first model is the *knowledge-driven model*, which is based on the assumption that the existence of knowledge compels it toward testing and action. The model outlines a linear sequence wherein basic research produces findings that can then be defined and tested for practical application; this latter round of (applied) research then leads to the development of appropriate technologies or methods to be used for the application of the findings, which in turn leads to the emergence of new policies and ultimately implementation. Clearly this is a linear model that oversimplifies the complexity of how research evidence enters into the policy process through partnerships.

Similarly linear is the second model put forward by Weiss, which is the *problem-solving model*. However, this deviates from the knowledge-driven model in that a problem or a pending decision as opposed to the knowledge itself drives the application of research. The sequence of this model starts with the identification of a problem. To solve the identified problem, a decision must be made; however, information needed either to propose an appropriate solution or to choose among a selection of proposed solutions is lacking. Therefore, research fills this gap by providing the missing information, which ultimately results in an efficient decision. Unfortunately, for this model to truly take effect a number of conditions must be met, including the timely availability of unambiguous and well-supported research findings that match the requisite informational needs and “[should] not run counter to strong political interests” (Weiss 1979, 428). Both linear models suggest that knowledge use is primarily driven by the quality or perceived quality of the scientific knowledge in relation to the problem at hand, paying little or no direct attention to organizational partnerships and the complexity of human interaction.

The *interactive model* diverges from the previous two linear models in that it reflects the complex and disorderly nature of interactions that can make up the policymaking process. The model posits that to better understand a problem and develop an appropriate policy solution, a variety of sources pool together their knowledge, experiences, and beliefs in an interactive information-seeking process. Interactions and consultations among the different actors (that is, policymakers, scientists, journalists, interest groups, aides, practitioners, and so on) are not systematic and largely do not lead to any decisive conclusions that solve a policy issue. Rather, over time these interactions sway decisionmakers closer to a potential policy response (Weiss 1979; Bowen and Zwi 2005). Thus, the interactive model lays greater emphasis on the continued process of communication over time among actors in the policy process, be they partners or not.

In contrast, the *political model* is used to explain the research use process when policy decisions are predetermined or decisionmakers' strong opinions are already set and unlikely to change. In this scenario, "research findings are ammunition in an adversarial system of policy making" (Nutley 2003, 11). Decisionmakers who are otherwise unreceptive to new evidence will only use research if it supports their position and increases their likelihood to achieve some political gain. Research use of this kind, which if deemed legitimate, assumes that the research has little real impact, even though it may appear to be predominantly affecting policy (Weiss 1979). Acemoglu and Robinson (2013) develop a related political-economy model where policy advice is sometimes in conflict with the politics such that if the policy advice does not take into account a political reaction to the advice it may result in negative policy outcomes.

On the other hand, there is the *tactical model*, which describes a situation wherein research is used in response to pressure for action. In this case, it is not the research findings but the research itself that is sought and used as a tactic in political affairs. Government agencies and policymakers may use research to justify inaction or to delay commitment to a policy issue by claiming that research is still under way and no findings have been made yet. In other cases, research may be commissioned to show responsiveness, yet no action may arise from the research findings per se, especially if the research drags on for a significant period until another issue becomes topical. In some scenarios, previous research studies consistent with policies made a priori may be used as blame for poor or unpopular policy outcomes, thereby deflecting criticism from the policymakers themselves (Weiss 1979). Effectively, the tactical model can be viewed as consistent with the notion of public relations and rhetoric, where food policy–research partnerships may emerge primarily for window dressing objectives as opposed to serious intention to realize impact through use of research (Brinkerhoff, 2002b).

The *enlightenment model* represents another significant theoretical shift in that it does not assume a direct connection between research findings and a given policy decision. The enlightenment model suggests that over time, theories, concepts, and insights generated by research gradually shape the way the public perceives and thinks about social issues, therein permeating the policymaking process (Weiss 1979; Nutley 2003; Bowen and Zwi 2005). In the context of the enlightenment model sustained partnerships plays an important role in facilitating gradual policy change in incremental steps; however, partnerships are not necessarily highlighted in the model.

The above models of research use are closely related to the theoretical concepts of *boundary work* and *boundary organizations*, which have been extensively studied and applied in the fields of environmental policy and health policy (Clark et al. 2011; McNie 2007; McNie et al 2008; Cash et al. 2003; Cash 2001; Walt et al. 2008; Gieryn 1983, 1999). Boundary work is defined as the activities performed by agents in the research community to demarcate science from nonscience and to interface with knowledge sources and worlds of policymaking and action (Clark et al. 2011). In essence, this refers to the mechanisms that the scientific community uses to relate with the nonresearch community for application of science in the real world. The same mechanisms and processes are used by nonresearchers to access and use scientific research outputs for decisionmaking—hence the term *boundary*, depicting the interaction of two separate spheres of society. How nonresearch organizations and individuals take up, adapt, and use scientific knowledge is dependent on the quality of the boundary work or organizations that mediate between the scientific community and users. Food policy–research partnerships can be

viewed as one type of boundary organization facilitating the production, dissemination, and use of research evidence and its applications in the nonresearch community. Thus, the quality of food policy–research partnerships has bearing on the effective use of research evidence in food policymaking. Clark et al. (2011, 1) note that critical in boundary work and the effectiveness of boundary organizations is the production and application of quality “boundary objects,” which are “defined as collaborative products such as reports, models, maps, or standards.” It is these boundary objects that embody and convey the knowledge derived from scientific research (Cash et al. 2003). Boundary objects must be adaptable to different viewpoints and adequately robust to maintain integrity and identity. Important to note is that these boundary objects cover more than just academic publications and are increasingly diverse to include datasets, software, patents, algorithms, multimedia products, and decisionmaking tools (Piwowar 2013).

Clark et al. (2011) propose a framework wherein the use of boundary objects can be classified into three categories: (1) use of knowledge for enlightenment, (2) use of knowledge for decision support, and (3) use of knowledge for negotiation support. Use of knowledge for enlightenment is considered the simplest form of boundary work as it involves limited application of scientific knowledge for impact in the real world. Typically this type of use of boundary objects is limited to the confines of the scientific community and seldom is applied to solve a problem—and if at all, indirectly. Although there is value to such boundary work particularly in advancing basic science and exchange of knowledge among scientists (for example, in multidisciplinary research contexts) it is only after further applied research that this type of boundary work can be meaningfully applied to solve or support problem solving.

The second type of knowledge use is decision support, which is the purview of much of the boundary work done by food policy–research partnerships (Clark et al. 2011; Johnson and Flaherty 2011). The main objective is to provide scientific evidence to decisionmakers to be incorporated in a decision or policy that will have an impact on society. The boundary work required of the partnerships to achieve effective decision support is more complex as the scientific knowledge or boundary objects must be perceived not only as science by the decisionmaker but also as salient to the decision at hand. Therefore, the role of partnership is to provide a lens for the decisionmaker to better access and assimilate the evidence for improved decisionmaking or policymaking. On the other hand, the partnership also serves to inform scientific researchers on the saliency or relevance of research topics and areas needing further study for impact. There are several challenges to this work: First, the partnership has to maintain a separation or demarcation of scientific research and policymaking or decisionmaking. This is important to maintain credibility of the research and avoid an overly permeable boundary that may lead to politicization of science and overreach of scientists in policymaking. Demarcation thus enables the different parties to specialize in their domains of expertise while exchange of knowledge across domains takes place. Second, the boundary organizations must maintain a certain level of objectivity and transparency regarding the scientific knowledge and the uncertainty thereof, particularly in forecasting the effects that can be expected from a particular policy. This is important to avoid overstating any potential benefits of a policy and degrading the reputation of the boundary organization and use of scientific knowledge by politicians in policymaking.

A third type of knowledge use is negotiation support, which is the most applicable when there are conflicting views and deadlock among users/policymakers regarding the appropriate policy option. Saliency and credibility of knowledge are once again critical in this context, but legitimacy of knowledge mobilization processes employed by the partnership becomes an additional critical feature (Clark et al. 2011). In essence, to effectively persuade the user/policymaker and positively influence negotiation around policy choice, the partnership has to be a legitimate voice in the policy process, and so do the processes used to acquire the scientific knowledge. Legitimacy of the partnership itself can be attained through various means including peer review within the scientific research community as well as by being embedded within the day-to-day policy processes, especially by engaging high levels of authority in addition to engaging a broad spectrum of stakeholders at various stages of the research process. This is particularly important in the research agenda-setting stage and in the dissemination and feedback phase. These elements provide proxies for measuring the legitimacy construct, which can be used to assess quality of the partnership. Other variables that can be used as proxy measures of legitimacy include the

degree of citation of the partnership and its boundary objects in policy dialogue, reports, public and social media, and scientific communities (Omamo 2004; von Grebmer and Omamo 2005; Holbrook, Barr, and Brown 2013; Priem 2013).

Pillars of Effective Partnership

Much of the theoretical work on partnership impact and performance is not unified and is found in disparate literatures. These include the strategic business management and information economics literatures, specifically focusing on mechanism design, structure, and context that facilitate the operations or functioning of business partnerships to maximize profits. The public administration literature also covers various aspects of partnership performance with particular reference to the public sector and how it may collaborate with the private (for-profit and nonprofit) sectors. What mostly emerges from the economics literature is the role of incentive structures, agency costs, transaction costs, and information flows as determinants of performance (Jensen and Meckling 1976, 1995; Alchian and Demsetz 1972; Williamson 1981; Stiglitz 2000).

We find, however, that much of the theory explaining the effectiveness of partnerships considers social constructs that are not typically studied in traditional economics. Table 2.1 presents a comprehensive overview of some of the main determinants of a high quality or effective partnership and their respective references.

Table 2.1 Factors that contribute to effective partnerships

Determinants of effective partnership	References	Description of factor of effective partnership
Trust	Mohr and Spekman (1994); Israel et al. (1998); Faulkner and de Rond (2000); Sako (1998); Benner, Reinicke, and Witte (2002); Thompson and Perry (2006)	Trust (reliability and fulfillment of obligations); ability to convey a sense of commitment to the relationship; quality (accuracy, timeliness, adequacy, credibility, and so on) of information exchanged; trust—understanding partners' motives, time frames, objectives, styles, cultures, languages, and stakeholders; Trust and goodwill; <i>contractual trust</i> —partner will carry out its contractual agreements; <i>competence trust</i> —partner is capable of doing what it says it will do; <i>goodwill trust</i> —partner takes initiatives for mutual benefit and does not take unfair advantage of the other partner; credible commitment; respect and reciprocity; confidentiality and fidelity
Mutual interest/common purpose	Jamali, Yianni, and Abdallah (2011); Mitchell and Shortell (2000); Huxham (1993)	Mutual interest; agreement on common goals, objectives, mission, vision, and agenda; agreed-on, concrete, achievable goals; compatible incentives; mutual commitment and interdependence; common mission and strategy; common set of values; common ability to manage chance, risk, and uncertainty
Effective communication/coordination	Jamali, Yianni, and Abdallah (2011); Thompson and Perry (2006); Jensen and Meckling (1995); Benner, Reinicke, and Witte (2002)	Exchange of shared conventions; setting realistic expectations and appropriate operating rules/norms a priori; clarity of roles and responsibilities; managing expectations; clarifying monitoring and evaluation mechanisms; good communication (including face-to-face communication); communication of concerns; emergency communication systems/flags; well-established appropriate points of contact/communication; intense repeated interactions; strong ties/connectivity; frequency and duration of communication; quality of content communicated; speed of communication; compatible incentives for sharing knowledge; costs of information transfer/communication; operational transparency; explicit strategic plan

Table 2.1 Continued

Determinants of effective partnership	References	Description of factor of effective partnership
Joint decisionmaking/ shared power/ inclusivity	Israel et al. (1998); Thompson and Perry (2006); Benner, Reinicke, and Witte (2002); Huxham (1993); Kelly (2012); Waddock (1991)	Jointly developed operating norms; democratic decisionmaking processes; consensus; sense of ownership and representation; broad-based support (from the top and the bottom); shared power arrangements; joint participation in planning and goal setting; inclusion; agreed-on codes of conduct; joint problem solving; willingness to coordinate activities and take on tasks; agreed and clear mechanism for interdisciplinary teamwork/division of labor/allocation of responsibilities
History of partnership: Track record/legitimacy/ reputation/credibility	Faulkner and de Rond (2000); Sako (1998); Israel et al. (1998); Mattessich, Murray-Close, and Monsey (2001); Mitchell and Shortell (2000); Hudson and Hardy (2002); Kelly (2012)	History of working in partnerships; past experiences of successful collaboration; reputation of successful collaboration; explicit commitment to collaborative frameworks; organizational culture of partnering; history of long-term engagement and investment
Resources: Funding/competencies/ skills/expertise/ leadership/experience	Nelson and Zadeck (2000); Kanter (1989); Lasker, Weiss, and Miller (2001); Williamson (1981); Benner, Reinicke, and Witte (2002)	Understanding of resources, skills, and capacities needed to meet objectives; adequate financial resource allocation across partners and functions; sponsorship; adequate quantity and quality of human resources; complementary expertise; leveraging core competencies; motivating and mobilizing actors; agreement for longer-term investment; diversity of funding sources
Monitoring and evaluation	Nelson and Zadeck (2000); Jensen and Meckling (1995)	Concrete tools/mechanisms and objective measures/indicators for monitoring and evaluation of performance; transparency and accountability mechanisms; regular communication of results, milestones, and deadlines; forum for reviewing progress; independent external review
Flexibility/conflict resolution	Benner, Reinicke, and Witte (2002)	Flexibility/willingness to adapt partnership based on internal and external dynamics; built-in risk management mechanisms; mechanism for dispute/conflict resolution; ability to compromise and exercise discretion; incentives for innovation and creative works; mechanisms for forecasting and predictive capacities
External environment	Huxham (1993); Gray (1985); Mitchell and Shortell (2000); Kelly (2012)	Competitors; social, political, and economic climate; technological change; complexity and uncertainty; topical or arising issues and values; direction setting and influencing contextual environment; policies, legal system, and infrastructure

Source: Authors' compilation from reviewed literature.

At the top of the list is *trust*, which is argued to be a fundamental determinant of both partnership emergence and effectiveness (Mohr and Spekman 1994; Leach and Sabatier 2005; Thompson and Perry 2006). Trust is defined as the belief that the other partner will fulfill its obligations per its commitment to the partnership and will do so even in the absence of monitoring. The premise is that the value attached to (or expected from) the partnership by each partner is sufficiently high to incentivize it to self-regulate and ensure optimal performance to the benefit of all partners involved (Ostrom 1998a). Moreover, it is expected that the partner will take initiatives for mutual benefit (even at some significant cost to the partner) and will not exhibit opportunistic or “free-rider” behavior to take advantage of the other partner for individual gain, even if there is low likelihood of the partner’s opportunistic behavior being detected

(Israel et al. 1998). In addition to trust is the finding that partnerships will be more effective if the partners truly have common goals or mutual interests despite differences in organizational culture or identity (Huxham 1993, 1996; Ring and Van de Ven 1994). Thus, a common goal or interest acts as the motivation for all partners to perform well (Jamali, Yianni, and Abdallah 2011; Mitchell and Shortell 2000). In the context of policy processes, political will is often described as an expression of mutual interest on the part of policymakers while commitments of support is also an expression of mutual interest on the part of development partners (Maetz and Balie 2008). The challenge then becomes that of assessing if the political will or commitments will be translated to real action. Accountability, in addition to trust, is thus deemed an integral factor of successful partnerships with mechanisms thereof as well as for communication, reporting, monitoring and evaluation, and conflict resolution, facilitating partnership performance (Thompson and Perry 2006). Joint decisionmaking, representativeness, and inclusiveness are also highlighted in the literature as determinants of a quality partnership, particularly if the duration of the partnership is considered an aspect of success—partnerships that involve shared power and responsibility are found to last longer and achieve more results (Kelly 2012; Benner, Reinicke, and Witte 2002). However, duration of a partnership alone is not a very useful measure as this may be a function of other variables that do not necessarily reflect quality or impact.

As Table 2.1 demonstrates, a wide range of determinants of an effective partnership can be distilled from the literature on partnerships. To better illustrate how these elements contribute to a successful partnership, the main determinants from Table 2.1 have been inserted into a conceptual framework that divides the process of engaging successfully in a partnership into phases, as shown in Figure 2.2. This conceptual framework is based to a large extent on a partnership cycle that is proposed by Tennyson (1998, 2003). Tennyson emphasizes that there are several steps or phases toward successful partnership. The basic concept is that the phases of partnership formation and functioning influence the ultimate performance of the partnership and to ensure overall performance each phase must be executed well. Therefore, the pillars of effective partnership lie in effectively implementing all of these phases from scoping and building partner relations to reviewing and revising. Positioning the determinants of an effective partnership within the phases of a partnership provides a more detailed map of how these determinants contribute to the partnership process and the overall performance of a given partnership.

Figure 2.2 Conceptual framework of the phases of effective partnerships

Source: Authors' representation.

3. TYPOLOGY OF FOOD POLICY–RESEARCH PARTNERSHIPS

In this section we present a typology of food policy–research partnerships based on the functions performed by the organization partnering with the food policy research organization. The first type of partnership is the *researcher–researcher partnership*. Research organizations may partner with other research organizations to take advantage of expertise not available internally or to leverage access to datasets or other research inputs and outputs. The type of research partner may include academic institutions, universities, independent research firms, research think tanks, and so on. Much like firms in the same industry or nongovernmental organizations operating in the same field, research organizations can also be competitors, be it for research dollars, research talent, or reputation. Therefore, similar considerations regarding the decision to compete or collaborate may arise when food policy research organizations contemplate partnership. Other than the business partnership literature that deals extensively with competition and collaboration (Mohr and Spekman 1994; Hughes and Weiss 2007; Reed and Reed 2009), there appears to be limited research on the topic in the context of food policy–research partnerships.

At the individual researcher level, researchers employed in any of the research organizations alluded to above may partner for professional reasons, personal reasons, or both, for instance, to collaborate with reputable and skilled colleagues or friends working at different research institutes with whom they are familiar and work well. Often, if the individual researchers in question hold high-level positions in their respective research institutes, then formal organizational partnerships are likely to arise. This underscores the fact that organizational partnerships are largely executed at the individual researcher level, and as such, understanding the key individuals engaging in the partnerships is important. Other reasons researchers might partner include requirements by funders to collaborate or partner in grant proposal applications or for access to local knowledge, resources, and political connections that are possessed by the other research organization. Based on the literature review, it appears that most of the factors influencing the emergence of researcher–researcher partnerships tend to be based on the resource-dependency view, though relational partnerships based on history (path dependence) and networks at both the organizational and the individual levels are also major determinants of the emergence of researcher–researcher partnerships (Weiss 1979; Aberman et al. 2010).

In *funder–researcher partnerships*, the main reason for a research organization to enter into the partnership is usually to access funding to conduct research and other related activities (for example, conferences, workshops, training, and capacity building). From the funder’s perspective, the objective of entering into partnership with a research organization may be to simply generate knowledge for the greater public good or specific empirical evidence that can be used in improving the funder’s development programs or to inform or influence a particular policy at the country level. Most of the funder–researcher partnerships can be explained by the resource dependency view but also by the notion that researchers and funders have shared or compatible goals for the production of new knowledge and policy impact. Usually, there is a form of negotiation taking place between the funder and researcher for identifying and setting the research agenda (priorities) as well as the kinds of research outputs and time frame for output delivery. We also find that virtually all funders take a keen interest in the activities of their grantees and do more than just provide the funding, thus contributing to the partnership in various ways.

Political motivations of funder–researcher partnerships are plausible and can create conflict of interest. For instance, a foreign government can fund policy research with the intention of using the research outputs to influence policy in another country. This may not be compatible with the researcher’s goals or the tenets of country-ownership and sovereignty. Similarly if the local government is the funder, it is possible for the partnership and research results to be used to further local politicians’ individual interests. Also, if the funder is a private-sector firm, the underlying reasons for partnerships may be to promote a particular product or service that generates profit for the firm. Thus, the types of funder–researcher partnerships and underlying motives are varied and potentially give rise to conflicts of interest.

It is for such ethically questionable situations that mechanisms have been set up to ensure that researchers and research outputs remain objective and independent from negative influence by funders. Examples of such mechanisms include conflict of interest declarations when publishing research findings or disclaimer instruments that put the responsibility of research outputs on the researcher and not on the funder. In addition, third-party mechanisms have been used such as peer reviews and audit bodies that ensure integrity and fidelity of the research results. The presence of such mechanisms is important to consider when assessing the quality of funder–researcher partnerships.

Implementer–researcher partnerships involve direct relationships between research organizations and users of their research outputs, such as development agencies and governments. The nature of these partnerships is varied not just by the level (individual versus organizational partnerships) but by the extent of “embeddedness” and trust that exists between the two (Sabatier 2007; Weible and Sabatier 2009; Mohr and Spekman 1994; Faulkner and de Rond 2000). These attributes are relevant for all types of partnerships but appear to be especially important in implementer-researcher partnerships, where uptake of research outputs substantially depends on the level of embeddedness, trust, and reputation that policymakers ascribe to the researcher or research institute involved (Crona and Parker 2011; Leach and Sabatier 2005; Arimoto and Sato 2012). The policy processes literature extensively addresses the implementer-researcher partnerships though not necessarily referencing the term *partnership*.

Outreach communicator–researcher partnerships entail the relationship between research organizations and other organizations focused on communicating and disseminating research output to users such as policymakers. This group can be likened to agricultural extension agents who disseminate agricultural technologies and farming practices to farmers and can thus be referred to as *policy extension agents*. They largely are nongovernmental organizations, advocacy groups, activists, public media, and lobbyists who consume and assimilate food policy research output generated by research organizations and then use it to inform or influence policymakers. An important feature of this type of partnership is the potential transformation of the research evidence prior to its being communicated to the implementers. Although it is possible for information to be simply relayed to the policymakers, often the outreach communicator organizations repackage the information or use certain modes of communication that can either amplify the messaging to have influence or distort the information, leading to miscommunication. These aspects are important to consider when evaluating the quality of an outreach communicator–researcher partnership. We also classify under this category of outreach communicator–researcher partnerships organizations that facilitate partnership formation. This is a special class of boundary organization that brokers partnerships and enables research organizations to partner with other organizations, particularly in the policy process (Stringer and Dougill 2013). There are few such enabler or partnership brokering organizations, and classic examples include the Partnership Brokers Association² and The Partnering Initiative³, which have traditionally focused on facilitating nongovernmental organization and private-sector partnerships.

There are two additional unique types of partnerships worth considering separately that can be described on the basis of the type of partners involved and not so much on the basis of function. The first pertains to the beneficiaries of food policies, broadly defined as *citizens* (or in most cases *the poor*, who are often rural farmers and urban consumers in developing countries). Typically there is no formal organization of citizens or the poor, such that there is no real partnership between research organizations and this group. However, outreach and communicator organizations often represent this group, for instance through advocacy and activist organizations. In a few cases, there have been formal partnerships between farmers’ organizations and research organizations and similarly between consumer protection organizations and researchers however these partnerships tend to be less prevalent. One reason for calling attention to these kinds of partnerships is that the citizens (farmers or consumers) represent important segments of the electorate that can have significant influence on policies if better coordinated and mobilized and more importantly they can potentially benefit from accessing research outputs through

² <http://partnershipbrokers.org>

³ <http://thepartneringinitiative.org>

research partnerships, if they have the capacity to assimilate the research outputs and to engage with policymakers.

The other additional type of partnership is between the private sector and research organizations, and this partnership type has received heightened attention recently. The private sector mainly entails privately run firms or organizations that often control significant resources and can invest in agriculture and food systems (Hall et al 2001). Some of these conduct collaborative research and development activities or simply support researchers by providing funding, access to patented technologies, expertise and equipment (Naseem et al 2006). Private sector partners can further be categorized as for-profit or not-for-profit organizations with examples of the former often entailing a special office or division in a firm such as a corporate social responsibility division or a public relations office while the latter include private philanthropic organizations, foundations and trusts. This distinction can be an important determinant of how the private sector operates in a partnership as well as how it is perceived by potential partners, thus influencing the likely emergence and impact of the partnership (Hartwich et al 2005; Schaeffer and Loveridge 2002). Moreover, the private sector has increasingly partnered with the public sector in recent years through public-private partnerships, for example to conduct or fund research with government research organizations (Hartwich et al 2008). At the same time public-private partnerships enable the private sector to access politicians and may subsequently influence policy directly while in other cases the private sector may engage lobby groups that influence policy on their behalf. These forms of partnerships between private and public sector entities are important for research organizations to consider in the sense that In both cases the private sector organization may selectively use research evidence to influence policy, often to further its interest. However, the variety of modalities through which the private sector has partnered with research organizations and governments for policy influence have not been studied widely and there is need to more carefully analyze these partnership modalities. Most of these partnerships, however, fit into at least one category of the partnership typology described above, such as the funder-researcher or implementer-researcher partnership. As the nature of these partnership types that involve the private sector is mostly new and evolving (Thompson and Perry 2006), an important aspect to bear in mind is that often they coexist and overlap. This is because the same private sector organization may take on different functions from time to time even though interacting with the same partners. Thus, the types of partnerships are not always mutually exclusive as illustrated by the intersections in Figure 3.1.

Figure 3.1 Typology of food policy–research partnerships

Source: Authors' representation.

To demonstrate the usefulness of this typology, we document an exercise that was undertaken in mid-2012 to categorize an extensive list of food policy research partners of the CGIAR Research Program on Policies, Institutions and Markets (PIM). This exercise using the function-based typology demonstrates the extent to which a given partner can be classified under more than one category or partnership type. The matrix presented in Table 3.1 (which includes three out of the four types of partners described above) was compiled from the list of partners of CGIAR centers participating in PIM. The list of partners totaled 446 organizations; however, as demonstrated in the matrix, the total number of partner roles represented by these organizations reaches 908. An additional feature of the exercise is that it grouped partnerships based on geographic scope, highlighting whether the partnership operated on a global, regional, or country level. This aspect is an additional dimension that can be incorporated into the typology described above. When considering the quality of partnerships it is important to first understand the different types of functions served by each partnership based on the typology as well as the scope of operation of the partnership. This helps frame analysis of each type of partnership.

Table 3.1 A partnership typology with geographic categorization of CRP-PIM partners

Type of Partner	Geographic Level	Category									Total
		NARES	University	Research Institute	Government Organization	Regional Organization	Nongovernmental Organization	Development Agency	Farmers' Organization	Private Sector	
Research partners	International	0	32	6	1	0	4	1	0	1	394
	Regional	3	12	6	4	12	2	0	0	1	
	National	70	79	90	40	2	17	3	0	8	
Policy and practitioner partners	International	0	4	4	4	2	8	8	0	3	221
	Regional	1	3	2	3	13	7	11	0	3	
	National	21	9	20	32	5	32	14	7	5	
Knowledge-sharing partners	International	0	15	3	5	1	16	11	0	2	293
	Regional	1	10	5	5	15	8	6	0	6	
	National	22	53	37	20	5	29	7	5	6	
Total		118	217	173	114	55	123	61	12	35	908

Source: Authors' compilation using data on CGIAR PIM partners.

4. RESEARCH METHODS: A REVIEW

Several approaches have been used to analyze the quality of research–policy partnerships and the impacts on policy processes (see, for example, Keeley and Scoones 2003; Ayuk and Marouani 2007; Sabatier and Jenkins-Smith 1993; Cash and Moser 2000; Pappi and Henning 1999; Clark et al. 2011; Meinzen-Dick et al 2004; Aberman et al. 2010; Balloch and Taylor 2001). An important step in all approaches is identifying the appropriate unit of observation and the relevant measures or indicators that form the basis of data collection and analysis. Another important step is selecting the method of analysis. In this section we discuss these issues and some of the challenges associated with the research methods that have been used to analyze partnerships in the literature. Given the complex nature of partnerships, an understanding of the partnership context and theoretical impact pathways proves helpful in determining the appropriate units of observation and methods of analysis. Likewise, given the wide range of actors involved in food policy–research partnerships and the multiple goals and outcomes associated with partnerships (from interpersonal relations and partnership management to partnership project goals and policy influence), the use of mixed methods⁴ offers a more complete approach for the analysis of food policy–research partnerships.

Units of Observation and Analysis

Policy processes can be complex systems that entail multiple actors and partnerships at different levels and scales. This complexity makes it difficult for researchers to determine which unit of analysis to focus on. Several studies have chosen to focus on specific partnerships or stakeholder networks in the policy process as the unit of observation, particularly at the individual level (that is, relationships among researchers and policymakers/politicians, lobbyists, activists, and so on) (Aberman et al. 2010, 2012; Sabatier and Jenkins-Smith 1993). Some studies, on the other hand, have focused on aggregate entities such as policy working groups, organizations and communities that work in partnership, and in particular the links between government and research organizations, such as think tanks or research universities. Still, other studies have focused on partnerships that transect hierarchical levels (Cash 2001; Cash and Moser 2000; Ostrom 1998b; McGann 2012) and cover different geographic scopes, for instance partnership between key local policymakers and an international research organization or between an international research think tank and a regional governing body such as the African Union or the European Union (Johnson and Flaherty, 2011). Most studies, however, are found to analyze partnerships at both the individual and organizational levels. Several studies find that even when formal organizational partnerships are involved, there are still a few key individuals who are instrumental in influencing policy through policy-research partnerships (see for example, Aberman et al. 2012 who find that mostly the president and a few other individuals influenced the nature of the fertilizer policy in Malawi). This underscores the importance of analyzing specific individual-level partnerships in the context of analyzing organizational partnerships.

Alternate studies have chosen policy documents and policy debates as their units of analysis, using content analytic methods to uncover citations of policy research that may be considered evidence of having influenced policy formulation and to track “knowledge and power flows” (Aberman et al. 2010, 7). This class of studies recognizes that the nature of policy itself can influence the types of partnerships that emerge and the demand, uptake, and use of policy research in the policymaking process. For instance, certain policies may be considered sensitive or difficult to influence (for example, land tenure policies in Africa) such that even if policy research evidence has been generated and provided to policymakers it is less likely to result in policy change, especially if research results do not espouse entrenched policy

⁴ *Mixed methods* here refers to the use of quantitative and qualitative research methods in an integrated manner. Such an approach provides richer analysis of partnerships and increases the likelihood of identifying unanticipated issues, behavior modifications, and certain social or institutional drivers that are typically hard to uncover and analyze in complex contexts such as partnerships (Adato 2011).

positions (Sabatier 2007; Thomas and Grindle 1990; Ayuk and Marouani 2007). In such cases it is often useful to consider the nature of the policy in relation to the characteristics of policy actors and research–policy partnerships. With entrenched policy positions among policymakers, it may require longer periods of interaction and iterative policy engagement to lead up to accumulation of knowledge and enlightenment for both policymakers and researchers, which in turn may eventually engender policy change in the long run (Thomas and Grindle 1990). In this interactive process, the role of research evidence and the partnership between researchers and policy actors is dynamic. Over time the partnership may help address issues of conflict, address misunderstanding about policy positions, or deepen understanding of the context for both researchers and policymakers. Yet in other instances, the policy–research partnership serves only to inform the policymakers and is perhaps best left at that. Thus, the characteristics of the policy and context must be analyzed in conjunction with the related ideologies of policy actors to better assess policy influence and quality of the partnership. One drawback to this approach is that although it may uncover the influence of research on the policy process in terms analyzing policy documents or debates (discourse), the written policy may differ significantly from what is signed into law and furthermore the de facto policy implemented on the ground. Thus, Thomas and Grindle (1990) suggest going further to assess whether the implementation of policy matches the signed law, policy documents, and recommendations from research. However, this may extend beyond the reach of food policy–research partnerships as it begins to deal with potentially partnerships between researchers and implementers of policy.

Assessing the characteristics of the policy issue has been suggested as an important consideration for researchers working in partnership with policymakers when making decisions about the policy research questions to address. On one hand, conducting research on policy areas when policymakers are more likely to be receptive to policy research evidence increases likelihood of influence. On the other hand doing research on policy areas only when policymakers are receptive to research evidence may limit innovation and research independence. It can thus be argued that selecting research priorities based on the characteristics of the policy issue and whether evidence is likely to be taken up by policymakers may inappropriately influence the policy research agenda. This may prevent researchers from conducting policy research that appears irrelevant but has potential for policy impact.

Related to this are the quality and reputation of the collaborative research outputs (boundary objects in general) and researchers (boundary organizations) involved, which may be critical in determining whether research evidence is taken up seriously and implemented. Therefore, the quantity and more important the quality of boundary objects produced can provide a useful dimension of measuring the quality of a partnership in food policy research. The application and use of these boundary objects by nonresearchers and policymakers is another dimension to measure the effectiveness of food policy–research partnerships. The type of knowledge use also provides a useful dimension for measuring quality or performance of the partnership. As such one also may need to assess the characteristics of the research outputs, researchers, and research organizations as units of analysis. Also, it would be important to understand how decisions to conduct policy research are made and to what extent the research is demand driven in the sense that it addresses knowledge needs of policymakers (saliency) and other stakeholders such as donors, for instance.

In general what emerges from the review of literature is that the choice of unit of observation and analysis should be guided by the nature of the policy, the research problem at hand, and the partnerships and related products (boundary objects) (Meinzen-Dick et al 2004; Clark et al. 2011). The complex linkages and diverse entities reveal that to understand how research evidence enters the policy arena to influence policy requires not only an analysis of researchers and policymakers but a broad spectrum of actors and nonactor entities that can be affected by research evidence and in turn influence policy on the basis of the research evidence. This calls for outlining a web of impact pathways and deriving a theory of change that links research to multiple relevant actors and nonactor entities that influence policy, be they proximal or distal to the policymakers.

Measurement and Indicators

Theoretically one could judge the quality of a partnership within the policy process on the basis of its stated goals or objectives, for example, the level of policy influence that the partnership exerts on policymakers if this is the stated goal. When partnership goals are not explicit, however, the measurement of success on the basis of partnership goals becomes much more difficult (Hudson and Hardy, 2002). Even when formal partnerships exist and partnership agreements or memoranda of understanding are available to identify the specific stated goals, partnerships may generate unintended spillovers or additional benefits not stipulated in the partnership's goals. This could make partnership goals an incomplete yardstick to measure partnership quality and performance.⁵ In addition, shared values in a partnership may evolve over time as partners develop to recognize other areas of mutual gain, and the original partnership agreement may not necessarily reflect the newly identified goals. Many partnerships that exist in political circles and the policy process do not entail formal agreements and are informal in nature. As such, solely using partnerships' stated goals or objectives as a means of measuring performance may be inadequate.

As for using direct policy-influence and policy-change indicators, the challenge is that the impact pathways to policy change are elaborate, nonlinear, and fraught with many factors other than research-policy partnerships. Many of the other factors that influence policy formulation and implementation are often unobservable or difficult to quantify, making it all the more difficult to trace policy influence or assign attribution of impact to a specific research-policy partnership. This has led many to limit their analysis to policy research outputs associated with the partnerships such as publications and policy documents communicated to policymakers (boundary objects).

Beyond policy change itself, goals that might be considered more relevant are national or global development goals such as the Millennium Development Goals. After all, these are the ultimate values or goals, which many partnerships in food policy research seek to affect through the policy process. However, again, what one finds is that such goals entail "higher-level" indicators that are influenced by multiple factors through even more complex impact pathways (Nutley, Walter, and Davies 2007). Moreover, changes in both policy and these higher-level indicators tend to occur after long periods of time or at relatively slow incremental rates, making it difficult to measure progress in the short run on the basis of discrete policy change or higher-level development impact. In addition, the data that need to be collected to produce these measures require significant time and resources, rendering them less practical for the purposes of monitoring and evaluation of the quality of partnerships.

Given these challenges and complexity in the impact pathways or theory of change on food policies, intermediate (*processes*, *outputs*, and *outcomes*) indicators of partnerships in the food policy process have readily become the main area of focus. These alternative indicators relate to the functioning, works in progress, and operations of the partnerships at hand and are consistent with the theory about partnership cycle and phases of effective partnership proposed by Tennyson et al (2009). The argument is that the processes taking place in the partnership should be valid indicators because they pertain to the functioning of the partnerships at different phases of the partnership cycle, which is theorized to influence or at the very least be highly correlated with performance as measured by the higher-level goals or indicators. Thus, rather than trying to measure the higher-level indicators that present significant challenges both methodologically and practically, it may be sufficient to measure processes and functions of the partnerships given that these same partnership processes will ultimately determine the quality of partnership impact.

⁵ The goals or objectives of a partnership naturally lend themselves as the starting point to evaluate performance as this is the justification of the very existence of the partnership. However, there are often unintended consequences or externalities of partnerships (spillover effects) that also must be accounted for to fully estimate the impacts or quality of any partnership. This adds to the complexity in estimating the quality of partnerships in the research-policy process especially since many externalities may not be measurable or observable.

The outcomes and output indicators, which are closely linked to the process indicators, often have the advantage of being physically tangible and therefore relatively easier to measure. Moreover, they are measurable in the short run unlike the higher-level impact indicators, which may be evaluable only after long periods of time and require innovative and rigorous methods to ascribe attribution of impact, if at all possible. Examples of policy impact-oriented output and outcome indicators are presented in Table 4.1; they include the number of research outputs or publications used by policymakers in policy decisionmaking, the number of citations of research outputs by policymakers and technocrats in policy debates and policy documents, and the duration and frequency of interactions between policymakers and policy researchers (for example, the frequency of policy communication and research dissemination events attended by policymakers and the political power of policymakers who seek research evidence or seek to interact with researchers and research organizations to obtain policy knowledge for use in policymaking). These measures are consistent with the theory of boundary work/boundary objects (Guston 2001; Clark et al. 2011) as well as the propositions of Omamo (2004) that various uses of policy research should be considered a critical first step in assessing the impact of food policy research. Omamo goes on to include conceptual and informative uses that may not necessarily lead to policy change despite informing the policy process. Such indicators may include the extent to which policymakers consider, refer to, read, or cite policy research.

Table 4.1 Policy influence-oriented indicators for evaluating the impact of food policy–research partnerships

Policy influence indicators	Unit or type	Source
Research output indicators		
Number of Thomson Institute for Scientific Information (ISI) publication citations and rank/impact factor of journal outlet	Count	CGIAR, academic institutions, research organizations
Number of reports/policy briefs communicated to governments, donors	Count	Authors' suggestion
Citations in policy documents and policy communication	Count	Omamo (2004); Aberman et al. (2010)
Citation in policy debates	Count	Omamo (2004); Aberman et al. (2010)
Citations in national media (newspaper, radio, TV, Internet)	Count	McGann (2012)
Number of policy knowledge products/boundary objects (models, maps, software, and so on) acknowledged as having been consumed by policy actors	Count	Omamo (2004); Clark et al. (2011); Piwowar (2013)
Number of presentations made to policymakers	Count	Authors' suggestion
Number of website hits, downloads, and sharings of policy research outputs, data repositories, and so on	Count	Priem (2013)
Relational and communications indicators		
Frequency of active communication with policymakers (in person, by phone, by email)	Count	Hughes and Weiss (2007)
Duration of meetings with policymakers per year	Hours	Tennyson (1998)
Hours spent presenting research to policymakers	Hours	Authors' suggestion
Number of times policy information is sought by policymakers	Count	Authors' suggestion
Rank of policymaker receiving research communication	Rank	Sabatier (2007); Pappi and Henning (1999)
Policy studies commissioned by policymakers	Count	Authors' suggestion

Table 4.1 Continued

Policy influence indicators	Unit or type	Source
Perceptions-based indicators		
Attributes of policy and policy environment		
Timing of communication, in relation to policymaking cycle	Likert-type scale	Sabatier (2007)
Saliency, how topical or current the issue is	Likert-type scale	Sabatier (2007)
Degree of entrenched interests and ideological polarization on the policy issue	Likert-type scale	Authors' suggestion
Attributes of partnership and partners		
Inclusiveness and representative; diversity of partners	Percentage	Nuffield Partnership/Verona Benchmark/World Health Organization studies in the United Kingdom (Halliday, Asthana, and Richardson 2004)
Participatory from onset, continuous	Binary	
Legitimacy and political reputation of research institute/researchers	Rank	McGann (2012)
Credibility, qualification and certification	Rank	McGann (2012)
Gender: women in partnership's leadership, voice and representation of women in the partnership; Organizational Gender Equality Index	Index	The World Bank, Food and Agriculture Organization, and International Fund for Agricultural Development (2009)
Reputation as a go-to organization by media and policy elites; testimony before legislative and executive bodies; ability to recruit and retain leading scholars; proximity and access to decisionmakers and policy elites; financial support; and so on	Rank	McGann (2012)
Policy change indicators		
Number of research recommendations taken up into policy and civil society	Count	McGann (2012); Piwowar (2013)

Source: Compiled by authors from literature reviewed and suggestions from a discussion by authors.

Given that policy research outputs are used not only by policymakers but also by other actors that can influence policy decisions, it is useful to develop a systematic theory of change that includes research dissemination and communication to multiple actors within the policy process. For this reason, other measures such as the degree of inclusiveness and the participatory nature of partnerships or democratic engagement exhibited by the partnership have been considered important indicators for quantifying the quality of partnerships (Halliday, Asthana, and Richardson 2004). Also, the extent to which policy research is communicated to and taken up by different types of public media that inform citizens in general, not just government leaders, can be important for assessing the quality of a research–policy partnership (McGann 2012). However, it is also important to estimate the weight of importance of different impact pathways or channels, as some may carry greater influence than others (for example, research evidence channeled directly to the president of a country may carry more weight in some contexts, while in other contexts research evidence communicated to local activist organizations may have more influence on public opinion and high levels of government) (Milani 2009).

Based on the above discussion we have identified a number of indicators that could be used to carry out an initial assessment of the impact of food policy–research partnerships (see Table 4.1). As has already been discussed, though, these indicators are representative of a single approach to the analysis of partnership impact and cannot be used alone to qualify a partnership as successful. The combination of other approaches that look more deeply into the qualities of a partnership is needed to fully understand the emergence and impact of food policy–research partnerships.

Research Design Issues

Qualitative and quantitative methods of data collection and analysis have been used to study partnerships, and the literature favors the use of mixed methods (that is, combining both qualitative and quantitative) to better capture the quality of the partnership and as a means of corroborating results (Hardy and Hudson 2002). Researchers have also developed guidelines to follow when conducting research on partnerships in the policy process; for instance, Reiker (2011) identifies six steps in the evaluation of partnerships:

1. Engaging stakeholders/identifying primary users of evaluation findings
2. Describing the partnership/constructing the logic model
3. Focusing the evaluation/developing a design plan
4. Gathering credible evidence/selecting methods, measures, and indicators
5. Analyzing data/justifying conclusions
6. Ensuring the use of findings/lessons learned/identifying who is responsible

These steps offer a logical sequence for researchers to follow and can be adapted depending on the context. Time horizon, timing, sequencing and frequency of evaluation are also important methodological considerations. When to evaluate a partnership should depend on the purpose of the evaluation (Kelly 2012; Harrison and Graham 2012; Hughes and Weiss 2007). If the purpose is to track partnership progress then process evaluation activities should be ongoing or at regular intervals, starting with a baseline prior to establishment of the partnership. Evaluation of a partnership related to a particular policy may need to take place at opportune times, when relevant policymaking activities are taking place or when the partnership activities are happening. In other instances it may be more useful to conduct retrospective analyses after the policymaking and partnership activities have occurred. This is often appropriate in circumstances where the policy issue is sensitive and more access to information is only possible *ex post* rather than when partnership activities and policy processes are transpiring. Collection of data on management, partners, and processes should still occur, where possible, as part of internal governance evaluation and reporting, whereas evaluating the *ex post* value of a partnership should happen after a reasonable period of time, bearing in mind the context and how long it is likely to take for policy change to happen. If the purpose of the evaluation is to inform whether or not to enter the partnership (that is assessing potential for future partnerships) then the evaluation takes place prior to initiating engagement with the potential partner as well as during negotiations or meetings with the partner. The timing of evaluation of the partnerships may also be externally influenced, for example, funders may have reporting requirements that stipulate when evaluation has to take place (Harrison and Graham 2012; Kelly 2012). Given that it may take longer periods of time for food policy-research partnerships to influence policy processes any evaluation done prematurely ought to at least acknowledge this and specify the timeframe associated with the impact evaluated.

Given that the majority of studies on partnerships have employed the case study method, it is useful to highlight some of the design issues that are specific to case studies. A careful selection of the cases to be studied is an important design issue. Some studies select multiple cases with similarities to draw some level of generalizable inferences whereas others choose distinct cases (for example, different policy settings or geographic locations) for the purpose of drawing comparisons and contrasting important differences (Yin 1994). A combination of distinct and similar cases, if possible, often yields more useful findings. In general the primary objective of the analysis should inform the researcher which cases to purposively select and conducting exploratory scoping exercises is usually recommended to gain insights that inform the design of the case study. In other cases the selection is determined by availability of data or access to unique data that have the potential to provide new insights. Financial budgetary constraints also play a part in the selection (and number) of cases.

Qualitative Methods

Several studies have used qualitative approaches to assess the quality of partnerships in the policy process. In most qualitative studies, the case study approach is adopted as it is found to be essential in gaining in-depth understanding of the contexts in which policy change occurs and the dynamics of policy–research partnerships (Birner and Resnick 2010). A common and essential feature of the case study approach is a qualitative stakeholder analysis that entails taking an account of the key stakeholders or partners involved in the policy process and their characteristics and history as well as the nature of their relationships with other actors within the policy process, including the scientific community or research evidence base (Holland 2007). The views and ideologies of the key stakeholders regarding the policy in question are often also analyzed, with most studies purposively selecting a specific policy to focus on to limit the scope of study and make the research manageable. For instance, Aberman et al. (2010, 2012) have focused on fertilizer policy in Nigeria and Malawi, respectively, to assess the role of stakeholder networks and research in the policy process.

Hardy, Hudson, and Waddington (2000) adopt narratives and give historical accounts of policy changes to understand the broader context and likely causes of policy reforms. McNie (2007) also performs a qualitative review of the literature on the demand and supply of science in the policy process and identifies key factors relevant to policy influence. The research method used by McNie (2007) is somewhat equivalent to a meta-analysis; the difference being no quantitative analysis of the multiple studies included.

Recently, social network analysis has been used to examine the influence of various policy actors on the policy process (Aberman et al. 2010, 2012; Forrest 2003; Howlett 2002; Beyers 2008). Schiffer and Hauck (2010) developed the Net-Map interview method that entails in-depth discussions with policy actors or partners to map the structure of their social–political networks and their respective goals, power, and influence in the policy process. In general the social network analysis studies emphasize the importance of relationships between policy actors and their power relations as determinants of policy change, with the researcher–policymaker relationship representing only one linkage within the policy social network. Generally the social network analysis A studies find that research outputs are used primarily to inform politicians, especially on issues that are highly technical, or as leverage for already established political positions by policymakers attempting to have their positions passed into law.

Ethnographic studies of prominent individual policymakers and their ideologies have also been used to understand what leads to changes in policies (Katz 2004; Auyero 2006). Such analyses typically follow the methodology of anthropology or communications science through the use of documentary profiles to detail the life histories and partnering activities of specific influential individuals in the policy process. This is followed by analysis and interpretation of life histories and observed activities to understand the role that partnership interactions play in policy reform. The assumption is that each prominent policymaker experiences unique interactions that affect their decisionmaking. This approach is usually used to study a specific policy that is in the process of being implemented or that has been implemented in the past. The approach can be relatively difficult to implement as it requires special access to the partnership activities and lives of the influential policymakers and their partners. In addition it often requires long periods of tracking or profiling the partnerships (Johnson 2011).

Although case study narratives help explain the contexts under which policies are formulated and implemented, one challenge is that they are mostly limited to the circumstances surrounding the specific policy and geographic areas analyzed, thus precluding generalization. However, the case study approach as described here can be broadened to focus more on partnership quality and not so exclusively on policy influence. Though such case studies can begin to establish causality on the narrative basis of qualitative contextual findings, these studies are best suited to help uncover and explain drivers of and important elements and issues associated with partnership emergence and success. Qualitative approaches to the analysis of partnerships is critical for acquiring a more complete story of the partnership process and learning more specifically which characteristics and conditions may have contributed to a partnership that is or was considered a high-quality, successful partnership. A perceptions-based approach such as this

also can be carried out through quantitative methods (see below); however, a combination of both methods is recommended for drawing more coherent and reliable conclusions.

Quantitative Methods

Perceptions-based Approaches

One alternative approach that has been used to circumvent the challenges of establishing impact or measuring the quality of a partnership through its policy influence or outputs and outcomes is the perceptions-based or attitudinal approach. This approach heavily relies on subjective views of key informants or experts who judge or act as arbiters of the partnership's performance with respect to achieving its stated goals or even its perceived purpose in society. For quantitative data collection, this approach often employs Likert-type scales or rating scale questionnaires administered to expert panels or the partners involved in the partnership to rate their satisfaction with the partnership's functioning and its various characteristics and achievements in a specified period of time (McGann 2012; Halliday, Asthana, and Richardson 2004).

Respondents are often asked to weigh in on the gains they believe have been experienced as a result of the partnership's existence relative to the hypothetical counterfactual of not having the partnership in existence. The Verona Benchmark in Europe promoted by the United Nations World Health Organization (Watson et al. 2000) and the Nuffield Institute Partnership Assessment (also known as the Working Partnership) are examples in the health sector that have adopted perceptions-based measures to assess the role of different policy partnerships in the health policy process (Halliday, Asthana, and Richardson 2004; Markwell 2003). A recent example of how perceptions-based measures have been used to assess food policy research partners includes the 2012 CGIAR-commissioned independent assessment of the perceptions of CGIAR stakeholders (GlobeScan 2013). This assessment, carried out by GlobeScan, involved the implementation of the CGIAR Stakeholder Partnership Perceptions Survey. The goal of the survey was to better understand how stakeholders and partners perceive the consortium and the 16 CGIAR research programs. A total of 3,938 unique contacts were invited to participate in the survey; however, only 1,071 stakeholders completed the survey. The survey incorporated 26 indicators of partnership performance that together were used to measure eight key partnership attributes: collaboration, accessibility, expertise, communication, transparency, capacity building, research outputs, and research outcomes. The survey questionnaire asked respondents (CGIAR stakeholders and partners) to rate the performance of the consortium (and the CRPs) against all eight partnership attributes using seven-point scales (with 1 = "very poor" and 7 = "excellent").⁶

One criticism of the perceptions-based approach is that it involves creating a hypothetical counterfactual to infer partnership quality or impact on the basis of subjective perceptions of value added by the partnership. An attempt to help validate the methodology has been to correlate the perceptions-based measures with some measurable outcomes that are considered part of the overarching goals of the partnership, much in line with measurement theory and test theory methodologies that have been well developed and applied in psychology and educational testing disciplines to assess reliability and validity of perceptions-based scales (Markwell et al. 2003; Halliday, Asthana, and Richardson 2004). However, the testing that has been done so far has been restricted to self-assessment tools and found to provide minimal added validation. Therefore, Halliday, Asthana, and Richardson (2004) have stressed the need to expand this area of research by using assessment tools administered to other stakeholders such as intended beneficiaries of the partnership as well as continuing to understanding the context through qualitative case studies.

⁶ More information about this survey and the survey results can be found in GlobeScan's (2013) final public report, available on the consortium website (<http://www.cgiar.org/consortium-news/stronger-partnerships-for-development-impact/>).

From a game-theoretic perspective, perceptions of value and benefits obtainable from a partnership by its members can be used as proxies to estimate expected payoffs accruing to private individuals or entities as a result of taking certain actions and strategies within a partnership (cooperation) versus outside a partnership (Shubik 1981). This can help explain the actions and strategies adopted by different partners and actors in the policy process as each partner can be perceived as adopting strategies to maximize expected private payoffs from either cooperation (that is, partnership) or going it alone (Gibbons 1997; Gieryn 1999; Shubik 1981). Thus, some models emphasize the need to analyze perceived benefits or expected payoffs that partner nodes believe can be obtained from engaging in partnership in the policy process. The logical syllogism is that if partners in the policy process act on perceptions or expectations, then these perceptions and expectations are relevant variables to capture; perhaps more relevant than some objectively measured attribute that may not have an effect on policymaking (Gieryn 1999).

Related to this is the concept of perceived power relations and relative bargaining capacity between partner nodes in a partnership, which can be critical in determining the likely policy outcomes (Clay and Schaffer 1984; Weingast 1988). Typically those in a position of power have greater influence on the decisions and actions taken by the partnership, and as such, analyses of bargaining power in the partnership can be informative in evaluating the quality of the partnership. With researchers' engaging in the policy process, bargaining power may also play a role, where researchers often find themselves with less bargaining power than other policy actors or donors; this could imply relatively low direct influence on policy change. However, in many cases researchers communicate their research evidence primarily within the scientific community (for example, publishing in high-tier peer-reviewed journals), which may appear less applicable or relevant to policy. Nevertheless, this may lead to an increase in reputation, legitimacy, and recognition for the researcher (organization), which in turn could influence the perceptions that policymakers have of the researcher or institute, thus translating into a form of power. This would potentially generate demand for the researcher's expertise and opinion in policy circles. Thus, scientific publications, be they applied or not, influence perceptions of reputation and legitimacy among policy actors and in turn can influence power relations in policy contexts (Clay and Schaffer 1984). The scientific research conducted by the research organization may be perceived to be highly technical or applied, and this can also be assessed as a perception of partnership quality (McGann 2012).

Some researchers may also aim to communicate their research to a wider audience including interest groups and majority voter constituents that may wield the balance of power and political influence. It is for this reason that looking at a variety of research-policy partnerships in addition to the perceptions of power and trust associated with different actors within the policy process may be important. The argument is that this can help uncover alternative entry points for policy research into the policy process to effectively influence policy (Garrett and Islam 1998; McGann 2012). Generally, the literature appears to suggest the need for a stakeholder and institutional analysis that also includes perceptions of different actors. These indicators can help inform the decision about whether to enter into a partnership *ex ante* and the selection of entry points into the policy process for research organizations.

Given the information asymmetries that exist and are difficult to overcome *ex ante*, some of the *ex ante* analysis may be based on perceptions of potential partners' expertise and trustworthiness and could be implemented through some screening mechanisms or survey to evaluate potential partners. For example, a policymaker may have staffers who perform internal research on the work and reputation of a researcher or research organization that is providing specific research evidence relevant to a policy issue at hand or may entrust a third-party entity for verification or recommendation (for example, a trusted colleague or organization) prior to entering into a partnership (be it formal or informal). Similar screening methods may be used prior to a policymaker's commissioning research in an area that he or she demands or on which he or she is accepting knowledge products. Thus, the peer-review system within the scientific community and the general perception of reputation of specific researchers or research organizations may act as one screening mechanism that may create some level of trust among policy actors and enable the researcher to influence policy. Other perceptions-based measures that have been popularized include the think tank rankings by the University of Pennsylvania, which focus on the organization's reputation in

addition to those of individual researchers or experts in a research field (McGann 2012). Other rankings that assess the reputation of individual researchers that may be of importance to some policy actors include the Nobel Prize winners list and the Who's Who list. Often, long-term relations and past experiences with researchers and research organizations are likely to be more important mechanisms that policymakers use to inform their decisions about with whom to partner and from whom to adopt research evidence.

Also important is assessing whether the policy goals are perceived as being achievable without the partnership. If a policymaker believes he or she can achieve his or her goals without engaging with the researcher or research evidence, then any policy research evidence supplied to him or her may not have influence on the policy at hand. These considerations suggest that it is useful to survey the opinions and perceptions of policymakers and other influential policy actors, which is why some studies have concentrated on such measures.

Cost-benefit Analysis of Partnerships

Much of the business literature has evaluated the effectiveness of partnerships through some version of financial analysis such as profit, net present value analysis, or the use of financial ratios (for example, return on investment, benefit–cost ratios). This approach to evaluating the performance of a partnership is particularly relevant if the goals of the partnership are profit maximization or maximization of shareholders' worth (dividends and stock value) but less so if the goals entail some other measure of social benefit such as environmental conservation or corporate social responsibility in the community. For this reason, financial methods have been adapted to other objective functions, and cost-effectiveness analysis has been used where the objective is not a financial or money metric measure.

In a similar vein, Mitchell, Shankleman, and Warner (2001) use benefit–cost analytic methods to evaluate the quality of a trisector partnership in the oil industry. They apply three models to estimate the added value of a partnership: (1) input–output models, (2) comparative models, and (3) shadow or business-as-usual models. In the input–output model, the analysis estimates the cause and effect linkages between the trisector partnerships' activities and (1) business, (2) community development, and (3) public office governance. The comparative model contrasts the effectiveness of trisector partnerships against other options for delivering social investment/management programs using comparable organizations in the industry that produce similar or comparable products and services. The third model uses the shadow or business-as-usual model, which measures how the partnership adds value over and above that which would have taken place had the partners not agreed to work together. Mitchell, Shankleman, and Warner do not consider any one model sufficient and thus establish a methodology that combines the characteristics of the three. In a hybrid model, Mitchell Shankleman, and Warner (2004) contend that quantifying the net benefit of a partnership should be done in four phases: scoping to identify the 10 to 15 most valuable indicators to study, data collection (to establish the baseline on which to measure selected indicators), assessment of incremental contribution (that is, the calculated effect of the partnership along key indicators and assessment of causation of outcomes), and a value-for-money assessment (comparing financial and economic costs versus benefits for all partners). The outputs from these four phases, in order, are a (1) list of indicators and methods, (2) table of changes in indicators, (3) table of partnership's contribution, and (4) balance sheet. The basic formula for quantifying the effect of partnerships, using the system laid out above, is the following:

$$\text{Added Value of Partnership} = \sum \text{Value of Partnership Outcomes} - (\text{External Factors} + \text{Most likely Alternative}) \quad (1)$$

Warner (2002) presents a guide for monitoring partnerships, claiming it is important to monitor the performance of partnerships to raise awareness of issues, check progress, decide next steps, maintain a written record, learn from experience, and measure impact and added value. To monitor the partnership's operations, Warner establishes “minimum reporting” requirements that include analyses of key

achievements (milestones), the most pressing/outstanding issues, next steps, and emerging broader lessons. Five areas for monitoring are identified: (1) business and social context for partnerships, (2) partnership generalities, (3) process of partnership development and maintenance, (4) functionality and governance, and (5) partnership outcomes. Warner and Sullivan (2004) also develop a framework for qualitatively evaluating partnerships, based on interviews with the people involved in the partnership to obtain a full, rich understanding of partnership perceptions and effects. A list of indicators that should be evaluated is also proposed, categorized under the basic headings of process, context, and outcomes, as well as suggestions for how best to collect the necessary data. A detailed version of equation (1) is provided (Mitchell, Shankleman, and Warner 2004) to illustrate some of the variables that would need data collection to estimate the performance of the partnership (see equation [2]).

$$AV = (OP + AQ + AB) - (R + T) - A \quad (2)$$

where

AV = added value of the partnership,

OP = outcomes of the partnership (in addition to external factors),

AQ = added quality of the solution,

AB = auxiliary benefits (including social capital and so on),

R = resources contributed,

T = transaction costs (facilitation, brokering, and so on), and

A = net benefit of the most likely alternative (opportunity cost).

As part of the benefit–cost analysis literature, some studies also employ sensitivity analyses and risk analysis to provide degrees of uncertainty and confidence intervals for their estimated net benefits. One weakness of the benefit–cost approach is that it predominantly evaluates partnership on the basis of economic values, yet several partnerships have been known to exist for other noneconomic reasons, particularly within the policy process. Moreover, the assumptions that underlie the calculation may be strong, and it is advisable to collect qualitative information about valuation of benefits and costs as well as goals or weights of different aspects to apply appropriate assumptions in the calculations.

Econometrics, Experiments, and Quasi-experiments

Not many econometric analyses have been conducted to determine the drivers of policy influence or the quality of research–food policy partnerships. Part of the reason for this is the difficulty in collecting sufficient data observations that are required for the application of statistical and econometric analyses. Also, the difficulty in accessing political processes in the policy arena impedes the application of econometric methods. Nonetheless, a few innovative studies have used econometrics to analyze different aspects of the policy process and may lend insights for future econometric analysis of policy–research partnerships. Chattopadhyay and Duflo (2004), for example, exploit a randomized natural policy experiment in India to study the effects of gender quotas on policy change and public service delivery. Although this work does not analyze partnerships per se it analyses governance structures as they pertain to policy influence and policy impact. The authors find that in those areas where a female quota system was in place, perceptions about the effectiveness of women leaders improved, and public services delivered were more aligned to the services that women considered important in their community. Beaman et al (2009) also use the same policy experiment to study if the exposure to a female policymaker increases the likelihood of women to run or be elected for office in future political contests. This study does not analyze partnerships but demonstrates that the use of policy experiments and econometrics to understand policymaking and policy outcomes.

In a recent study, Masset et al. (2013) conduct a randomized experiment to test the impact of disseminating policy research output using a policy brief. Although the policy brief is found to help some readers form an opinion about the policy, there is no evidence of a change in prior beliefs about policy positions. Nonetheless, Masset et al. provide useful suggestions for taking the experimental research agenda on policy processes forward. Some of their recommendations include increasing participation rates by properly targeting the research subjects as well as employing efficacy studies rather than field trials to test the effects of an intervention to influence policy. In our view these methods do not readily lend themselves to the analysis of food policy–research partnerships. However, we draw on their use of likely relevant indicators such as research outputs and perceptions-based measures of impact and attributes of the governance structures around the policymaking process.

Although there may be potential to use experimental games to understand causes of policy change (Viceisza 2012), there is also a fundamental challenge in executing them. A major obstacle is getting consent from policy actors to spend time engaged in an experimental game as opposed to conducting their normal business or other personal activities. In addition, experimental games can present significant hypothetical bias as policymakers may behave differently during experiments compared to when they engage in real-life policymaking contexts. These challenges may explain the limited use of experimental games to analyze the role of organizational partnerships in policy processes. As an effort to avert the challenges above, participant observation and natural experiments may be alternatives to consider, especially if evaluating a specific policy event within the policy process. Weingast 1988 provides such an example where the researcher observes voting exercises on a piece of legislation or policy formulation consultations regarding a particular policy. However, if policy actors know they are being observed they may still alter their behavior (for example, to appear to be users of research evidence); moreover, identifying natural experiments for observation is not always easy.

Similarly, action research methods that are similar to participant observation methods have been used to analyze governance issues (see, for example, Ratner, Halpern, and Kosal 2012). The main difference between participant observation and action research methods is that in the latter the researcher is not a detached observer but is also engaged in the policy process and partnership being studied. For instance, a researcher may be working in partnership or provide research evidence to the policymakers while simultaneously studying the behaviors of the policymakers as they react to the policy research evidence provided. This approach appears more applicable, particularly at lower levels of governance, for example, in community-level policymaking arenas (Ratner, Halpern and Kosal 2012). This is most likely because directly accessing higher levels of a country's policy process in a manner that allows the researcher to be actively engaged in action research is often difficult if not impossible. Although these are all plausible methods to consider for analyzing food policy–research partnerships in the policy process, the literature has limited examples, suggesting that either there may be limited scope or that innovative approaches are needed.

Assmann, Krampe, and Henning (2013) use Markov Chain Monte Carlo regression methods in a Bayesian framework to model the determinants of elite communication networks in the policy process of Malawi's Agricultural Sector Wide Approach. This approach provides insights about what influences the emergence of policy networks, which in turn influence policy decisions. The authors argue that this approach enables them to evaluate participatory policy processes. They find that structural embeddedness of organizations in the network is critical for the formation of elite communication ties and that participatory policy processes do not distort policy decisions in favor of special interest groups. Research-generated knowledge, although an important determinant, is not found to be as critical. What is worth noting about this approach is that it combines qualitative data with the econometric analysis to corroborate findings from the quantitative estimates. This mixed-methods approach is compelling to ensure validity of the quantitative methods.

In a study of mental health policymakers in the United States, Weiss and Bucuvalas (1980) generated two-page summaries of 50 scientific research articles on mental health and administered them to policymakers and then interviewed them regarding the usefulness of the research presented as well as the policymakers' frame of mind about the mental health policy research. They used factor analysis to

identify the frames of reference that policymakers had on the policy research presented (quality of research, action orientation of research, conformity to user expectations, challenge to status quo, and relevance of research). Policymakers were also asked about the perceived usefulness of the research, which the authors used as a dependent variable in a regression analysis wherein the frames of reference were used as explanatory variables. They found that all the frames of reference significantly influenced the perception that the research was useful, particularly the quality of research. However, the factors explained only 42 percent of the variation in the dependent variable (whether the research was considered useful). This early study shows that with the right careful design it is possible to quantitatively estimate policy influence and that similar approaches may be worth exploring. As can be said for most of the examples listed here, there is indeed potential to apply a similar approach to the analysis of partnerships, particularly to assess the influence of a partnership; however, it is important to keep in mind that such approaches will not tell the complete partnership story.

Computable General Political Equilibrium Models

Pappi and Henning (1998; 1999) and Henning and Struve (2007) develop a computable general political equilibrium model, which captures the political relations and relative powers of policymakers relative to other actors in the policy process. By conducting in-depth interviews with policymakers about perceptions of power, policy positions, and ideology, Pappi and Henning (1999) construct a dataset to model and predict policy outcomes in the legislative process. This approach is used mostly for predictive purposes to assess the likely passage of specific policies as influenced by the policy network through political exchange of influence resources (such as political support or expert information) for political control in the presence of transaction costs at different governance levels. Applications of this approach include the analysis of policy influence in the European Common Agricultural Policy (Pappi and Henning, 1998; 1999).

Meta-analysis

Quantitative meta-analyses have not been conducted on partnerships in policy process largely because there are few empirical studies to begin with. Nevertheless, with developed countries as the focus, Beierle and Cayford (2002) conducted a meta-analysis of 239 case studies on stakeholder participation in environmental policy processes. The main finding is that inclusive stakeholder participation had a positive effect on influencing policy. Much more empirical work is needed before a meta-analysis on policy research partnerships in policy processes can be fruitful.

5. SUMMARY AND CONCLUSION

The current paper reviewed the literature on partnerships in food policy research. The aim was to understand the factors influencing the emergence of organizational partnerships in policy process and the determinants of effective partnership for food policy research impact. Although several works of research have been conducted or are in progress, there is limited evidence specific to food policy research organizational partnerships. The term *partnership* may not be used by all, but the numerous studies reviewed, analyze related forms of governance in the policy process, making reference to collaboration, collective action, cooperation, and alliances for informing policy in general.

The theories about boundary organizations and policy processes were found to be well developed and applicable to research on organizational partnerships as a governance approach. These theories have a long history in political science and public administration, with more empirical work in the fields of environmental policy and health policy in developed countries. Since there is no unified theory about partnerships and their in research use in policymaking, this paper drew on multiple theories of boundary organizations, policy processes, and the partnership cycle. Based on the literature review and recent efforts by PIM (PIM 2013), we put forth a typology of food policy–research partnerships based on function. We find this typology particularly useful in framing future analysis of the factors influencing the emergence of different types of food policy–research partnerships and the determinants of their effectiveness, as such factors are likely to differ by partnership type. Moreover, we provide a stylized conceptual framework, highlighting the partnership cycle and phases that lead to successful partnership. Future research could empirically test this phase-based framework and associated indicators drawn from the literature review.

This paper also reviewed alternative methods that have been used or proposed for empirically analyzing partnerships. Most analytical work has entailed qualitative analyses, including case studies, historical accounts, narratives of policymaking, and reviews of government policy documents to decipher partnership relations and use of research in policymaking. More recently experimental approaches have been explored, likely driven by the experimental renaissance in the field of development economics. This spells a new era of analysis that could yield innovative methods to enrich our understanding of partnerships in food policy research. However, we find practical limitations of experimental methodologies, especially those that use randomized controlled trials. Similarly, the econometric and general equilibrium modeling approaches that have been tried appear to have their own limitations as well. Thus, we contend that much of the research on partnerships in general and specifically relating to food policy–research partnerships will have to use mixed methods while drawing heavily on qualitative methods and case studies. We especially find promising methods that incorporate perceptions-based measures, which can also be analyzed quantitatively. Perceptions-based measures are important because many decisions about partnership emergence and ultimately performance (as measured by the ability to influence policy decisions or engender policy reforms in the policy process) are driven by these subjective perceptions and social constructs such as trust, mutuality, reputation, power, and inclusiveness.

These essentially form the major indicators for measuring the determinants of partnership emergence and the quality of partnership as identified in the literature. We propose that measurement of these indicators to evaluate performance of partnerships as a governance approach should be measured at multiple levels. The first level is the process level where the focus is on functional or operational properties of the entire partnership processes; the second level looks at the quality and quantity of the different types of outputs produced by the partnership. Many of these indicators have not been formally tested for reliability and validity. Thus, this paper recommends the testing of these suggested indicators as well as developing measures to assess the quality of food policy–research partnerships both *ex ante* (as a tool for deciding whether to enter into partnership) and *ex post* in monitoring and evaluating the performance of partnerships in food policy contexts.

A third level that needs much further exploration is the outcomes level, which focuses on the use of research outputs and food policy influence arising from the food policy–research partnerships. Measuring acknowledged use and influence of the partnership’s outputs by policymakers seems straightforward but can yield biased measures, analogous stated preference measures that are subject to strategic bias and in some cases sensitive to data collection contexts. Measuring the use of outputs of the partnership is somewhat less biased and analogous to revealed preference measures in the economics literature. However, fully capturing the use of research outputs may be difficult and even if outputs are used, may not lead to policy change. More methods will have to be developed to accurately measure the use of food policy research as well as implications for policy change. In this regard, we find that the classification of different uses of knowledge or research outputs generated by food policy research partnerships is important and stress the importance of evaluating partnerships on all types of partnership outputs used. Moreover, the impact pathways may entail numerous partnership outputs and numerous actors that use policy research, and as such we argue for a more holistic approach that attempts to measure the impact of food policy–research partnerships on the basis of multiple uses and users (that is, partner and non-partner actors).

Tackling the challenges of attributing policy change to food policy–research partnerships is an area that may require researchers to experiment with different analytical tools and methods. Our recommendation is that more rigorous qualitative work is needed to guide the development of quantitative analytical tools and methods, and this can be done concurrently. To provide a better understanding of food policy–research partnerships and how they compare to other governance forms for delivering impact through food policy research a much broader research agenda that includes other governance forms at play in the policy process may be needed. This exploratory work could bear innovative methods for addressing the complexity of governance forms for policy influence. A final level, for which we do not foresee sizeable potential for future research, is that of evaluating the impact of food policy–research partnerships on higher-level goals such as poverty reduction, increased food security, and reduction of malnutrition. Although these are ultimately the end goals it appears inconceivable that researchers could build useful models that parse out the variety of effects and linkages, which lead to impact on these higher-level goals, especially given that policy impact significantly depends on how the policy is implemented. Here, the task appears fraught with significant assumptions, data collection problems and analytic challenges.

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IFPRI HEADQUARTERS

2033 K Street, NW
Washington, DC 20006-1002 USA
Tel.: +1-202-862-5600
Fax: +1-202-467-4439
Email: ifpri@cgiar.org