Enhancing the Effectiveness of Sustainability Partnerships: Summary of a Workshop

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Derek Vollmer, Rapporteur; Science and Technology for Sustainability Program; National Research Council

ENHANCING THE EFFECTIVENESS OF SUSTAINABILITY PARTNERSHIPS

SUMMARY OF A WORKSHOP

Derek Vollmer, Rapporteur

Science and Technology for Sustainability Program

Policy and Global Affairs

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Preface and Acknowledgments

The Roundtable on Science and Technology for Sustainability was established by the National Academies in 2002 to provide a forum for sharing views, information, and analyses related to harnessing science and technology for sustainability. Members of the Roundtable include senior decision makers from government, industry, academia, and non-profit organizations who deal with issues of sustainable development, and who are in a position to mobilize new strategies for sustainability.

The goal of the Roundtable is to mobilize, encourage, and use scientific knowledge and technology to help achieve sustainability goals and to support the implementation of sustainability practices. Three overarching principles are used to guide the Roundtable's work in support of this goal. First, the Roundtable focuses on strategic needs and opportunities for science and technology to contribute to the transition toward sustainability. Second, the Roundtable focuses on issues for which progress requires cooperation among multiple sectors, including academia, government (at all levels), business, nongovernmental organizations, and international institutions. Third, the Roundtable focuses on activities where scientific knowledge and technology can help to advance practices that contribute directly to sustainability goals, in addition to identifying priorities for research and development (R&D) inspired by sustainability challenges.

To apply these principles, the Roundtable constituted a working group in 2004 focusing on linking knowledge with action for sustainable development. Discussions at the workshops conducted over a three-year period yielded several ideas which seem to be robust across sectors and provide

useful guidance for successful efforts in this arena.[1] At a summer workshop in September 2006 Roundtable members explored further the effectiveness of partnerships as a strategy for linking knowledge with action for sustainable development. The meeting brought together experts with in-depth knowledge of selected partnerships in three areas in which sustainability is an important goal: international agricultural development, global public health, and green chemistry. Discussion suggested that there may be common characteristics of partnerships that successfully address sustainability objectives. The Roundtable agreed to continue discussions in this area using the 2006 workshop observations as a starting point.

In June 2008 a steering group of Roundtable members convened a symposium to develop a better understanding of the multi-stakeholder[2] partnership record in addressing issues associated with sustainability. This symposium focused on the challenges that the partnerships have addressed, including: involvement of several sectors, action at varying scales, from local to global, a combination of public and private financing, and a complex set of science questions. The experience of eleven partnerships, presented as case studies, shaped the analysis and discussion. These case studies were conducted by experts with experience in analyzing partnerships involving science and technology issues. The case studies used a common framework and set of questions to describe and analyze each of the partnerships. The steering group organized the symposium program based on a review of preliminary drafts of the case studies, in order to encourage discussion among all participants of issues that cross-cut the review papers. Full versions of each case study are available on the CD provided with this summary report.

This summary has been prepared by the workshop rapporteur as a factual summary of what occurred at the workshop. The statements made in this volume are those of the rapporteur and the individual authors and do not necessarily represent positions of the steering committee, the Roundtable, or the National Academies.

This workshop summary is the result of great efforts and collaboration on the part of several organizations and individuals. Emmy Simmons, co-chair of the Roundtable, also served admirably as the co-chair of the steering committee which oversaw this project and helped organize the symposium. Other members of the steering committee included Roundtable members Bill Clark, Sam Dryden, Hank Habicht, Jerry Keusch, and Bob

[1] See the 2006 National Academies' workshop summary, *Linking Knowledge with Action for Sustainable Development* at http://www.*nap.edu/catalog.php?record_id=11652*.

[2] Here, multi-stakeholder refers to an arrangement involving a combination of government, private sector, and civil society actors. It is roughly synonymous with "cross-sector" for the purposes of this report. A more complete definition can be found in Chapter VI of this report.

Stephens. I wish to extend a sincere thanks to each of them for their contributions in scoping, developing, and carrying out this project.

Gregory Symmes, Pat Koshel, and Marty Perreault have all, at various points, provided program direction for this project, for which I am grateful. Kathleen McAllister and Priya Sreedharan also deserve special recognition for their research and program support throughout the various phases of this endeavor.

This project would not have been possible without the financial support of its external sponsors: the Syngenta Foundation for Sustainable Agriculture, the United Nations Foundation, and Mars Incorporated. Each organization also made substantive contributions in shaping this project, making it in some respects a partnership in itself. The project also benefitted from internal support provided by the George and Cynthia Mitchell Endowment for Sustainability Science.

This volume has been reviewed in draft form by individuals chosen for their technical expertise, in accordance with procedures approved by the NRC's Report Review Committee. The purpose of this independent review is to provide candid and critical comments that will assist the institution in making its published report as sound as possible and to ensure that the report meets institutional standards for quality. The review comments and draft manuscript remain confidential to protect the integrity of the process.

We wish to thank the following individuals for their review of the report: Ann Bartuska, U.S. Department of Agriculture; Patricia Chaves, United Nations; David Constable, GlaxoSmithKline; John Dernbach, Widener University; Monica Ellis, Global Environment and Technology Foundation; and Elaine Ooi, The World Bank.

Although the reviewers listed above have provided constructive comments and suggestions, they were not asked to endorse the content of the report. Responsibility for the final content rests with the individual authors and the rapporteur.

Derek Vollmer
Rapporteur

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I

Introduction

Achieving the joint goals of sustainability, that is meeting human needs while nurturing and restoring the planet's life support systems (NRC, 1999), requires a continuous process of scientific innovation, new knowledge and learning, and collaborative approaches to implementing technologies and policies. To address these challenges, different stakeholder groups are increasingly seeking to ally themselves through partnership, in order to implement projects, deliver services, establish secure funding mechanisms, and achieve on the ground results. Advocates of this collaborative approach point to the failure of governmental regulations, international commitments, or business as usual. However, skeptics often question the effectiveness of partnerships at achieving sustainable development goals and, in the absence of demonstrated results, wonder where partnerships are adding value. Although the number of such partnerships is increasing worldwide, their potential contributions to sustainability have not been well analyzed. And for the thousands of partnerships in operation, there is relatively little evidence-based knowledge available to aid them.

In June 2008 the U.S. National Academies' Roundtable on Science and Technology for Sustainability (the Roundtable) convened a symposium that attempted to advance the dialogue on partnerships for sustainability in order to catalyze existing knowledge and inform future efforts. Ideas that came out of discussions at the symposium will help leaders in government, the private sector, foundations and NGOs, and universities, both in the United States and internationally, as they develop and participate in new partnerships for sustainability. Recognizing the trend toward partnering, and the anecdotal evidence that it can aid in a transition to sustain-

ability, this symposium offered a rich and diverse group of stakeholders, including government officials, international development and financial organizations, representatives of the scientific and academic communities, and private industry, a space to critically analyze experience to date. In addition, the symposium and its commissioned case studies were intended to help would-be practitioners navigate the when, where, why, and how of partnering. A steering committee of Roundtable members was appointed and organized the symposium program to achieve these objectives.

Steering committee members' participation in early 2007 in both the United Nations' (UN) Preparatory Committee meeting for the UN Commission on Sustainable development[1] (CSD)-15 and in the CSD-15 meetings confirmed the utility of convening additional discussions on the effectiveness of partnerships for sustainability. It was during this period that the steering committee also began to tighten its working definition of "partnership," recognizing that the term can mean different things to different entities. Previously, the committee had relied on a general definition put forward by Xavier de Souza Briggs (2003):

> Partnerships are a means of producing together, with others when we cannot produce something important—or cannot produce it nearly as well—on our own. Partnership then may be thought of as productive teamwork scaled up to the level of organizations, communities and even nations or groups of nations.

For the CSD audience, partnerships are explicitly defined, and are alternately referred to as "Type II" partnerships, following the World Summit on Sustainable Development (WSSD) meeting of 2002. The WSSD Implementation Plan[2] reads, in part:

> We recognize that the implementation of the outcomes of the Summit… should involve all relevant actors through partnerships, especially between Governments of the North and South, on the one hand, and between Governments and major groups, on the other, to achieve the widely shared goals of sustainable development. . . . [S]uch partnerships are key to pursuing sustainable development in a globalizing world.

The UN developed a set of "guiding principles" for these partnerships which themselves are recognized as outcomes of the WSSD. Briefly, the guidance is that formally recognized partnerships:

[1] The UN Commission on Sustainable Development has given extensive attention to the issue of partnerships for sustainable development. Reference: *http://www.un.org/esa/sustdev/partnerships/csd11_partnerships_decision.htm.*

[2] Available at *http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf.*

- Are voluntary in nature
- Do not replace international commitments made by governments
- Attempt to link global sustainable development goals with local capacity building
- Incorporate the environmental, economic, and social dimensions of sustainable development
- Involve partners from various sectors: governments, local groups, non-governmental institutions, private sector partners, and international institutions
- Are transparent and make partners accountable
- Have clear funding strategies and mechanisms
- Seek broad, international impacts due to local/regional results[3]

Partnerships formed in preparation for—and in the wake of—WSSD were registered formally with the CSD, and constitute a core of more than 400 partnerships. However, as is discussed in Chapter VII, this group of partnerships is a sampling of the tens of thousands of similar-style voluntary arrangements that are in use at scales from local to global. Thus, the steering committee elected to use a more nuanced working definition of partnership, so as to include examples of the countless partnerships not formally registered with the CSD.

A partnership was defined as actors from different sectors (thereby excluding cooperation within a sector; e.g., business to business) voluntarily coming together to jointly produce what no single actor could effectively produce on its own. This idea of so-called co-production was an important element in considering how partnerships formed, operated, and measured outcomes. Moreover, the steering committee distinguished partnerships from more traditional donor–grantee or contractual relationships, noting that several of these had been recast as "old wine in new bottles" as the partnership mechanism gained favor. While these relationships still hold value and in some cases may be a preferred approach, the committee's intent was to examine what it considered to be a new and more experimental approach, where partners blur or eliminate those traditional lines, and relationships are characterized by more give and take and cross-sector dialogue, and less inequality or power imbalance (though these are still major challenges). The steering committee also realized that its definition of partnerships applied to arrangements in which even the partners might prefer an alternate term (e.g., alliance) or no term at all. However, this seemed more an issue of semantics and did not take away from the fact that efforts that fit the committee's working definition were likely to contain lessons more broadly applicable to the field.

[3] Available at *http://www.un.org/esa/sustdev/partnerships/bali_guiding_principles.htm*.

The steering committee, in preparation for the symposium, commissioned 11 case studies of individual partnerships that it believed could provide lessons that might be more broadly applicable to the field of partnering. Each case study was authored by an external person or group (i.e., not currently affiliated with the partnership), although research was carried out often with significant cooperation from key individuals within the partnerships. This process is described in more detail below.

CASE STUDY RESEARCH METHODOLOGY

While much work has been done in recent years, and while it provides certain information and insight, there is still a pressing need for more research that draws upon the wealth of experience in multi-stakeholder[4] partnerships. Numerous recent reviews of the field of sustainability partnerships[5] have indicated that further work on case studies is necessary (Stott, 2005; OECD, 2006) to catalyze existing but not widely disseminated knowledge. It is against this backdrop that the current effort to examine several partnerships for sustainability has been developed. As an outgrowth of its work examining the challenge of linking knowledge with action for sustainable development (NRC, 2006), the U.S. National Academies' Roundtable on Science and Technology for Sustainability decided to take a closer look at how multi-stakeholder partnerships act as a vehicle to more effectively match sustainability agendas (for research, aid, governance) with user-defined needs. Recognizing that the wealth of knowledge present in existing partnerships is at best haphazardly, and often anecdotally shared with a wider audience, the steering committee chose to commission case studies of notable partnerships that would be discussed at the symposium

Some reviews of partnerships have attempted to categorize them by objective (e.g., OECD, 2006) as an analytical tool, but those typologies do not differentiate between sustainability-oriented partnerships (the focus of this report) and the more general class of partnerships. The sustainability lens is important, because it focuses on the unique challenges this subset of partnerships faces, from dealing with public goods to involving new applications of science and technology. Other attempts to categorize partnerships have relied on thematic clusters like the WEHAB (water, energy, health, agriculture, and biodiversity) categorization defined at the WSSD. However, conversations between partnerships in a particular field, such as

[4] Multi-stakeholder work is alternately described as being cross-sector or multi-sector.

[5] While multi-stakeholder is the term most widely used in this field, and generally refers to the diversity of government, private sector, and civil society involvement, the subcategorization of "sustainability" partnerships, which is the focus of this current effort, also implies that these partnerships strive to be interdisciplinary and meet both human and environmental needs.

water and sanitation, tend to focus on discussing the sustainability *problem* without being able to discuss their own organizational problems within the partnership; each partnership might in fact be working on a discrete part of the overall solution. Conversely, some partnerships from distinct fields face similar challenges, such as how they handle intellectual property (IP). Thus, the steering committee developed a typology to organize the case studies, and hypothesized that valuable and transferable lessons might be drawn out by posing a set of "core questions" to explore the context and incentives that draw partners into an alliance, as well as a functional analysis that examines some of the implementation strategies, organizational structures, and assessment methodologies being utilized.

The typology is a useful tool in identifying a diverse group of partnerships that, when cross-analyzed, could yield more broadly applicable lessons. The typology highlights five categories or purposes for sustainability partnerships, which are as follows:

I. Action-oriented and designed to provide a good or service viewed as critical to sustainability and which is not being sufficiently provided at the present time. Energy, water and sanitation, and infrastructure partnerships fit well in this category. Governments often play a leading role in forming such partnerships, hoping to attract private investors and interests as partners in the effort to meet human needs. These tend to be the most visible form of partnership, and the area that arguably boasts the greatest wealth of experience, going back many decades.

II. Action-oriented and designed to focus conservation efforts on a particular region or issue. Often community- or NGO-led and place-based, such partnerships may have trouble attracting private sector involvement outside of efforts to conserve certain critical resources, e.g., energy. Advances in the understanding of ecosystem services will likely raise the profile of these partnerships and attract more private sector involvement.

III. Research-based efforts to spur innovation in a particular sector with implications for sustainability. Biotechnology, energy technologies, and nanotechnologies require a range of research and development investments that draw on the different knowledge and expertise of governments, science institutions, universities, and the private sector. Innovations in these areas almost by definition require multi-stakeholder partnerships to ensure sustainability.

IV. Focused on disseminating science-based knowledge and information for sustainable impact. Campaign-type partnerships that promote good health practices (such as hand washing or use of insecticide-treated bed nets) represent this category. They often bring public policy groups, communities, and private sector interests (and funding) into partnership for the result of sustainable behavioral change.

V. Focused on facilitating the process of partnering and the building of communities of practice around issues of sustainability. Community building may not be restricted to a particular geographic location; partnerships that develop virtual communities (e.g., Partnerships Central) are increasingly common and also belong in this category.

The lines between these categories are sometimes blurred and a partnership may sit comfortably in more than one category. Nonetheless, a large partnership combining on-the-ground development projects with best-practice dissemination and community building will likely benefit from focused discussions on each of these aspects. In addition, at a macro scale, further research along the lines of this typology may reveal critical gaps, such as an abundance of water and sanitation projects in the developing world, but a paucity of efforts aimed specifically at analyzing and disseminating best practices based on these experiences.

For the purposes of the current project, commissioned case studies of 11 partnerships helped to inform the discussion at the symposium. While the committee did not develop formal guidelines for selecting the 11 cases, it did attempt to create a "suite" of cases that collectively represented a reasonable cross-cut of sustainability topics, with varying degrees of scope (local to global), size, and governance models. On a practical level, preference was given to partnerships that had sufficient experience to draw from, and could provide specific points of contact within the partnership to aid authors in their information gathering. Expert authors used a common framework and set of questions to describe and analyze each of the partnerships. The authors, who are external to the partnerships being examined, conducted interviews of key partners and combined this with available written documents (online and in print) to develop their case studies. Authors submitted early drafts so that Academies staff could conduct a cross-cutting review and analysis to present at the symposium, focused on the emerging themes (Chapter VI). Each standalone case study is expected to be of value to numerous partnerships practitioners, and the volume of case studies, combined with the cross-cut analysis and summary of discussions at the symposium, should be of interest to practitioners, supporting agencies, and the research community.

STRUCTURE OF THE SYMPOSIUM

To mine the knowledge generated in the 11 case studies and supplement it with the collective wisdom of an audience of practitioners and analysts, the steering committee organized a symposium over a day and a half where case study authors and other expert panelists discussed several cross-cutting themes. The individual cases provided background for the discussions, but

the focus of the symposium was on four overarching themes that correspond to the next four chapters: early stages of partnership formation, organization and governance, collaborative production, and outcome evaluation. Panelists, presenters, and audience members were all encouraged to draw from the literature, case studies, and personal experience and help identify salient lessons for enhancing the effectiveness of multi-stakeholder partnerships (also summarized in Chapter V). Panel discussions were opened up to all participants in the audience; after panelists gave opening remarks, the panel moderator posed questions to the panel and the broader audience. Audience members had opportunities to question panelists as well as share personal experiences and insights. The resultant discussions benefitted from the wealth of collective knowledge, along with the information provided by the background papers prepared for and distributed prior to the symposium. Some of the general lessons, as discussed in these sessions, are in the next four chapters. In order to provoke these discussions, Charles Vest, president of the National Academy of Engineering, and Hank Habicht, managing partner of SAIL Venture Partners, were asked to put forward broad themes to which participants might react.

Vest opened the symposium by sharing his thoughts on the nature of sustainability challenges and his experience with working in partnership to address the challenges. He observed that sustainability challenges are so complex, and by definition global, that cross-sectoral and interdisciplinary work is necessary, and this can often be achieved through partnerships. These have tended to be most successful when substantial resources are dedicated to the effort, in part because this means that the various partners will be paying attention (intellectually) to the progress and outcomes of the partnership. Trust has been an essential component in every successful effort, and institutional arrogance in fact has been the biggest danger—different sectors might believe that they alone know how to do the job and should tell other partners how to do it—but this of course hampers any progress in building trust among partners.

Hank Habicht opened day two by recounting his career experience with multi-stakeholder partnerships. He remarked that in the early going, environmental enforcement required collaboration which naturally led to some form of partnership. Over the past 10 to 15 years, there has been a subtle evolution of the role of partnerships. They now seem to occupy a new space, influenced in part by the globalizing economy, in which corporations are becoming more proactively engaged as a way to grow their business, manage risk, and earn their "license to operate." Because of this, there appears to be a need for more attention to engaging the financing community (broadly defined); partnerships should be seen as investments, as part of a risk management strategy, as a vehicle for implementation, and as an avenue for creating a climate in which businesses can succeed.

A major limiting factor has been what Habicht referred to as "institutional blind spots." Institutions have tended to compartmentalize their work and defend their turf; in other words, they are not oriented toward working with others and sharing information or resources. On a somewhat related point, the behavior of working across sectors is still not often rewarded within a given institution. Therefore, people are less willing to potentially jeopardize their careers by devoting substantial time to inherently risky cross-sector work. Owing to these institutional blind spots, there continue to be inefficiencies and redundancies that might be avoided through better cooperation and communication across sectors, and by extension, across emerging partnerships. This is where the typology can benefit individual partnerships; understanding where one fits within the typology helps eliminate wasted time and allows the partnership to begin accessing the knowledge of similarly styled partnerships.

II

Partners Coming Together
Summary, Panel Discussion

The opening panel, moderated by Gerald Keusch, associate dean of the School of Public Health at Boston University, was a discussion of the initial stages of partnership formation. As discussed earlier, the definition of and rationale for partnerships for sustainability is that partners come together in order to accomplish collectively what they cannot accomplish individually. Consequently, there are several aspects of the initial phase of partnering that seem to provide insight into building successful and sustainable partnerships. In particular, discussions on this topic focused on three issues: initial acceptance, including incentives and motivations; barriers to partnering; and the sequence of engaging partners.

Acceptance is a broad topic, but it was divided into two themes: acceptance of a partner by other partners, and internal acceptance within the hierarchy of any given partner's institution. In all of the cases examined, partners had shared commitments to some broadly defined sustainability goals around which the partnership would eventually form. The possible exception might be the Farm to Fork Initiative, which began as a potentially adversarial relationship in which a shareholder, the Nathan Cummings Foundation, sought to engage Smithfield Foods and hold it accountable for its environmental record. However, Smithfield was quite concerned with its reputation, particularly as it sought to build brand recognition, and so even if the two initial partners did not have the same goal, they were at least aligned, making it possible to explore opportunities to cooperate. Both sides were open to public reporting, and perhaps more important, individuals within the organizations were open to new ideas and innovative solutions.

For the other partnerships discussed, goals were much more closely aligned. In the case of the Sustainable Forest Products Global Alliance (SFPGA; Chapter XI), government, NGO, and private sector partners shared a commitment to reducing illegal logging and expanding the market share of sustainable products. However, each was also motivated by a secondary—but not necessarily overt—objective. The U.S. Agency for International Development sought to demonstrate that market-based tools are more effective than enforcement in curtailing illegal logging, and to generally build relationships with business; the NGOs (World Wildlife Fund and Metafore) sought to increase their own legitimacy through an association with the U.S. government, and also access additional funds to carry out their work; and the private companies liked being associated with government (to aid relations with producer countries, as well as avail themselves of USAID's in-country expertise). They believed that the partnership could improve their reputations, and finally, that it increased their supply chain efficiency through this linkage to other companies with a similar commitment.

Acceptance was a critical issue for Agua para Todos (APT; Chapter X) because it grew out of a politicized and volatile atmosphere—the "Cochabamba Water Wars" of 2000. Dynamic leadership on the part of the private sector appeared to be an essential factor in catalyzing the partnership. The private business, Agua Tuya, was well known and respected within the technical community. Essentially, leaders within Agua Tuya were able to convince other potential partners that working together would add value to their individual efforts. The public sector partner (SEMAPA) lacked capacity in terms of resources and skills, and so was naturally drawn to a private sector partner that could provide this additional capacity. Local water committees were important to the overall system because they were able to build more secondary systems, though they relied on SEMAPA to provide their main supply of water. The community accepted this partnership largely because the local partners, namely the water committees, had already bought in.

The Green Power Market Development Group (GPMDG; Chapter VII) was described as a club—it had not previously existed, and so partners endeavored to create it. Led by an NGO, the World Resources Institute, which desired to promote "green power" as a concept, several corporations with existing sustainability strategies and commitments to improve their environmental records joined together in a partnership. The GPMDG offered the "club goods" of knowledge and information diffusion, along with reputational recognition for their efforts. On the face of it, this might have appeared self-serving, but partners pointed out that these club goods should also lead to broader public goods, i.e., more green power on the market. GPMDG companies pointed out that they *could* have done what

they did without forming a partnership, but that the added value was in the process of internalizing the concept of green power among a broader group of leading companies. This convening mechanism certainly helped the individual companies make progress in pursuing sustainability strategies.

This case highlighted the importance of internal institutional acceptance, which is vital to productive partners and a successful partnership. Top management in a given institution does not necessarily need to endorse a partnering activity from the start, but it must give individuals from within the institution the space to work collaboratively and creatively to participate in a partnership. These people must be willing to think beyond traditional institutional boundaries and operate informally as a core group of partners materializes. Large organizations in particular may need a small group of people, as opposed to a single "champion," who collectively have sufficient leverage to "run the idea up the flagpole" once the core group of partners decides to bring their home institutions on board. Ground rules for discussions and external facilitation can make management more comfortable with engaging in cross-sector work. In the case of the Multilateral Initiative on Malaria (MIM; Chapter XV), an informal dialogue referred to as Heads of International Research Organizations (HIRO) might have opened up opportunities for more collaboration among these major organizations and given employees further down the license to innovate. It is also helpful when the partnering institutions have compatible management cultures, so that they can move at comparable speeds and with sufficient flexibility. To that end, an organization ought to have its *internal* strategy sorted out (e.g., when and how it will engage in a partnership) before pursuing alliances with other organizations.

Naturally, these cross-sector activities present initial barriers not ordinarily encountered in the day-to-day activities of a single institution, and a number of these might be generalized to partnerships in their early stages. Institutional mismatches are not uncommon. USAID's interest in partnering with the private sector was tempered by a slow approval process and no existing legal mechanism to facilitate a partnership, causing prospective private sector partners to continue working directly with partner NGOs, and then by extension, with USAID. For MIM, despite strong agreement on priorities for action, not enough attention was paid to how these different institutions could logistically coordinate their activities and specifically, develop a common pot of funding. Ultimately, the partnering institutions elected to avoid the legal and bureaucratic challenges of combining funds, and instead, they remained loosely coordinated (four autonomous components), and housed some of the more visible elements, such as the training component, in a neutral, non-political setting—the World Health Organization. Funding was a challenge for Sustainable Silicon Valley (SSV; Chapter XIII) as well. Though this partnership engaged several large and profitable

corporations, they were not willing to invest in a risky cross-sector activity. The California state government had to make the initial investment and appoint a staff person who could coordinate dialogue among the regional stakeholders.

For some other partnerships, the initial barriers had more to do with the essential element of trust among partners. Smithfield Foods and the Nathan Cummings Foundation were drawn into a partnership (Chapter XVII) after the foundation's shareholder resolution caused Smithfield to critically examine its own reporting and how its supply chain is reviewed. In order to gain the trust of the foundation, an important shareholder—Smithfield—needed to change the way it did its public reporting, and specifically, to adopt a more transparent, third-party form of reporting. Another partnership involving supply chains, the Common Code for the Coffee Community (4C; Chapter XII), was initially held up by concerns over antitrust activity; the various companies involved had to be careful to avoid discussing "the p word"—price.

Another initial problem for 4C was that when new partners came into the fold, some of the incoming institutions rewrote a roles and responsibilities paper without having been part of the initial partnership discussions. This created tension, as it seemed to undermine the trust among the core group that had been established over the course of many months. It begs the question, then, of how to identify the right *mix* of partners to form a core group, but also the right *number* of partners so that adding partners later on will not disrupt or hamper the all-important trust building. Several participants noted that starting small and expanding was not only easier, but necessary, to engage more partners. For Agua para Todos, which depended upon local initiative, the small group of local actors was able to demonstrate some success, which then helped attract more partners (including international organizations) as it attempted to scale up its efforts. Sustainable Silicon Valley also depended upon a small initial group of 10 partners who served as a demonstration project, which then helped bring aboard dozens of additional regional partners. Often, if a partnership demonstrates that it has made progress towards its goals, then additional partners will self-identify and seek a spot at the table. In general, the first phase for most of these partnerships was rather informal, and goals changed as the partnership matured. As the partnership became more formalized, more partners joined, and though specific goals and even the culture of the partnership could change to reflect new members, there were certain core goals or values that stayed constant.

Finally, panelists addressed the question of upfront analysis; how strategic, if at all, were partners as they made the decision to engage in a partnership activity? Some partnerships might be viewed as a simple emotional response, as well-meaning organizations decide to work together and tackle

an issue that is not being sufficiently addressed. Several of the partnerships examined, including 4C, MIM, and REEEP, did some analysis before a partnership was formed, whether holding workshops to identify where a partnership might make unique contributions, or commissioning analytical reviews to assess needs and potential responses in a given field. Getting the right organizations involved (in terms of mandates and competencies), and understanding their individual motivations for participating is often critical to success. Particularly for a partnership focusing on R&D, it is imperative to assess early on what combination of partners and resources are necessary to construct a successful endeavor; but in any case, it might not be necessary to hold up progress while waiting for the perfect combination of partners. As Charles Vest noted, partnerships require that we identify emotional drivers (e.g., how we want the world to be) and then weave these together with what we know to be scientific reality and what we believe is possible through the judicious application of technology.

III

Partnership Organization and Governance
Summary, Panel Discussion

One fundamental challenge partnerships face is that they operate outside or at the margins of typical organizational structures. This leaves them vulnerable to external criticism on their lack of transparency and accountability, and also presents unique challenges for the partners to manage their interactions and work together in an efficient and effective manner. Nonetheless, as partnerships have proliferated and matured, lessons on organization and governance have emerged and could be applied to both nascent and existing partnerships which continue to evolve. This panel discussion, moderated by Robert Stephens, international chair of the Multi-State Working Group on Environmental Performance, focused on several themes: evolution of organizational frameworks, formal versus informal structures, major organizational challenges, accountability, and adaptive management.

Often, these sorts of partnerships are starting with a relatively blank slate—they are not born out of existing frameworks. This provides them with flexibility, and lends the experimental quality that can motivate partners in the early stages. Inevitably, though, partnerships move towards some sort of structured organization; some remain loosely coordinated, while others mature into standalone non-profit institutions. As mentioned earlier, the Multilateral Initiative on Malaria (MIM) began as four autonomous bodies, and partners felt that this high degree of flexibility was a strength. However, as the research landscape changed (increasing competition) and the secretariat moved for the first time to Africa, this loose coordination became more of a liability. Fundraising and coordinating decision making (the four autonomous bodies each have an advisory council) are both

proving challenging for the new secretariat. The Green Chemistry Institute (GCI; Chapter XIV), on the other hand, was born out of an existing partnership, which was narrowly focused on a specific technology. Informally, this group continued to meet and discuss broader problems in the chemical industry. They reached agreement that some sort of body was needed that could quickly support activities that could advance the field of green chemistry; consequently, they established a non-profit with a governing board. However, maintaining permanent staff and leadership for the new organization proved challenging, and led GCI to seek a partnership with the American Chemical Society (ACS), a much larger and more established organization.

Several participants questioned whether or not there was a natural transition from an informal arrangement to a formalized, highly structured organization. While there is no single model that is appropriate for all partnerships, a number of lessons seemed to emerge. First, it is important to examine the goals of the partnership. A small number of partners that are focused on delivering a discrete, time-sensitive project may not find it necessary to establish an organizational framework, but larger partnerships, particularly those with open-ended membership and timeframes, will generally seek a more formal structure. This can be especially important when engaging local stakeholders. Asking them to sign in at a meeting or subscribe to an electronic mailing list is likely insufficient to keep them engaged and reduce the perceived power imbalance between large institutions and less-organized small shareholders. The Common Code for the Coffee Community acknowledged that problems in the sector require different approaches depending on geography. This convinced the partnership of the need for increasing institutionalization, but with a governance system that incorporates myriad voices.

Parallels were drawn between partnerships and start-up businesses; the latter generally have the long-term objective of being financially sustainable, which requires that they become more structured. Paradoxically, though, the energy and enthusiasm that drive a start-up venture can dissipate if it gets bogged down as it becomes formalized, and the same can be true for a partnership. It is important for a partnership to establish a governance system that is *enabling* without becoming a bureaucracy itself; otherwise, the effort could die under its own weight. The Sustainable Silicon Valley (SSV) partnership needed to strike a delicate balance in order to maintain a dynamic quality, even as it became more formal. Partners decided to establish an executive committee that would focus on administrative issues necessary to the formalization process, while its board members continued to focus on high-level strategic issues. Another practical reason for formalizing the organization is simply that over time, leadership and participation will change. In the early stages, the founders gain an institutional knowl-

edge that can allow the partnership to operate in an ad hoc manner, but this eventually needs to be documented in order to pass the knowledge along, bring in new partners, and instill the core vision in new board members and leadership.

Nearly all of the cases examined have some type of board of advisors. For Global Water Challenge (GWC; Chapter IX), establishing a board was liberating for the secretariat because then the secretariat was not viewed as driving the partnership. Partners are able to contact the board directly if they have concerns with the secretariat, providing an additional level of reporting. From a corporate standpoint, senior leadership often prefers to have some sort of a protection (e.g., a board) as they get closer to a partnership organization. Therefore, more formal groups may be attractive to large corporations interested in engaging in a partnership. For the GCI, the board has also been an influential component within the organization, serving as a steering group and providing another layer of continuity (e.g., if executive leadership changes) and a high-level review of the partnership's progress toward its goals. A participant questioned whether board members ought to be recruited based on their passion for the topic, or for their influence within an organization or a broader community. Panelists remarked that, although it is generally easier to attract board members who are already passionate about the issue and can thus help establish a vision for the partnership, as the partnership matures and demonstrates some success, it is not difficult to identify board members who bring passion as well as influence.

There was also a question about the appropriate size for a partnership. This seems to depend on the goals of the partnership. Building a community of practice, for example, entails engaging as many partners as possible, whereas a research partnership can become untenable if too many additional partners become involved. Panelists noted that as a partnership attracts new members, the secretariat needs to learn to work differently with an increasingly large and diverse membership. The Renewable Energy and Energy Efficiency Partnership (REEEP; Chapter VIII), an international alliance of over 250 partners, provides an example of a large and growing partnership that has found ways to remain decentralized. REEEP has begun to expand vertically, incorporating existing, independent organizations as its regional secretariats. These regional secretariats, in turn, are the "eyes and ears on the ground" for short-listing potential projects and monitoring results. The regional offices have noted that they need this discretion in benchmarking projects, owing to the vast variation across regions in terms of local needs, circumstances, and resources. REEEP also continues to attract new national-level partners, and one in particular—Norway—has brought with it a distinct management culture, which has had a positive impact on the partnership as a whole. Finally, in order to add value without

duplicating efforts, REEEP partners with other partnerships and organizations, yielding a sort of network and division of competencies in the fields of renewable energy and energy efficiency.

Perhaps not surprisingly, when asked the question of what the partnership's most important organizational challenge was, many panelists noted that funding was a primary concern, as it relates to the organizational structure. After all, these are newly founded organizations, generally without dedicated funding sources, and often focused on public goods with little or no perceived economic value. GCI, which originated as a virtual institute operating with a thin budget, solved its budget problems by being incorporated into the ACS. Though this allowed GCI to support permanent staff members and have a physical space, it also required a series of negotiations with ACS as to how it could stay flexible and independent while still depending on direct funding from ACS. For MIM, although rotating the secretariat to Tanzania was a necessary step towards giving African malaria researchers a voice, it also created a new challenge with regard to funding. Previously, the secretariat had rotated among research institutions in the United Kingdom, the United States, and Sweden, all of which provided in-kind support to the secretariat as needed. As mentioned earlier, the secretariat is one of four loosely coordinated components within MIM, and as such, it now finds itself needing to find ways to identify additional financial support, or at least coordinate and streamline fundraising among the four components. In the case of SSV, which was initially supported by the California state government, the new governor withdrew funding, causing the partnership and its core members to focus on establishing a 501(c)(3) organization. To support such an organization, SSV needed to collect partnership fees, but this in turn required that they establish credibility, which they did first by publishing an annual report documenting their progress.

This idea of credibility relates directly to a sometimes contentious issue for these partnerships: accountability. The general public is concerned with external accountability, i.e., what the partnership is delivering, and for this it is helpful for partners to understand what type of partnership they are. A campaign-type partnership will have different governance needs and accountability mechanisms than one that seeks to implement on-the-ground infrastructure projects. However, the initial discussion focused on internal accountability. This is of course an important issue in a partnership, since several actors unaccustomed to working with one another must develop trust that each partner is "pulling its weight" and is accountable to the group. Panelists noted that it is important to get the "rules of the house" in writing as early as possible, with input from all partners, so that as the partnership grows and new partners join, they know how (if at all) they will be held accountable to the partnership. If a partner is not contributing to the effort, what is the next step? Partners ought to be able to determine

whether it is because of a lack of effort, or because the current partnership structure prevents some partners from fully contributing. For many partnerships, developing countries are implementation sites, but are not always counted as "partners;" i.e., not party to any internal accountability measures. Since many of these partnerships have boards, the boards provide another layer of internal accountability. As an example, GCI reports to its board quarterly.

Partnerships are often actually offered as a solution to accountability problems, such as political commitments that are not being implemented; this was a driving force behind the World Summit on Sustainable Development's call for more multi-stakeholder partnerships. A participant questioned whether one type of accountability was more important than another, and while this is likely subjective, a panelist did note that the importance of external accountability is often underestimated. A simple solution is to produce and make available annual reports. However, a panelist remarked that the very nature of these partnerships means that they tend to have a large, amorphous stakeholder group which has little use for annual reports. If these partnerships are designed to yield improvements both in environmental conditions and human well-being, these goals can be embedded in accountability measures or metrics that the partnership develops. Product certification provides an example of the problem with overlooking external accountability. While a partnership to certify a sustainable product might be deemed successful according to its internal accountability standards—satisfying shareholders and expanding the market for a sustainable good, for example—it might also be reinforcing trade imbalances if certain countries have an easier time meeting these voluntary standards. Monitoring this may be outside a particular partnership's capability, but it could be useful to keep in mind as the partnership develops accountability metrics.

For partnerships that seek to build a community of practice, insofar as they are successful, they may ultimately come to be held accountable by the community. The GCI provides such an example; with over 11 years in the green chemistry community, its activities now reflect quite strongly on the field. Finally, individual partners can bring with them a culture of accountability that influences the partnership. As several panelists noted, even if a partnership is incorporated as a standalone non-profit organization not directly accountable to anyone, the partners themselves often have multiple strands of accountability that extend to their participation in these multi-stakeholder activities. Having a public member such as a government involved can affect this. SSV originated with state government partners, but even after the government partners left the partnership, SSV retained a culture of public transparency.

Accountability also relates to the way that a partnership manages,

and the degree to which it utilizes feedback in adaptive management. SSV benefited from the fact that all initial partners used environmental management systems (EMS) in their own work. An EMS is a set of processes and practices that help an organization reduce environmental impacts and improve efficiency; it operates in a "plan-do-check-adjust" loop that SSV incorporated into the partnership's operation. SSV's advisory council (a group above its board) oversees the partnership's EMS, thus freeing up the board to focus on the strategic vision and other matters. Some panelists drew a distinction between a partnership's goals (high-level, unifying themes), and its objectives (individual pieces, generally used for reporting). For GCI, even as its structure and day-to-day objectives change, the goals it initially established continue to guide the partnership as the field of green chemistry advances. Global Water Challenge, which has a high-level goal of universal access to clean water and sanitation, sets annuals goals as well, then reflects on its pursuit of those and determines whether or not the objectives it has set are moving it towards the goal.

IV

Partners and Co-production
Summary, Panel Discussion

As noted earlier, co-production is a distinctive feature of partnerships that differentiates them from traditional contractual and donor–grantee relationships. The "co" refers to collaborative or cooperative, because a true partnership requires that partners actually carry out work together, rather than simply coordinate efforts. The term also implies that successful partnerships produce something, be it a product, process, information, or a behavioral change. This idea of co-production provides much of the promise that partnerships hold for creating sustainable outcomes that positively affect both human well-being and environmental conditions. Since partners come together to do what no single partner could (or would) do alone, there is an opportunity to create something entirely new that might aid a transition to sustainability.

William Clark, Harvey Brooks Professor of International Science, Public Policy, and Human Development at Harvard University, moderated this panel and encouraged participants to consider the analogy of using a multi-stakeholder partnership to build a car. Ordinarily, this might be accomplished in one of two ways: through command and control, in which each partner is directed and compelled to provide a certain part until the whole is assembled, or there is sufficient market pull for the car such that all the necessary parts get produced and incorporated into the whole. The challenge for partnerships for sustainability is that they are voluntary *and* they tend to deal with public goods that have a low market value. The result is oftentimes that partnerships are able to deliver parts (i.e., partial solutions) that might not collectively address the larger problem. This analogy was later amended to one of building the early gothic cathedrals. In this case,

partners expend a great amount of time and resources to create something that has not been done before, for which there are no sound blueprints. Through sheer commitment and several failed efforts, these cathedrals were built and those that survived continue to be inspirational. However, in the interests of conserving precious time and limited resources, are there ways to produce more efficiently, to learn from these earlier efforts, and begin learning to mass produce or scale up while still delivering on goals? Much of the panel discussion focused on the greatest challenge each partnership faced in co-producing, and how it dealt with this challenge. Subsequent discussion focused on the added value of a collaborative approach and the rationale for taking this approach despite the known challenges.

For Smithfield Foods, the greatest barrier was a legal one. Its initial partner, the Nathan Cummings Foundation, wanted it to begin reporting environmental impacts from its contract farms. However, corporations like Smithfield maintain a strict separation of responsibility from their contract farms, referred to as vertical integration. Through creative thinking between Smithfield and the Cummings Foundation, they developed a workaround that used a surrogate (a Smithfield corporate farm) and an externally developed reporting mechanism, which led them to approach an NGO with experience on this topic, Ceres. For the Green Power Market Development Group (GPMDG), the barrier was not a legal one per se, but energy policy in general was—surprisingly—the limiting factor. To overcome this, the partnership decided to expand its objectives and become involved in policy advocacy, which involved partners testifying in Congress and writing letters on behalf of the GPMDG. Progress in this regard was much more difficult to trace back to the partnership's interventions, but partners felt that they needed to take a proactive approach if they were going to succeed in developing a market for green power. The other limiting factor GPDMG discovered was that it was meeting community resistance to projects it hoped to implement. The partnership had not considered engaging external actors, e.g., communities surrounding a green power project, but the GPMDG as a forum provided critical support and a learning mechanism on how partners could open up their "internal" goals and engage the communities productively.

The Multilateral Initiative on Malaria also cited community engagement as its greatest challenge, although in this case the specific community is African malaria researchers. Funding and initiatives are increasing in the field of malaria research, but little goes to building capacity for Africans, leading to a fear that the strong interest in the topic—and in MIM—is diluting the original intent of the partnership. MIM's solution has been to invest in young African scientists, who become the new leadership, energy, ideas, and voice of African malaria research. This has also aided the secretariat as it transitions to an African country (Tanzania) for the first time.

The Common Code for the Coffee Community used a similar proactive solution to engage developing countries and previously underrepresented stakeholders. When the International Coffee Organization abruptly issued negative statements about the partnership's activities, it caused a crisis in which coffee-producing countries threatened to withdraw from the partnership, claiming that they felt they now had ownership in the process. The secretariat recognized that merely providing space at the "table" at meetings in Western Europe was insufficient to engage producer countries, so secretariat staff began making regular trips to the countries and creating additional space for dialogue with the producers.

For the East Coast Fever Vaccine partnership (Chapter XVI), there was both a practical and a conceptual problem. On the practical side, the International Livestock Research Institute (ILRI) had little experience in negotiating contracts or managing intellectual property (IP). Its solution was to get an IP manager and devote more resources to handling these sorts of issues, though in this case, it was done ex post. For the agricultural research community, this demonstrated that there are ways to deal with IP, often through negotiation, and that with careful attention to IP stewardship, both public and private research institutions can collaborate. On the conceptual side, the partnership's challenge was to become something more than a technology transfer project. Co-production is much more difficult than technology transfer because it involves joint innovation, collaboration, and discussion. ILRI in this case was able to provide the solution, as it was an ideal platform for cross-sector dialogue, functioning as a bridge between innovators and end users. This was aided by open-ended communication on multiple fronts (both formal and informal exchanges).

In the Agua para Todos case, the primary challenge was a lack of clarity among partners and their respective roles and responsibilities. This was initially surprising because the partnership was built around organizations with distinct roles and limited overlap. Ultimately, the solution was to agree upon clear guidelines and procedures that an outside observer could follow in order to know whom an interested stakeholder might contact with specific questions. Had they been able to do it over, partners would have planned for this early on, and also given earlier consideration to financial aspects of the partnership. As the partnership began generating funds through water payments, the partners realized they had not discussed what would be done with finances generated by the partnership itself, that is, if they would be equitably divided among partners or be reinvested in growing the partnership.

Successful partnerships can sometimes encounter a new and unexpected problem: popularity. On the face of it, this may in fact seem like a positive outcome, but several panelists noted that, if left unchecked, it can dilute efforts or become a distraction. First, it is useful to develop a process to

integrate new potential partners, that is, strictly and formally defining who can participate, why, and how. Many partnerships allow their existing partners to review and approve new members. Particularly when a partnership has been successful, it will be important to understand the motivations of new prospective partners and their potential to add value to the partnership effort.

As partnerships expand, it becomes increasingly important to find ways to keep all of the various voices active in the partnership process. For Global Water Challenge, which functions as a project implementer and a learning organization, there is sometimes a tendency for the partners to divide off into implementers and observers as projects enter the delivery phase. To circumvent this, the partnership is exploring ways to somehow keep the observers active in implementation, such as helping evaluate on-the-ground projects. Certain groups within a partnership will require extra time or space to fully contribute to the effort. Panelists noted that environmental groups sometimes needed separate meetings to reach agreement among themselves, because their partners from the private sector were already oriented towards identifying solutions. However, as trust developed among these groups, such an arrangement became less and less necessary.

This does beg the question of why businesses, particularly those which bill themselves as "solution providers," engage in partnerships in the first place. In some cases, private sector partners noted that they *might* have been able to individually do the work being carried out collectively within a partnership. However, there are a number of limiting factors, chiefly time and resources, which make a partnership arrangement more attractive. There are also several less tangible benefits to the collaborative process, including risk sharing, mutual learning, and increased transparency, which partners cite as benefits to engaging in a partnership. With regard to supply chains in particular, a single private enterprise is rarely able to address all of the relevant actors unilaterally. Supply chains are often fragmented and involve several relatively anonymous components (e.g., trade houses, exporters, and cooperatives), thus making a partnership approach more effective.

A panelist also emphasized that partnerships are not floating in a vacuum; that is, they are all created and exist in a particular policy space. Therefore, partnerships that have well-developed adaptive capacities to correct for omissions (e.g., policy maker participation) might be better able to survive and thrive. There are also potential partners that may have a particular interest or expertise in exploring the policy space. For example, the Green Power Market Development Group benefited from its NGO partner (the World Resources Institute) being well suited to examine renewable energy policies and identify limiting factors, as well as opportunities for intervention. Partnerships that lack policy expertise, or do not consider it a

necessity, might do well to engage an additional partner or at least establish a link to organizations that have such expertise.

Another panelist stressed that it is impossible to even consider sustainability in the broad sense without involving national governments. Even if resource-constrained, as in the case of many African countries, these national governments represent a vital linkage that can help a partnership scale up and flourish. Having governments involved as active partners (as opposed to being passive aid recipients) also helps ensure their buy-in to the goals of the partnership, something that is vitally important if the partnership is meant to be replicated or scaled up. Partnerships may not even need to engage governments directly, but they can certainly serve as facilitating agents and help specific communities (e.g., African scientists) take an active role in engaging governments.

Finally, in addition to all the outputs and outcomes that partnerships can produce, several panelists noted that the dialogue that takes place in these collaborative efforts is not only a vital ingredient to a successful partnership, but also valuable in and of itself. As one panelist put it, "Fighting produces decisions, dialogue produces change." In other words, the fact that this dialogue takes place is what has allowed some partnerships not only to survive crises within the partnership, but to embark on something that is truly different. The dialogic process may be what helps tap into a deeper motivation within participants, helping them work beyond traditional institutional bounds. Sustainability challenges often may require different rules of engagement and a higher level of thinking (systems thinking) in order to identify solutions. Another panelist reiterated this point, and remarked that a key takeaway from the partnership experience has been that successful efforts require that partners early on devote a large amount of time to listening. Efforts that have struggled are often the ones in which the partnership rushed through this stage, listening only to certain factions, so they could move quickly into implementation, resulting in little if any change from a business-as-usual scenario.

V

Evaluating Outcomes and Enhancing Effectiveness *Summary, Panel Discussion*

The final panel, moderated by Marco Ferroni, executive director of the Syngenta Foundation for Sustainable Agriculture, examined the ways in which partnerships measure their progress, particularly as it affects the human and natural environment. Following the panel discussion, workshop participants offered additional insights into ways that partnerships might operate more effectively. Despite the increasing body of experience with partnerships for sustainability, there is still substantial room for improvement in the area of evaluating their outcomes. There is a tendency on the part of partnerships to celebrate the efforts that go into the partnership, rather than focusing on an assessment of results. By extension, there is a tendency for partnerships to develop metrics that focus on processes both internal and external to the partnership with less attention paid to other measureable outcomes. This final session focused on the results frameworks that various partnerships have developed to evaluate their impacts. Panelists were asked to reflect on four specific points: outcomes in the context of the partnerships' results frameworks; outcomes as actually achieved; the partnering process as an outcome; and lessons going forward from the evaluations.

To develop a results framework, partners must formulate a hypothesis of how their partnership will affect reality. This may be referred to as an "impact pathway" or a "results chain," and requires that partners consider how a partnership's actions will affect external actors and processes. Panelists noted that this step warrants careful attention. Taking stock of the various pathways and potential pitfalls may lead the partnership to reconsider its mission, its membership, and its mode of operating. It is important to

begin developing this framework early on, understanding that it can and likely will change as the partnership matures. This is where it is helpful for a partnership to understand where it fits within a typology; many of the metrics it might use for evaluation can be widely applied across a group of partnerships, such as those that focus on advocacy and information dissemination. A number of panelists stressed the need for partners to work on a "value proposition" and be results-oriented instead of purely process-driven.

Several panelists also drew distinctions among *outputs*, *outcomes*, and *impacts,* and noted that a partnership will have progressively less control over the results as one moves from outputs (e.g., a new vaccine), to outcomes (e.g., vaccine is widely deployed), and then impacts (e.g., mortality is reduced and incomes increase). Partnerships must also consider alternative scenarios—what would have happened in the absence of the partnership—as they evaluate outcomes and impacts. In doing this, a partnership must also baseline its program, assessing the current conditions that it seeks to improve. One final point that panelists made was that the partnership process in many cases can also be considered an outcome, particularly when it influences future cross-sector work or changes within partners' home institutions.

The East Coast Fever Vaccine project identified one simple output, an experimental subunit vaccine. Partners were drawn together in the hopes of creating this vaccine, which would next be developed into a deployable vaccine that was safe, effective, and affordable for East African farmers. Over the longer term, such a vaccine should help increase livestock productivity and reduce losses to farmers. However, the initial output was never achieved, prompting the partners to dissolve the partnership after they had agreed that they could not attain a proof of concept. Nonetheless, the partnership effort did affect the agricultural research system within which it operated. It led to a new platform (GALVmed) for livestock research, and there is evidence that both private sector and academic research partners are now approaching joint ventures differently, and with more enthusiasm.

The Sustainable Forest Products Global Alliance's expected outcome was not quantified, although the "expansion in the proportion of internationally traded forest products sourced from sustainably managed certified forests" is one which could be, and has since been, calculated in terms of hectares and monetary value. The World Wildlife Fund's projects increased in value from US$6 billion in 2003 to US$42 billion in 2007. Hectares of sustainably managed forest more than doubled, from 10.5 million to 26.5 million, and the number of participating companies more than tripled. However, other expected outcomes that focused on the partnership process were not achieved. Ultimately, the U.S. Agency for International Development (USAID) did not develop relationships with the private sector

members (which worked through NGOs as intermediaries), and even the relationships with the NGOs were universally viewed as being a traditional donor–grantee relationship, as opposed to a partnership. Ultimately, it seemed that the existing bureaucratic structure in particular did not allow USAID to participate as a partner.

Interestingly, these two cases (ECF and SFPGA) were singled out in discussions as examples of "failed" partnerships even though practitioners noted several "successes" resulting from the partnership efforts. In the former case, the failure was not unexpected (partners could not provide proof of concept for a viable vaccine), and was not attributed to the fact that partners had formed this alliance to try and address the challenge. In the latter case, SFPGA partners were critical of the notion that it was indeed a partnership. Instead, the arrangement did not stray far from traditional donor–grantee relations, though partners noted that outcomes could have been more significant and could have had more impact had they been able to stretch that boundary and work more closely with one another.

Global Water Challenge's (GWC's) mission—access to clean water for everyone—is one that is quantifiable, but so ambitious that the partners instead have chosen to focus on scalable activities that add up to large, dramatic outcomes. An example of these "micro-outcomes" includes a program focused on clean water access and sanitation practices in Kenyan schools, which demonstrated drops in absentee rates. Once partners feel that they have demonstrated a proof of concept, they set about scaling these projects up. Scalable solutions often require partnering with governments and other large groups that recognize that they might benefit from partnering with GWC.

The Common Code for the Coffee Community (4C) held a visioning exercise early on to map out its results framework. Partners posed the question, "What does 'good' look like?" within the coffee industry, taking account of all links along the value chain. Specialty standards already existed and were improving, but were not reaching everybody in the field. Therefore, 4C set up working groups based on the three pillars of sustainability (economic, social, and environmental). Eventually, these three groups created 4C's principles, which pointed to activities whose outcomes could be measured. In order to achieve these measurable outcomes, the partners agreed that the missing ingredient to date had been *collective knowledge*. Thus, everyone with a piece of that knowledge was invited to the table to shape the specific goals of 4C, which also encouraged the new partners to buy in to the results framework. Indicators are being developed with on-the-ground partners. Though this requires that 4C establish several regional offices to interface with the local partners, it has also helped the partnership use verification as a development tool, as opposed to a policing action. A support component was established so that farmers can receive

training to help them improve and satisfy the 90 criteria that 4C uses when evaluating compliance with 4C's principles. These criteria are not viewed as "pass/fail," but as a dashboard that highlights strengths, weaknesses, and areas in need of improvement.

The Common Code set a goal of certifying 50 percent of the coffee market by 2015, and this led participants into a broader discussion of modest "realistic" targets versus ambitious "stretch" targets. A panelist pointed out that the ability to set ambitious targets is actually an advantage of partnerships. Nonetheless, prospective partners can sometimes be concerned with highly ambitious objectives that run counter to a home institution's risk management strategy. Many institutions will be selective when engaging in partnerships and concerned about their ability to live up to the partnership's obligations without assuming too much individual risk to their reputations (or finances). Once a partnership is well established, though, it may be easier for a risk-averse partner to accept ambitious or "stretch" targets. The Common Code's response has been that it is better to aim for perfection and miss than to aim low and achieve something ordinary. The partnership's targets are not being defined by existing resources or capacity. Instead, partners identify stretch targets, and then the secretariat continues to push the partners to aggressively pursue these and acquire the necessary resources. Since the 4C partners have come together to support the emergence of sustainability within the entire sector, one of their stated outcomes is to define a path toward sustainability, which entails setting ambitious targets and then working backwards.

In charting such a path to sustainability, it is also useful to identify the indicators and metrics that will help chart and report progress. Some potential outcomes may manifest themselves during the course of the partnership and were not conceived of at the beginning, so midcourse evaluations or even partner surveys can be a useful means of identifying and incorporating these. Partnerships need not expend great time and energy developing unique sets of indicators; there are several sets of existing, well-defined indicators and metrics from different sectors that may be applicable. As an example, infrastructure public–private partnerships have undergone a change in the way they report their outcomes. Initially, partnerships focused on the inputs; e.g., dollars spent on a project; or on basic outputs; e.g., kilometers of roadway constructed. Possibly influenced by private sector involvement, however, these partnerships are increasingly reporting outcomes in terms that are better understood by consumers and end users, e.g., amount of time saved on a commute. And while indicators are an important measure for reporting and accountability, their value as a learning tool within the partnership should not be underestimated.

In concluding the final session, panelists and participants were asked to identify the most salient ideas for enhancing the effectiveness of part-

nerships for sustainability, based on their own experiences in analyzing or engaging in partnerships. To do this, participants were divided into four discussion groups, each with a rapporteur, and asked to present their top three ideas for enhancing the effectiveness of partnerships. Although groups often identified more than three ideas, these ideas addressed three overarching themes, roughly categorized and summarized below: establishing a vision, creating decision support tools, and replicating success. Establishing a vision is a critical process in which a partnership will engage early on, where partners seek to align their different visions and identify key stakeholders, as well as objectives on which they can find common ground, or a common viewing point. Most participants agreed that everyone ought to be clear on what individual partners bring to the table, what they need from the table, and what the value-added is of everyone working together.

This clear understanding of incentives and rewards also relates to an important decision support tool: metrics. Since partnerships are voluntary activities, it is important for a partnership to design or utilize existing metrics that reflect the incentives of the partnering institutions and will allow the partnership to progress. Identifying the impact pathways up front will also help a partnership develop appropriate metrics. A previous review of agricultural research partnerships[1] revealed that most were not taking the time to do this, for example, to identify how a new crop variety would lead to positive impacts for farmers. And while metrics and indicators are valuable decision support tools, partnerships can also benefit from tools that help guide them through issue framing, expansion, self assessments, and other general processes common to these sorts of efforts.

Finally, this idea of lessons from which generalizations can be drawn relates to the third issue, that of replicating success. Many participants emphasized that partnerships will benefit themselves and other efforts by improving their reporting, and by involving external parties to do this analysis, documentation, and dissemination of both "best" and "worst" practices. These "lessons learned" are not easily located at present, and the transaction costs for an individual partnership to do so are generally too high. Yet early efforts to mine this extant knowledge, like the work of the United Nations Commission on Sustainable Development, or the Partnering Initiative, seem to demonstrate that there is value in such exercises.

Looking ahead, the lessons learned should inform existing and nascent partnership efforts, but there is also a need for "partnership basics" to be taught in a way similar to how general management is taught, so that more and more people have the skills necessary to work in a partnership.

[1] Spielman et al., 2007. *Sharing Science, Building Bridges, and Enhancing Impact: Public–Private Partnerships in the CGIAR*. International Food Policy Research Institute, Washington, D.C.

As much as one might want to reduce multi-stakeholder partnerships to a science, the case studies reiterated the point that successful partnerships can often attribute that success to skilled individuals keeping the partnership running.

VI

Partnerships for Sustainability: Examining the Evidence *Background paper prepared for the symposium*

Derek Vollmer
The National Academies

Despite the substantial body of experience with partnerships for sustainability, there has been considerably less knowledge generated concerning when and where the partnership approach might be most appropriate. This paper attempts to synthesize lessons emerging from relevant case studies on sustainability partnerships, drawing primarily from 11 papers commissioned as part of the National Academies' project to examine lessons learned, and supplemented with additional review papers and existing scholarly work. Partnerships offer several advantages over their more conventional alternatives, chiefly, resource mobilization, civil society engagement, and integrated "end-to-end" systems. Problem definition is a critical early stage for partnerships, and will determine who ought to be involved. Engaging potential end users and small shareholders (e.g., local farmers) is often essential. Understanding partners' incentives to participate is also an important success factor, since these drive the partnership activities. Benefits accruing from reputation appear to be a substantial motivation that is generally overlooked. The important role for national governments also tends to be underestimated or at least not fully realized as partnerships become operational. Effective partnerships tend to benefit from a flexible coordinating body (e.g., a secretariat) that facilitates the work of the partnership without overtaking it. Accountability is a potential weak point for partnerships, but in reality, partnerships generally entail multiple layers of accountability. However, there is still considerable room for improvement in the areas of monitoring, evaluation, and communicating these results to bolster credibility. This paper is divided into three sections: (1) insights into

the contributions of partnerships to a sustainability transition; (2) common themes from partnership experience; and (3) observations on the different classes or types of partnerships.

THE ROLE OF PARTNERSHIPS IN A SUSTAINABILITY TRANSITION

Partnerships and Sustainability Challenges

To most partnership practitioners, the question of whether or not partnerships are uniquely suited to address complex sustainability challenges seems to have an obvious answer: of course they are. However, the world of partnerships is not without its skeptics, and despite trends indicating that partnerships are on the rise, there are many within government, business, IGOs, and NGOs who remain unconvinced. The general benefits that partnerships offer are fairly well known, but whether or not they consistently deliver on these potential benefits is another matter. They are being promoted as a way to fill gaps, particularly the "implementation gap" between what is agreed upon and what is taking place. It has been noted that top-down planning has not been bringing about substantive on-the-ground change, and that there is a disconnect between national strategies and the political will and resources needed to carry these out (Scherr and Gregg, 2006). Moreover, global agreements generally lack the context and level of detail necessary to effect change at the local level (Hale and Mauzerall, 2004). Thus, partnerships seem to hold the promise of matching global and national strategies with the resources and expertise on the ground to realize sustainable development objectives, such as those of the Millennium Development Goals. At a functional level, multi-stakeholder partnerships have been in use for decades to deliver services and implement projects, and increasingly, they are forming at local and regional scales to address sustainability challenges. Despite this substantial body of experience, there has been considerably less knowledge generated concerning when and where the partnership approach might be most appropriate.

In her review of locally organized partnerships, Julia Steets notes that few of these locally driven efforts target areas such as health, and tend to cluster in areas such as agriculture and employment (Steets, 2005). This raises the question as to whether or not certain sustainability issues lend themselves to partnering. Posed a slightly different way, which issue areas *require* some form of partnering if they are to be sufficiently addressed? Given the regional nature of so many environmental and development challenges, it seems that a partnership approach that works beyond political boundaries is often the most efficient way to engage the right stakeholders and to craft solutions. The Sustainable Silicon Valley partnership provides

a useful example. Here, stakeholders from all different sectors and political jurisdictions are working together, motivated by shared regional concerns (initially, energy security, but later, water supply and urban sprawl) rather than a top-down directive.

The term "public–private partnership" in a development context used to elicit cautious responses, if not total opposition. This is based largely on failed attempts at full privatization of vital services; water being the most contentious. However, existing partnerships are quick to point out their distinction from privatization efforts, many of which were imposed rather than voluntarily formulated. Public–private partnerships in water, sanitation, and numerous other sectors have formed not only as a way to deliver services more efficiently, but also to attract private investment in areas in which the public sector has either lagged or is currently incapable of providing the necessary resources. Major global partnerships such as the SEED Initiative and Global Water Challenge have helped shine the light on these public–private partnerships. In fact, the subtext of this trend toward partnering has been an effort on the part of governmental and non-governmental actors to engage the private sector more directly in sustainable development efforts. This has also often required the public and civil society organizations to take a results-oriented approach, which businesses tend to favor.

One issue ripe for more public–private partnering is sustainability standards and certification. Certification schemes and standards already exist for many goods and production practices, but their sustainability "credentials" vary widely, as do their goals (e.g., organic versus fair trade). What is clear is that the most credible schemes involve independent verification, and to be widely effective, they must have buy-in from all stakeholders. Niche standards, such as the Leadership in Energy and Environmental Design (LEED) Green Building Standards, are a positive first step, but the challenge is in scaling these up to the level of industrywide standards. The Common Code for the Coffee Community (4C) represents one such effort, and although it has taken years to develop and is too young to fully evaluate its impact, it is nonetheless instructive. Within the private sector there is an increasing focus on supply chain issues, requiring corporations, both large and small, to look "upstream" to find ways to cooperate with partners.

Partnerships also offer several advantages over their more conventional alternatives. In addition to tapping into multiple sources of expertise, they facilitate access to different levels of expertise, which aids the diffusion of knowledge and learning (Andonova and Levy, 2003). They are well positioned to engage civil society, in both problem definition and implementation, both of which are critical prerequisites for assuring on-the-ground results (Scherr and Gregg, 2006). Moreover, they are also an avenue for local and regional action, even in the presence of deadlocks or inaction at higher levels (Andonova and Levy, 2003). Of course, this is manifesting

itself in the United States in the proliferation of climate change partnerships, which are progressing in the absence of clear federal mandates. At an international level, partnerships can serve a unique yet often underappreciated role in transformational diplomacy (U.S. Department of State, 2008). Complementing traditional channels, international partnerships provide a form of soft power that can yield benefits not only for security, but also for economics and general sustainability. Quantifying these benefits in comparison to measurable outputs is difficult but should not be overlooked. Finally, partnerships offer the opportunity to operationalize capacity-building efforts, which are consistently identified as a critical need for sustainable outcomes. As will be explored later, partnerships with plans to scale up or replicate successes should consider capacity building a central tenet of all their activities, not just an additional one-off exercise.

Partnerships as a Means Rather Than an End

Over the past several decades, governmental organizations, businesses, and NGOs have formed alliances to address specific challenges. This straightforward, utilitarian approach reflected the notion that a partnership across sectors was a means to an end. Partners were strategically selected based on their overlapping interests and complementary core competencies. These partnerships might be viewed as the typical "win-win" situation in which partners can meet their individual goals more efficiently through an alliance. However, as more and more actors adopted this approach and it moved from being an anomaly to a trend, this notion of partnering as a means to an end slowly eroded. The WSSD unknowingly shifted this focus, encouraging many to believe that partnerships would help fill the "implementation gap" and thus were an end in themselves. Indeed, there was a rush to form partnerships that could be announced at WSSD, and several hundred were announced shortly thereafter (Andonova and Levy, 2003). The U.S. Agency for International Development offered financial incentives, competitively awarded, to public–private alliances, and organizations began building on successful early efforts and forming new partnerships. This, however, has made governments and corporations vulnerable to criticism that their partnering efforts are little more than "greenwashing" or diversions from implementation failures.

Transparent monitoring and evaluation could go a long way to discrediting these claims, but as many have noted (Hale and Mauzerall, 2004; Witte et al., 2003), these recently formed partnerships often measure success through soft, qualitative metrics that measure the partnering process more so than the outcomes it may generate. This is not unreasonable, since there is a great deal of inherent value that is forfeited if partners do not view their collaboration as an outcome (El Ansari et al., 2001). Still, this

adds credence to the claim that these new partnerships are more diversionary than visionary.

Nonetheless, it is useful to view partnerships as a means rather than an end. It should be noted that partners may have different "ends" in mind when forming an alliance, but as long as they are clear and open about their own incentives and goals, this is not an impediment to an effective partnership. Zadek et al. (2001) brilliantly separated out "endearing myths" from "enduring truths" about successful partnerships, and point out that partnering organizations need not share common interests or goals, so long as the partnerships contains the right combination of institutional mandates and delivery mechanisms to achieve the individual aims of each partner. Their efforts to decode private sector incentives also suggest that businesses are increasingly engaging in partnerships as a risk management strategy to develop new markets and to comply with legal obligations. Manga and Shah (2004) echo this in their examination of business-led partnerships and observe that corporate involvement, at least in the cases of successful efforts, is not focused on philanthropy.

Understanding the incentives of respective partners is a critical factor for success, as will be explored later. Partnerships target problems strategically, and cluster where interests overlap; in other words, they will not necessarily emerge in areas most in need, but where the incentives exist for collaboration (Andonova, 2006). Furthermore, "being in a partnership" is not the sort of incentive that will lead to a successful effort, and instead leaves partners open to criticism that the partnership is a substitute for meaningful individual action. Incentives will generally be unique to individual partners (e.g., a government agency has a mission it seeks to fulfill, while a corporation might be seeking to profit financially), although there are some common incentives, such as benefits associated with reputation and risk reduction, that can be generalized.

Partnerships, Science, and Technology

If one accepts that science and technology (S&T) have a critical role in meeting many sustainability challenges, then it is worthwhile to explore the relationship between partnerships and S&T. First, are partnerships particularly effective in validating the scientific merit of ideas or solutions? There are certainly examples of this being the case, although the process is much more nuanced than a simple validation. Partnerships offer the opportunity for more "end-to-end" systems, an alternative to the more typical stove-piped or unidirectional approaches to development. Specifically, they offer—and should be defined by—three important characteristics: user-driven problem definitions, ongoing user–producer dialogues, and a safe space for collaboration and innovation, all of which have been identified as

critical to better linking knowledge with action for sustainable development (NRC, 2006). Granted, not all partnerships exemplify these. In particular, many global partnerships continue to be criticized as "donor-driven" rather than demand- or user-driven. Nonetheless, the most successful partnership efforts will be the ones that engage end users at the outset in developing sustainable solutions, e.g., having farmers substantially involved in initial discussions of an agricultural program.

Research-oriented partnerships provide an opportunity to "fast-track" the validation process and more efficiently establish research priorities, combine basic and applied agendas, adapt to new learning, and move effective solutions into commercialization. In the U.S. experience, government laboratories, universities, and industries have a rich history of collaboration, and much of this experience is relevant to emerging sustainability challenges. The FreedomCAR and Fuel Partnership is one such recent example, in which U.S. public and private partners are cooperating to support the wide variety of research needs to enable a transition to a sustainable transportation infrastructure (NRC, 2008). The Green Chemistry Institute provides another example of a sustainability challenge so complex that no actor could address it in isolation, and no amount of regulation could address all of the intricacies. Not all challenges require high-tech solutions, although indeed, there is likely much to be gained through a better understanding of low-tech, indigenous knowledge in several sectors, notably agriculture and health. Moreover, research partnerships need not be restricted to major national or global efforts, although the chronic underfunding of research and development into public goods is well known, and makes this an area to which it is difficult to attract private investment (which accounts for roughly 60 percent of total R&D expenditures, variable by country). Nevertheless, partnerships which engage the private sector early on stand a better chance of having their successes validated and potentially scaled up. The Alternatives to Slash and Burn Programme (ASB) provides an example of an integrated approach which has been able to link local knowledge and research with a more global agenda. Through its unique connection to global actors, ASB has conveyed information on smallholder and indigenous land systems which helped these systems become less marginalized or dismissed as "primitive" (Tomich et al., 2007).

This general movement toward more dynamic innovation systems, broadly referred to as open source, has branched out beyond its beginnings in the information technology community. Recent proposals for open-source approaches to drug design,[1] "patent pools" to separate R&D

[1] Samir K. Bramachari, Director-General of India's top research body, the Council of Scientific and Industrial Research (CSIR), advocated this approach to combat tuberculosis in November 2007.

from drug production,[2] and an "Eco-Patent Commons" to aid technology transfer[3] all suggest that this open innovation approach is gaining traction, and partnerships will almost certainly be required to carry out such approaches. One might even argue that the whole partnerships movement, which encourages cross-sector collaboration to identify more effective solutions to sustainability challenges, is a form of open source. However, the success of open-source collaboration is predicated upon users all having the same access to information, and building upon that information. At the individual partnership level, partners that might otherwise be working on a solution in isolation can work collectively. Yet at the global level, it is indeed difficult to see how practitioners within these individual efforts are learning from other, similar efforts, leading to overall sectoral or systemic improvements. There are an increasing number of knowledge networks forming to link practitioners, but it is too soon to tell whether or not such networks are having a demonstrable impact on moving the field forward.

On the flip side, it is worthwhile to consider whether or not science is particularly conducive to partnerships. After all, science is by its nature international and thus amenable to global collaboration. Science also relies on common methods, holds basic values vital to effective partnerships (including accountability, transparency, and objectivity), and it speaks a common language (NSB, 2008). However, the language of the science and engineering community is not always effectively communicated outside of the community. Ultimately, science communication must improve to reach a broader audience if it is to have the impact that it promises. This is an area in which partnerships with other sectors can go a long way toward encouraging that change, as the scientific and engineering communities become increasingly engaged with non-technical audiences that have different needs and time frames.

Partnerships and Resource Mobilization/Expenditure

Resource mobilization is the most well-known potential benefit of partnerships. The most successful partnerships are generally well resourced and backed by high-level commitments from the leadership of all partnership organizations, which helps move the required resources. Resources go beyond financial contributions, although this is a significant factor, since most partners aspire to see their own funds leverage additional funding.

[2] The World Health Organization's Intergovernmental Working Group (IGWG) has been discussing patent pools for pharmaceutical research and production though this remains a contentious issue.

[3] The World Business Council for Sustainable Development (WBCSD) and its partners have already compiled a portfolio of environmental, resource-saving technologies appropriate for developing countries.

Partners also contribute in-kind resources and "core competencies," the oft-cited unique qualities that actors in a particular organization or sector possess. Sometimes these core competencies are likely overstated and not leveraged to their full potential. Global Water Challenge partners from the private and NGO sectors expressed surprise that the private sector partners were not being asked to contribute field expertise or specific knowledge (e.g., of supply chain management) to projects. In the Sustainable Forest Products Global Alliance, managers commented on the difficulties of engaging local communities, an area in which USAID has considerable experience but which is apparently not feeding into the partnership. These and similar examples suggest that overcoming the traditional role of private sector and government partners as funders but not implementers is more difficult than anticipated.

Engaging the private sector appears to be a top priority for partnerships and organizations interested in partnering, yet progress on this front has been slow to materialize. Nonetheless, especially in the context of developing world challenges and emerging markets, there seems to be increasing evidence that private investment will play a crucial role in filling gaps and helping meet needs. Strengthening private sector participation has been a recurring theme at the UN's Commission on Sustainable Development (CSD) meetings, echoed by both ministers and practitioners (ECOSOC, 2006). This is perfectly reasonable, given that foreign direct investment (FDI) outpaces official development assistance (ODA) by a factor of greater than 40 to 1. In fact, more than one-quarter of ODA is spent on improving the investment climate for private investment, and public–private partnerships may be a key tool in using future ODA to catalyze greater private investment (OECD, 2005). However, FDI is also notorious for seeking high returns and tends to concentrate in areas experiencing growth, not necessarily areas in need. Nonetheless, the partnership model offers one mode of guiding this investment into areas that are traditionally underserved. Industry likewise leads the way in supporting global R&D, though public sector support is nearly as much, and in many countries, is the primary funding source for R&D. Public sector funding can be more effective in guiding private investment to various R&D activities, particularly through partnerships, which are also well suited to identifying areas critical to sustainability, but are currently suffering from low investment.

To date, much attention has been focused on how to make the business case for the private sector to become involved in partnerships. This is natural at a project scale, and there are certainly numerous opportunities for entrepreneurial partnerships that can ultimately become self-sustaining. In fact, some partnership programs require that business partners take a financial self-interest in commercial success so that they take on entrepreneurial

risk, which is viewed as the best guarantee for sustainability of the project (Altenburg, 2005). However, there also appears to be a major opportunity to leverage another asset that corporations value—their reputation. As the Smithfield Foods case points out, companies are increasingly recognizing that their reputation is a significant and potentially growing percentage of their value. There also appears to be a trend in global companies addressing global challenges as part of their corporate social responsibility (CSR) efforts (Hurrell and Tennyson, 2006). CSR is often dismissed as public relations or greenwashing, but the reality is more nuanced. Initiatives like Global Water Challenge (GWC), which is driven by major multinational corporations, represent the interrelation of economic and reputation risk; participating multinationals are major water consumers, and though they do not stand to profit directly from their involvement in the partnership, they nonetheless all cite important benefits to leading such an initiative. Companies, particularly global brands, tend to be highly conspicuous in the communities in which they operate, and therefore, if they are not viewed as part of sustainability "solutions," then they are almost categorically labeled as part of the problem. Moreover, corporate action is based on risk assessment and calculation. In the case of GWC, corporate partners used risk assessment results to conclude that ensuring sustainable resource supplies meant that they would need to go beyond their four walls and proactively engage other community actors. Increasing the efficiency at a specific plant would mean little in the long term if a resource was being unsustainably exploited or polluted elsewhere in the region. By definition, however, global companies manage operations in multiple regions, and thus have the opportunity to effectively encourage or even require that sustainable production practices be implemented. Partnerships offer the means of engaging other regional and local stakeholders, seeking solutions with multiple ancillary benefits, and potentially leveraging public subsidies for projects, which is another attraction for the private sector (Andonova and Levy, 2003).

Often, FDI—and to a lesser extent ODA—are predicated on sound national governance, which provides a suitable investment climate. Sound and receptive governance is also usually cited as a critical factor in scaling up pilot projects. Linking national priorities (e.g., poverty reduction) to existing partnership efforts is one way to engage a national partner and access additional funding (Tomich et al., 2007). However, this also suggests that national governments participating in a partnership may also have an important but overlooked role in engaging counterpart governments (from developed *and* developing countries). To date, it is unclear to what extent development and diplomatic agencies are considering this as one

of their core competencies.[4] Instead, asymmetries persist where national governments of developed countries partner with either international organizations or local partners. More attention to engaging host-country governments could yield substantial benefits.

Possible Success Factors and Areas for Improvement

Though partnering as a field is far too complex to have a blueprint for success, there are certain recurrent themes that can be broadly applicable. First, in almost every case, there seems to be an important role for a facilitating agent, both in brokering the partnership and in managing it once it is formed. It is no secret that partners often engage in these activities at the margins of their everyday work, making it especially difficult to keep everyone on the same page. There are examples of partnerships forming organically, a result of individual champions from several sectors converging on an issue and agreeing that they should somehow work together to address it. More often than not, though, there is at least a behind-the-scenes facilitator, which is either the first to recognize these synergies or is well-positioned to make the connections. Foundations and other NGOs can play this role well. Regardless of how the partnership forms, if it is to grow and become operational, it will rely on an able facilitator (which may be the broker or a newly created secretariat) to keep it functioning. Partnerships that fail to identify this facilitator role, or conversely, turn it over too quickly to an existing organization, tend to quietly fade away without realizing their full potential.

For each individual partner, it is useful to have "interface capacity" within their own institutions; this often requires some level of institutional reform, with the ultimate goal of integrating partnership-related work into the broader institutional framework (Witte and Reinicke, 2005). The partnership itself offers a safe space in which to be innovative and work across sectors (NRC, 2006), but without institutional support, the partners may find it difficult to marshal the resources necessary to be effective collaborators. This institutional support includes policies, knowledge, tools, and financial resources specifically dedicated to partnering. There is evidence of this happening within development agencies, the UN, the World Bank, and several other actors, but it is still likely an area for growth.

While it seems logical that partners would seek other partners based on ideal characteristics, such as their level of interface capacity, partners in fact select other partners not systematically, but by familiarity. Partners tend

[4] One effort of note is OECD's Paris Declaration on Aid Effectiveness (2005), a high-level agreement among hundreds of Ministers, which stresses national ownership of development aid projects.

to be building on existing relationships at the institutional and personal levels, whether these are formalized through other alliances, or less formal, such as participation in or joint sponsorship of events. This may be another important factor for success, since trust among partners appears to be the bedrock of effective partnering efforts (Hemmati, 2002; Tennyson, 2003). Trust-building can take years, and while it does not preclude previously unacquainted partners from successfully collaborating, it does allow those that have established that trust to quickly make a partnership operational. Even partners that might be described as strange bedfellows or adversaries can and do become effective partners, based in large part on an existing relationship and a level of mutual understanding. It is not imperative that partners be unified by a common goal. What is most important is finding the right combination of organizations to secure necessary institutional mandates and delivery mechanisms (Zadek et al., 2001).

Two classes of partners that are indispensable to effective partnerships are end users and local and small-share stakeholders. Depending on the partnership, these may be one and the same (e.g., a project to support small-share farmers). End users are on the demand side of the partnership equation, but many recent partnerships, particularly at the global level, have been accused of being donor-driven rather than demand-driven. Engaging end users at the outset is no small feat, as they are likely to be diffuse and may not be able to articulate their needs relative to what a partnership could deliver. Small-share and local stakeholders may have difficulty speaking with "one voice," which can make an already fragmented system even more fragmented, but as partnership efforts such as the Common Code for the Coffee Community have shown, creative solutions such as holding pre-meetings specifically for these stakeholders to deliberate can yield important benefits. This also helps mitigate power imbalances resulting from large governments, NGOs, and corporations attempting to work hand in hand with less organized groups. In some cases, NGOs may be able to "represent" these interests, but in most cases, it is critical to engage the stakeholders more directly. Actively engaging local or small-share stakeholders also helps a partnership access indigenous knowledge, which can be crucial to both the success and the sustainability of an initiative. Engaging all relevant stakeholders also has implications for ownership and responsibility. In the Agua para Todos case, local ownership is identified as being particularly critical to the success of the partnership; local owners are true owners because they finance part or all of the water distribution networks in their communities. The Global Water Challenge also places an emphasis on local ownership and seeks to identify creative financing mechanisms to make this a reality.

While the next section addresses some more specific success factors and areas for improvement, one general area in need of improvement in

almost every partnership, and which has direct implications for how they define success in the first place, is partnership monitoring and evaluation. As has been suggested, there has been an emphasis on qualitative data and metrics, which might reflect success in terms of positive collaboration, but which give no indication of how successful the partnership has been as an intervention to deliver the goods. These metrics may be sufficient for the partners in a partnership to justify continuing their participation or replicating the experience, but they rarely offer enough justification for new organizations to enter the partnership, or for large agencies and corporations that are reviewing the role of partnerships in their strategic plans. This monitoring and evaluation area has many challenges, which will be explored in more detail shortly.

LESSONS FOR PRACTITIONERS

This section identifies some of the lessons from the partnership experience that cut across issue areas. There is a healthy body of literature on lessons learned for partnership practitioners, much of it coming out of the International Business Leaders Forum (e.g., Tennyson, 2003) and the Business Partners for Development (BPD) series, which itself grew out of a multi-stakeholder partnership.[5] The following sections build on those early lessons and draw from the 11 commissioned case studies and other recent partnership reviews. In order to foster cross-cutting dialogue, it is organized into broad themes and attempts to identify some common challenges and potential solutions.

Problem Definition

One of the first advantages that a partnership approach brings to sustainability challenges is that it can identify highly specific problems and solutions, which help make sustainability issues more tangible (Hale and Mauzerall, 2004). Providing a clearer directive is no small feat, given that sustainability challenges are often complicated by fragmented knowledge systems, a low demand for public goods, and a lack of clear leadership or authority guiding action (NRC, 2006). Therefore, the problem definition stage is critical because it determines who ought to be at the table. Effective partnerships have gone through this stage deliberatively, surveying what else is being done in the field, examining where partners' comparative advantages may lie, understanding the context of the problem they seek to address, and engaging the right combination of partners. Involving end users at this stage is paramount. This appears to be a shortcoming of

[5] More information is available at *www.bpdweb.com.*

many existing partnerships—those characterized as donor-driven rather than needs-based—but addressing this early on helps identify appropriate solutions and avoids the proliferation of "solutions searching for problem." The Multilateral Initiative on Malaria offers one example of this process. The partnership grew out of a series of deliberative meetings, beginning with major international health organizations, but informed by African scientists' participation, organized into ten discussion groups to identify research priorities. The Global Water Challenge (GWC) developed its mission and objectives after a number of meetings with stakeholders to flesh out the most important issues that the partnership should address.

Effective problem definition must go beyond the general terms that are appropriate for a partnership's motto or as bulleted points on an outreach brochure, but insufficient to articulate how the partnership itself is best suited to address the problem. In fact, partners need not be nor are they generally motivated by the same problem. This can be viewed as a strength rather than a weakness of partnerships. They can offer a synergy when partners face differentiated but interrelated problems in their own work streams, which together add up to a sustainability challenge. The important act is putting those pieces together. This goes back to the idea of a partnership as a means to an end whereby partners, in the right combination, have the necessary mandates and resources to jointly achieve their individual goals *and* the goals of the partnership (Zadek et al., 2001). The Green Power Market Development partnership was successful in framing its issue in a way that appealed to its corporate partners, and in pooling existing interest in renewable energy into a particular direction. Partners must also be cognizant of the fact that broadening their scope, or framing it slightly differently, can be an effective way to secure additional funding or support. In the Alternatives to Slash and Burn (ASB) partnership, the Cameroon government became involved once project goals, which had previously been focused on agriculture, were also linked to poverty reduction (Tomich et al., 2007).

It may be useful for partners to work on identifying a "solution" and then working backwards. This allows partners to envision the entire system within which they are working. The FreedomCAR and Fuel Partnership is good example of this, where the various industry and government partners map out what a petroleum- and emissions-free transportation system in the United States might look like, and then identifying the steps needed to enable the various pathways and coordinating efforts in basic and applied science, along with policy development (NRC, 2008). Even localized challenges are often more complex than what a single on-the-ground project can address. Global Water Challenge (GWC) partners expressed interest in addressing the "root" of systemic problems in the water and sanitation sectors, and noted that project-centered approaches often repeated similar

mistakes without learning from one another, were not yielding transformative results, and generally did not consider the sustainability of the intervention. The ASB experience reflects this well, as its approach went through stages over the years, beginning with what partners characterized as "technological optimism," which was replaced with "win-win" strategies (combining technological change with institutional reform), and ultimately became "negotiation support," which included managing the conflicting interests and necessary trade-offs (Tomich et al., 2007). As will be explored later, partnerships need not endure forever, and in fact, this is generally not considered a long-term, sustainable solution. Thus, it is important that partners understand the systemic nature of the problems they seek to address, so that they can develop projects and interventions that will sustain themselves even if the partnership dissolves.

Incentives and Drivers

Partners come together for a variety of reasons, and so understanding these motivations is important, not only for the sake of trust-building and collaboration, but also in understanding the goals of individual partners, and how pursuing those goals might also benefit the partnership's goals. The generic incentives and drivers are well known (e.g., leveraging funds, minimizing risk) but drilling down a level reveals that partners are not always motivated primarily by these traditional partnership benefits. In particular, reputation seems to be a significant driver, especially for private sector partners, but this is often underestimated or written off. However, it is important to recognize that private sector partners can be drawn into partnerships even if they do not stand to directly profit from their involvement. Much recent focus has been on developing entrepreneurial partnerships that have the potential to pique private sector interest, but these economic motives might be overstated, and ignoring reputation-related benefits means missing opportunities. As the Smithfield Foods case points out, the role of corporate reputation is becoming more and more tangible in its importance to customer loyalty and long-term stock value. One additional point here is that NGOs often also have brands and reputations that are affected by their participation in a partnership, and this has prevented many from participating and led others to withdraw from partnerships. The primary tension may be in an NGO that occupies a "watchdog" role and believes that entering a partnership will compromise its ability to maintain that role. There can also be general unease in collaborating with the private sector; government must answer to concerns that it is abdicating responsibility and corporatizing or franchising away some of its functions. Fair or not, partnerships bring these matters to the forefront, and effective collaborations with a clear understanding of partners' motivations should

be able to overcome them. One way to overcome these misgivings is by building on existing relationships, and it seems that most partnerships are doing this. As mentioned earlier, these existing relationships breed trust which becomes the foundation of a successful partnership, and also helps partners understand one another's incentives to join a partnership. This then also helps the partnership to be results-oriented and issue-driven, two characteristics that many successful efforts seem to share.

Although the public–private mix of partners can sometimes be labeled as strange bedfellows, partners from all sectors have been leaders in the field of sustainability. This may be important, as it suggests that partnerships may not be the ideal vehicle to change institutional behavior (though this can be an ancillary benefit). Instead, effective partnerships have succeeded by catalyzing similar interests into a collaborative activity. Interestingly, the Green Power Market Development Group experience showed that corporate partners were motivated not by economic benefits of green power, but in the environment- and reputation-related incentives for engaging in the partnership. The facilitating partner, the World Resources Institute, framed it as an opportunity for corporations to lower or stabilize operating costs by purchasing green power, but the firms reported that they fully expected to pay a premium for this power, but were nonetheless motivated by environmental benefits (a key regulatory concern) and benefits for their reputations with communities and shareholders. In addition to regulatory requirements, which may lead corporations into partnerships in order to become compliant, corporations are also increasingly subject to supply chain requirements with sustainability components. The Smithfield Foods case highlights this well, where its 20 largest customers, including Wal-Mart and McDonald's, have sustainability specifications in their contracts. This benefits the reputation of the corporate customers, but also gives them significant leverage, which may have a positive impact.

Major Challenges

In addition to the sustainability challenges partnerships seek to address, the partnerships themselves face several unique challenges, many of which are common to the field across both scales and sectors. Many partnerships cite resource constraints as a major challenge. This does not necessarily imply that partnerships are not mobilizing sufficient resources. Rather, they are challenged to maintain a steady flow of resources, which means identifying the right portfolio of investment targets to attract funding partners, which may change over time; and often, to evaluate their individual participation on short time scales. The ASB partnership pointed out that these sorts of uncertainties make capacity building (training and institutional strengthening) activities difficult to fund because they require longer

time frames and funding partners may consider them tangential (Tomich et al., 2007). Microfinancing small-scale systems is often another huge barrier to overcome. Experience suggests that small to medium-sized loans or grants are actually more useful to local partnerships than are large financial contributions (Steets, 2005). For project-based partnerships, partners often seek to demonstrate that solutions can be scaled up or replicated, but this presents a significant challenge if partners do not consider this at the outset of the activity. It can be useful to immediately identify the entrepreneurial incentives that support scale-up, which also prevents the partnership from fostering a "recipient" culture (SEED, 2007). Without additional sources of financing, or sufficient connectivity to national actors and knowledge networks, it becomes difficult if not impossible for a successful effort in the field to gain traction.

National governments are continually cited as a missing link in many partnership activities. They do not necessarily need to be formal partners, but many partnerships lack even a connection. Issues of global importance may not be high enough on national agendas, meaning that even if a country has the financial resources to support successful activities, it may lack the capacity or even just the vision to mobilize these resources.

For the 4C partnership, initial political acceptance of the sustainable coffee code was not well received, and this led to a rift between industrial partners and producer countries. The solution was for the secretariat to make more trips to producer countries to establish structured dialogues, which ultimately kept the partnership's progress on track. While secretariats or influential partners can play this role of intermediary, there seems to be untapped potential in national governments (particularly through diplomatic and development agencies) to leverage their existing connections in support of partnership activities. Currently, many national governments provide financial and in-kind support, but their direct participation as a partner can be awkward in cases in which there may be no governmental counterpart. National governments may be able to play a more effective role as tacit partners, staying connected to any on-the-ground activities, but in parallel, working on building the institutional and policy frameworks that support successful scale-up and replication.

Governance, of course, is not only a challenge external to partnerships, as many partners struggle with developing a suitable governance structure for the partnership itself. These issues are not trivial. Partnerships struggle with questions such as: *What is the role of NGOs on a board when they also receive funding through the partnership? How do organizations of different sizes and resources have an equitable voice within a partnership? How should this partnership be held accountable to partners, let alone external stakeholders that might be affected?* Community relations and local stakeholder engagement can be particularly challenging. For partner-

ships like GPMDG, which originally did not anticipate engaging people at the local level, partners ultimately realized the value of public consultation and environmental impact assessments, which made them more accountable to locally affected communities, but also improved relations within those communities.

Finally, even when a partnership has addressed these challenges, it is still vulnerable to competition, either between partners or increasingly, from other partnerships. Large partnerships that engage multiple governments, NGOs, and/or private corporations must often confront the reality that they are convening a group of actors that are working individually on similar challenges, and therefore, in at least some respects are competitors. However, several partnerships (including GWC and SSV) have shown that, by providing a non-competitive, open forum for discussion, competitors have been thus far willing to cooperate in a non-competitive manner. What is potentially more challenging for partnerships is that they can be crowded out by competitor partnership efforts. The Green Chemistry Institute has faced recent challenges from new partnerships or initiatives with strong and vocal champions. The Multilateral Initiative on Malaria has faced challenges from results-based global partnerships which, fair or not, seem better able to generate support than do research-based efforts. While there is something Darwinian about competition among partnerships, there is also a danger of having effective partnerships crowded out by effective marketers and communicators. This signals the importance to a partnership of clearly articulating its niche, explicitly defining its objectives, and widely disseminating its outcomes.

Program Management

A partnership's flexibility makes it unique, and this "blank slate" opportunity can energize partners as they formulate new partnerships. Inevitably, though, most of these efforts move in the direction of becoming institutionalized. This takes various forms, many of which are neatly summarized by Tennyson (2003). Partners themselves need to determine what form, if any, is most desirable. The academic community has focused recent inquiry into the impacts that partnerships may have on global environmental governance, and while there is no consensus, it is apparent that partnerships do offer an opportunity for "results-based governance" based on their flexible structure and diverse expertise, and relying on voluntary problem solving and self-regulation (Backstrand, 2006). Still, there is a dearth of information offering guidance on when and how a partnership can most effectively govern itself.

What has become clear from the various case studies is that effective partnership managers (secretariats, institutions, etc.) are *facilitative* and

not necessarily asserting ownership. Partners ought to be careful not to rush to this stage, and indeed, some partnerships may be better off dissolving before reaching this point. Many partnerships have formed within an existing organization—often an NGO— that can serve as an incubator until the partners reach what they consider to be a critical mass of partners and resources. But creating a lean and independent coordinating office does offer several advantages to the partnership. First, it can downplay identity dynamics within the partnership effort, if it is otherwise perceived as being dominated by either a host institution or a strong individual partner. Second, it can significantly reduce transaction costs for individual partners, in terms of identifying projects, managing communication among partners, and handling outreach and interface with the broader public. Third, it can be an efficient arbiter of resources. A partner to REEEP summarizes this succinctly by stating that "REEEP money is smart money." In other words, partners are able to continue supporting the partnership effort, while being able to take a step back from day-to-day decisions, based on a level of accumulated trust in dedicated staff.

A centralized staff can facilitate communications, but partnerships also benefit from open and diverse lines of communication. The East Coast Fever partners communicated through scientific conferences and telephone and email correspondence, in addition to their regular annual meetings. The Common Code partners elected to establish tripartite working groups to engage a wide range of people in the coffee chain. In addition—and this seemed to be a critical innovation—the partners encouraged stakeholder pre-meetings to allow less organized stakeholder groups to form a "voice." Compounding the conventional communication challenges that partners cite (e.g., partners from different sectors speaking "different languages") is the fact that some partners are not nearly as organized as others and as a result are either ignored or even worse, become adversarial. However, partnerships that have succeeded in reaching out to these more disparate or underrepresented parties have found the extra effort to be invaluable. It provides not only additional buy-in, but it is also certain to be more representative than relying on the perspective of an external NGO or consultant.

Finally, partnerships focusing on the developing world need to engage local constituencies not only as partners, but also, eventually, in their leadership. The Multilateral Initiative on Malaria (MIM) is an instructive example here. Following its first partnership review, evaluators suggested that MIM establish a "small but powerful" advisory board with a strong African voice, and that MIM should plan to transfer the secretariat to an African institution. This has been no small undertaking, but one factor that has aided the transition from being located in Stockholm to Dar es Salaam is that MIM had been actively recruiting young African talent to eventu-

ally be part of the future leadership and championship. Given the hesitance that many global partnerships have shown to transferring leadership and resource control to the developing world, this idea of building this capacity over time may be a useful one.

Legitimacy and Accountability

As mentioned earlier, a growing body of academic literature is focusing on the impact that partnerships may be having on governance, and some of the key concerns revolve around legitimacy and accountability (or lack thereof). However, before rushing to build new institutions, it is worth examining how partnerships can be made more legitimate, transparent, and accountable (Backstrand, 2006). Critics argue that partnerships potentially give rise to corporate power or weaken the existing order, and it is true that many partnerships suffer from a lack of effective monitoring and evaluation, and that they are not held accountable in conventional ways. But *increasing* accountability may actually be a driver, particularly for private sector partners, and so accountability procedures should be agreed upon early and made a central part of any partnership agreement (Tennyson, 2003). The National Science Board echoed this sentiment with regard to science and engineering partnerships, contending that accountability is integral to assuring that "research integrity is a priority and that funds are used appropriately" (NSB, 2008).

When the question of how partners and the partnership might be held accountable is posed, partners often point to a tacit accountability structure in which partners are responsible to one another. Less direct accountability may leave partnerships vulnerable to criticism, but the internal accountability dynamics may prove to be a viable alternative to the traditional regulatory, watchdog, shareholder methods for holding an actor accountable. However, this does little to hold the partnership writ large accountable to other affected stakeholders. In this case, indirect or horizontal accountability mechanisms may in fact be most appropriate (Steets, 2004), where partnerships (and individual partners) are held accountable to a broad range of stakeholders, mostly through the traditional channels available within each stakeholder group. There may also be existing mechanisms appropriate for a partnership: the Smithfield Foods partnership bolstered its accountability by relying on an external reporting regime (facilitated by Ceres) to satisfy its partners.

There do appear to be some limitations to partnership accountability. Within a partnership, asymmetric accountability can undermine the partnership's effectiveness. The Sustainable Forest Products Global Alliance shows evidence of this, as private sector partners balked at having to report back to the U.S. government, and the U.S. government in turn was

not providing any sort of report to its partners. As a whole, partnerships are sometimes wrongly held accountable for more than what the partners' individual drivers or mandates allow. While it is justifiable to criticize a lack of ambition or openness, partnerships should not be held accountable for not achieving goals that the partners themselves have not identified (Caplan et al., 2007).

Assessment

Another complicated issue for partnerships is assessment, which refers to both internal progress assessments, as well as any sort of external impact assessments. It is worth noting that monitoring and evaluation (M&E) will likely require a longer time frame and larger budget than partners are used to gather a sufficient level of data (IEG/World Bank, 2007). Partners also need to give careful thought to the metrics it wants to use, since not every impact or outcome can be quantified. Tightly defined data measurements can miss broader external issues, as well as internal, institutional issues (Caplan et al., 2007). Evidence related to quality, equity, local ownership, and political and financial feasibility have all been identified as being fundamental to improving outcomes (El Ansari et al., 2001).

A critical aspect of assessing partnerships is measuring their "added value," which means calculating their incremental contribution versus other activities that are taking place, as well as the most likely alternative that individual partners might have pursued (Mitchell et al., 2001). The scale of measurement should be quantitative wherever possible to avoid describing activities in depth at the expense of measured results (Mitchell et al., 2001). Partnerships such as the Global Water Challenge are starting to invest larger amounts in M&E—sometimes this is all they contribute to ongoing projects—because partners contend that it is critical to develop local monitoring capacity alongside on-the-ground projects, and that the results of this monitoring can help inform their decisions regarding future support. However, partners have noted a tension between a desire to loop learning back into practice and the desire to do more projects, and this tension is certainly common to countless other partnerships.

Other partnerships impose tightly defined assessment requirements. The Renewable Energy and Energy Efficiency Partnership, for example, requires a general impact assessment for each project (done ex post), which assesses both climate impact and scale-up potential. While projects are underway, they are required to submit quarterly reports detailing outputs, impacts, time frames, risks, and even media coverage. The Sustainable Silicon Valley partners utilized an environmental management system (EMS), a set of processes with which all partners were already familiar, and which

may have been a key to their early success. The EMS provided a common tool, which was supplemented by monitoring and performance reviews.

Identifying and communicating some of these "softer" metrics is still an important challenge. Institutional reform within a government agency, for example, is an important but generally overlooked achievement (Tennyson, 2003). Even attitudinal changes (e.g., NGO perception of business and vice versa) can be significant outcomes, but are rarely captured (Warner, 2002). For the East Coast Fever partners, their collaboration resulted in several organizational innovations, notably within the International Livestock Research Institute (ILRI) to help foster public–private collaborative research. The partnership's market-oriented, results-based outlook encouraged ILRI and partners to focus on producing real outcomes.

Partners, of course, also generally evaluate their own participation within a partnership, and this can sometimes be on short time frames, which leave fledgling partnerships vulnerable. It may be necessary for partners to strategically assess exit strategies, phase-out, or organizational and financial transitions (IEG/World Bank, 2007) to avoid having the rug pulled out by one partner's withdrawal, or to relieve a perpetually anxious secretariat staff. The East Coast Fever team again provides a valuable lesson, in terms of knowing when to end a partnership that was not achieving its desired results. This decision freed up resources and protected goodwill among the partners. In fact, documenting and disseminating these sorts of "failures" could be one of the most valuable contributions that existing partnerships might make to future efforts. Conventional wisdom has been that partnerships are too vulnerable to losing their support if they are open about shortcomings or failures, but this might be more fiction than fact.

OBSERVATIONS ON PARTNERSHIP CLASSES

Given the diversity of forms a partnership can take, and the fact that many partnerships "feel their way" rather than follow a template, it is not easy to classify them as a particular type. While there are a handful of typologies developed specifically to categorize partnerships, the typology put forward here[6] is an attempt to identify the key outcomes a partnership might deliver. Even if partnerships do not neatly fit into one category, or are pursuing multiple, diverse objectives, this typology can still be a useful lens to cross-analyze each distinct aspect of a partnership. It could help partnerships strategically assess where their relative strengths are. The Green Chemistry Institute provides a good example of a partnership that has resisted the foray into research, recognizing its niche (and the perceived need): to focus on bridging gaps between stakeholders within the research,

[6] See "Research Methodology and Context" for the full discussion of the typology.

development, and demonstration (RD&D) continuum. Cut another way, the typology could help particular actors determine which type of partnership plays to their core competencies. National governments, for example, seem best suited to engage in joint research or disseminate science-based information; their financial and political support for on-the-ground activities are also crucial, but their role as an equal partner in these efforts tends to be hampered by power imbalances and institutional inflexibility. The following sections detail some insights into the unique characteristics of these different classes of partnerships for sustainability.

Action-Oriented Partnerships Providing a Good or Service

Part of the appeal of entering into multi-stakeholder partnerships is that they are billed as a new way of *doing business*. Not surprisingly, then, much of the cumulative experience with partnering comes out of this type of public–private alliance. The public sector (including NGOs) identifies a needed good or service and then facilitates private sector involvement in providing it. The challenge is generally in finding a way to make these projects profitable and therefore attractive to private investors; if they assume some entrepreneurial risk, it demonstrates that they are dedicated to finding creative ways to profit from their involvement. Public sector partners provide a number of supporting roles, both tangible (market development) and intangible (legitimacy). Looking at the current wave of partnerships for sustainability, it seems that almost everyone wants to be doing these sorts of projects, for a number of reasons. First, they tend to have demonstrable and direct benefits to human populations; it is difficult to argue against a project that could deliver water and sanitation services or more efficiently provide health care. Second, and somewhat related, these sorts of partnerships may have the easiest (or at least most recognizable) metrics. They can measure number of units installed, or number of people affected, which is generally important to all parties when it comes time to review the effectiveness of the partnership. Finally, at the global level, this emphasis on projects follows from WSSD's emphasis on implementation. If broad international agreements are not being fulfilled, it is necessary for everyone to roll up their sleeves and get involved on the ground.

However, practitioners in the field will point out that there is not a shortage of projects. Instead, the challenge is in developing and implementing *sustainable* projects, and if appropriate, to scale these up or replicate them elsewhere; in other words, not doing more, but doing better. Successful projects will be locally determined, and ultimately locally owned, unless the implementing partners are willing to continually provide monitoring and technical support. Local governments seem to be a crucial missing link in many partnership efforts, often acting more as passive aid recipients. But

as the Agua para Todos partnership demonstrates, they can play a major role in financing and institutionalizing a project. Capacity building is critical here, and it is important that partners recognize all of the supporting systems and skills that will be needed to sustain an intervention. Connecting these projects to knowledge networks is one step. National governments also play an important role in developing suitable policy climates to support scale-up of projects and programs (SEED, 2007). Progress on this front may be the most valuable contribution a national government partner can offer to a partnership of this type.

Action-Oriented Project Conserving or Restoring a Resource

These partnerships share much in common with the first class of partnerships discussed above, in that they are typically project-based and therefore tend to have easily quantifiable outcomes; e.g., hectares of forest preserved. However, a key difference is that these projects are prone to being labeled "environmental," and are therefore less compelling to some parties. They also tend to suffer from a lack of investment, which is the classic struggle for global public goods. Instead of being viewed as an opportunity, these sorts of partnerships are either viewed as philanthropy, or as something the government ought to be doing on its own. Borrowing from U.S. experience, although there has been a great deal of enthusiasm from state and local governments, NGOs, and the private sector on greenhouse gas mitigation, much of the action seems dependent on some sort of regulation rather than concerted voluntary action. A scan of the landscape of sustainability partnerships might reveal that there are comparatively few conservation projects carried out as partnerships (particularly engaging the private sector), and that in fact, many conservation-oriented partnerships are in a different class, such as the campaign-style information dissemination type.

Agriculture is a useful example, because sustainable agriculture is as much about conserving resources as it is providing food and supporting livelihoods. Certification schemes can also have a direct impact, because sustainably harvested materials also serve to support ongoing conservation and restoration efforts. Finally, a better understanding of ecosystem services will be critical if these types of partnerships are to proliferate. Ecosystem services include the consumable goods with which we are familiar (e.g., seafood or timber), as well as air and water purification, climate regulation, and several other life-support services. Specifically, our understanding of how various ecosystems relate to human needs affects what value we place on those ecosystems. This may be an area ripe for increased partnerships and an opportunity to engage the private sector more fully. There are

likely to be lessons in the area of eco-tourism which could be more broadly applicable to conservation-oriented partnerships.

Research and Open Innovation

Given the pressing needs of billions in the developing world, and the urgency of environmental challenges, engaging in research may be considered a luxury, particularly if it is viewed as drawing on resources that could be put toward implementing projects. The experience of the Multilateral Initiative on Malaria is telling, as it has needed to continually justify its focus on research in the face of competing initiatives that focus on existing treatments and practices. However, advances in our understanding of science, technology, and human–natural systems will be critical to a sustainability transition and to addressing emerging challenges such as climate adaptation and food security. Partnerships can play several important roles here, and there is ample experience in the U.S. and elsewhere in government–university–industry collaboration in R&D. Industry's role in these partnerships is important, because industry funds the majority of R&D globally, although governments maintain primary responsibility for funding basic research and other, otherwise underfunded areas. R&D is also much more global than ever before, which presents opportunities for more global partnerships and collaboration. Partnerships are not new in this field, but the nature of sustainability challenges suggests that they will be even more crucial in the future.

Since these partnerships add a layer of complexity (working across sectors) to already complex problems, it is essential that the partners continually reassess their goals and timing to ensure appropriate allocation of funds as new knowledge is generated (NRC, 2008). Research partnerships must manage intellectual property strategically to avoid or overcome roadblocks. If intellectual property cannot be shared, then it might be useful to negotiate a continued use or supply even, if the partner with ownership leaves the partnership (Brooke et al., 2007). As the East Coast Fever Vaccine case points out well, it is also imperative that partners identify an endpoint and exit strategy if the project is not producing desired results. Globally, some of these partnerships have come under scrutiny for their imbalance in leadership and funding allocation, both of which tend to remain in the north (Tucker and Makgoba, 2008). This is an area that requires improvement, but as the Multilateral Initiative on Malaria has shown, it is not only possible but desirable to transfer responsibility to southern countries, though this requires a strong emphasis on building capacity and support systems and cannot be done quickly.

Information Dissemination

Advances in information technology have made it possible for nearly every partnership to disseminate information globally, share its own best practices, or connect readers to a veritable sea of information on a topic. Still, there persists a dearth of credible, authoritative information, especially with the contextual background that is so crucial to our understanding of these sustainability challenges. As the REEEP case points out, most energy partnerships are heavy on knowledge dissemination, the "widest and weakest tool in achieving sustainable development goals." Ideally, all partnership efforts could make a contribution to disseminating information, but the reality is that thousands of disparate guidebooks and web sites proclaiming best practices will only serve to clutter the landscape. Thus, a primary challenge is harnessing all of this knowledge being generated in labs and in the field, and making it widely available in formats that aid decision makers.

The premise is that actors will make sustainable decisions and choices if they are armed with suitable information, but as several partnerships focusing on behavioral change have learned, it is important to be creative in how this information reaches target audiences. These partnerships, like any other activity, should be user driven, but this entails extra work in identifying the users (e.g., program managers, heads of households, and governments), and then determining what sort of information they would find useful, and in what format. The U.S. Environmental Protection Agency (EPA) is one among many government agencies with experience in this area; its partnership efforts require a great deal of time identifying target audiences, evaluating their "leveraging potential," and then making use of creative social marketing to influence behavior.[7] These sorts of partnerships are also valuable in that they often promote low-cost (or money-saving) practices. However, a key challenge is measuring the impact of such partnerships, as it entails measuring changed behavior at individual levels. Hand washing is a classic example; its costs are minimal and its benefits to human health are well known, but measuring the impacts of a campaign to promote hand washing often entails household surveys and extensive follow-up. The Global Water Challenge has been able to do this for one of the on-the-ground efforts it supports, demonstrating that a safe water and sanitation education program in schools in Kenya's Nyanza Province reduced student absenteeism (up to 35 percent) and improved sanitation practices in the home (O'Reilly et al., 2007). However, without dedicating the time and resources to measure these sorts of impacts, partnerships focusing on

[7] Stephen D. Sylvan, director of U.S. EPA's National Center for Environmental Innovation, May 6, 2008.

behavioral change may find themselves at a disadvantage vis-à-vis action-oriented partnerships with technological or infrastructural "fixes."

Community Building

This final class of partnerships is the most amorphous and includes knowledge networks and communities of practice, as well as more formally defined activities. The Common Code for the Coffee Community (4C) is a prime example. In truth, nearly every partnership that engages multiple sectors or diverse regional stakeholders is devoting some of its efforts to community building. Therefore, it is useful to examine the unique features of this aspect of partnerships, and also to define the strengths of this approach. Many of these community building efforts are labeled as "partnerships for partnership." The SEED Initiative, the Renewable Energy and Energy Efficiency Partnership (REEEP), and Global Water Challenge (GWC) are three examples of large global partnerships that essentially give support to smaller, "on-the-ground" partnerships. However, these overarching partnerships seem to provide a critical link that can drive action in the other four classes of partnerships.

At a global or regional level, these partnerships have the potential to "map out the landscape" for a particular sector or issue in a way that no individual agency or actor is able to do. By involving the right mix of partners, such a partnership can carry this out rather quickly by pooling knowledge and perspectives. Naturally, these sorts of partnerships can become a clearinghouse for information, and some, such as REEEP with its "reegle" information gateway, have moved in that direction. Regardless, their ability to map out the landscape in this manner helps them to better identify on-the-ground successes that might be replicated. For example, 4C partners determined that effective project-scale results in certified coffee were ultimately being undermined by market forces, so partners sought to convene the coffee community and develop an industry-wide standard.

Another value of these types of partnerships is that they often catalyze additional funding and resources. Some, like the GWC, are set up explicitly to do so. Private sector partners use their meetings with NGO and foundation partners, under the auspices of GWC, to learn about ongoing water and sanitation projects. Some of them subsequently decide to offer additional support independent of GWC funds in this manner. Other organizations—notably the Gates Foundation—which are not formal partners have also used the GWC as an informational and educational resource. This allows the Foundation to become knowledgeable about issues of importance in the water and sanitation sector and help it to identify areas in need of funding. Private sector and foundation representatives have noted that the use of NGO intermediaries can drastically reduce their own transaction

costs related to donations and investments. REEEP has effectively become a channel for European development aid and climate-related investment. However, the partnership is also quick to point out that, although it has a global scope and is driven primarily by developed-country funding, it places a strong emphasis on local, bottom-up management; local and regional offices identify needs and scope out projects, which are then communicated to the International Secretariat. Finally, the SEED Initiative, which does provide modest monetary prizes to five local entrepreneurial partnerships biannually, has also demonstrated success in attracting additional support for the award winners simply by recognizing them and introducing them to a global audience. Agua para Todos, which had been a successful partnership in its own right, further benefitted from its 2005 SEED award when it gained two important new partners, UNDP and the Cochabamba municipal government. The latter has since become a primary funder of the partnership's local efforts.

These partnerships are also uniquely suited to addressing complex regional challenges. Airsheds, watersheds, transportation networks, and urban development are all best coordinated at a regional level, which rarely reflects local political jurisdictions. Regional partnerships also provide a forum to engage the non-governmental partners in management issues. In the case of the Sustainable Silicon Valley (SSV) partnership, it represented the first opportunity for regional cross-sector networking, which led to open and candid communications. Partners identified a trust-building exercise early on as being critical to their eventual success, and these dialogues helped the participating agencies, organizations, and industries to begin realigning their individual incentives as they identified shared goals.

Finally, although community-building and capacity-building efforts share common traits, practitioners from all types of partnerships remark that capacity building needs to be an integral part of almost any partnership activity. Effective partnerships tend to recognize this immediately. Agua para Todos, for example, included training for local water managers right from the start. Arguably, every partnership activity involving knowledge or goods transfer should have capacity building at its core if the impacts are to be sustainable, and if partnering really represents something unique, in contrast to traditional donor-recipient or contractual relationships.

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CASE STUDIES ABSTRACTS

VII

Networks, Club Goods, and Partnerships for Sustainability: The Green Power Market Development Group

Liliana B. Andonova
Colby College

ABSTRACT

The Green Power Market Development Group (GPMDG) was launched in 2000 by the World Resources Institute (WRI), a non-profit environmental organization, in cooperation with ten U.S. corporations—Alcoa Inc., Cargill Dow, LLC; Delphi Corporation, DuPont, General Motors, IBM, Interface, Johnson & Johnson, Kinko's, Inc., and Pitney Bowes. The partnership seeks to engage major commercial consumers of energy in the development of green power markets. It has been established to provide a specific good: "1,000 megawatts of new, cost-competitive green power by 2010 in the U.S." The concept of "green power" is defined by GPMDG as "both renewable and clean energy sources that are commonly accepted as having a relatively low impact on human, animal, and ecosystem health." The membership of the original group, GPMDG-US, grew to 15 companies by 2007. In 2005, a sister partnership GPMDG-EU was launched with 14 EU companies as partners. In February 2008, a new initiative GPMDG-California was announced with 12 corporate partners.

This particular type of partnership network, involving non-state actors from different sectors, supports sustainability by providing first and foremost a set of sustainability "club goods" for its members. The club goods provided are research, knowledge, technology-specific information, collective learning; support for members' environmental strategies and public relations. These "club goods" also support broader societal and policy objectives, however, namely increasing the share of renewable energy in commercial consumption as a means to addressing global climate change

and other environmental externalities associated with the burning of fossil fuels. GPMDG was overall successful in making substantial progress towards the sustainability goals it set for its members. It is also highly valued by members. Several key factors contributed to the successful implementation of the partnership. These can be summarized as follows.

Incentives to partner: The partnership was designed by its convening organization, the WRI, so as to engage companies which had already demonstrated interest in environmental leadership and sustainable energy. This facilitated the organization of a self-enforcement initiative and minimized the reputation risk that WRI as an environmental organization might have incurred by collaborating with large corporations. Only one of the original GPMDG members had to leave the partnership due to insufficient commitment to green power development. The specific quantitative target of the partnerships was also selected by the members themselves, ensuring ownership of and commitment to the process.

Organization and Governance: GPMDG was carefully structured with a view to its functional objectives. The adoption of a measurable sustainability target safeguarded its environmental integrity. Membership is kept small to facilitate more productive learning and open sharing of information. To this end, partners sign an information non-disclosure agreement and new members are only admitted with unanimous approval. Only companies which are not direct competitors can participate. WRI staff maintains one-to-one contact with member companies, tailoring technology research to their specific needs. Through quarterly annual meetings (held 3 times a year since 2008), partners showcase some of the technologies implemented and share experience and knowledge on advantages and hurdles of technology options and their implementation. Since close to 80-90 percent of the membership attends each meeting, there is no formal governance body such as an Executive Board or Executive Committee. Decision with respect to pursuing (or not) a specific green power project are managed internally by the member companies.

Implementation and Outcomes: In the case of GPMDG, contrary to many partnerships, it is relatively unproblematic to assess implementation. As of March 2008, the 15 GPMDG-US companies have purchased or implemented 733.5 MW toward the 1000 MW objective, indicating that there is a high likelihood that the group would achieve its target of 1,000MW of green power by 2010. Another tangible outcome of the partnership is the demonstration of a wide array of green energy technologies. Of the 733.5MW of green energy developed, 471.8 MW was purchased in the form of wind Renewable Energy Certificates (RECs), 31 MW from biomass RECs, and 24.4MW from landfill gas RECs. In addition, the group has facilitated the development of 34.8 MW of wind power, 72.8 MW landfill gas and biomass based energy, 44.5MW of low impact hydro,

36.3MW of fuel cells, and 18.4 MW solar and other power. While it is very plausible that GPMDG companies would have pursued green energy options in the absence of a partnership effort, it is also possible to make the case that GPMDG has helped amplify the interest of these companies, and has influenced the timing and scale of green power development within the group. GPMDG has had a broader impact on the framing of debates related to energy security and climate change in the corporate sector and in U.S. public policy. It has contributed to the diffusion of knowledge and best practice within and beyond the original group, as the extension of the initiative to Europe and California demonstrates.

Assessment: The GPMDG case illuminates some important advantages of partnerships as learning and implementation networks associated with their non-hierarchical structure, voluntary self-interest membership, an easy exit option, and leveraging of interest and information. Partnerships that provide specific "club goods" for their members as in the case of GPMDG have particularly high potential to facilitate learning and action for sustainability through self interest. The study also shows that assuring the internal and external credibility and legitimacy of the process remains critical, as with other institutions for information assessment and diffusion.

Understanding the anatomy of GPMDG also raises questions about potential limitations of the club-like partnership approach to sustainability. One potential risk even for partnerships that are highly successful in achieving their immediate goals is that they could skew purposefully or involuntarily the broader policy agenda toward the particular sphere of interest of members. GPMDG, for example, has supported a turn in the U.S. energy and sustainability policy discourse in favor of three distinctive instruments: green power (not just any alternative to fossil fuels); RECs as the new currency for expanding renewable energy supply; and tax support for renewable energy developers. This set of technology and policy options can have the consequence of crowding out equally or more efficient approaches to reducing GHG emissions such as full cost pricing of fossil fuels, carbon regulations, or technologies for carbon sequestration.

Another potential pitfall of club-like networks is their limited external and public accountability. "Private" networks cannot be obliged to provide detailed information on all aspects of their operations, particularly if such information is considered sensitive. In GPMDG, this dilemma was alleviated to some extent thanks to the high capacity and interest of its lead organization, WRI, to communicate in a summary manner and in multiple formats the progress and achievements of the partnership. It was also facilitated by the fact that there were achievements to be reported. Over time, partnership initiatives should also be prepared to report not only success but also failures, as well as budgetary and governance matters, which are critical inputs to strengthening the transparency and public legitimacy of the partnership approach.

VIII

Assessing the Role and Relevance of the Renewable Energy and Energy Efficiency Partnership (REEEP) in Global Sustainability Governance

Philipp Pattberg, Kacper Szulecki, Sander Chan, and Aysem Mert
Institute for Environmental Studies, VU University Amsterdam

ABSTRACT

Our analysis proceeds as follows: In the first section of the report we briefly sketch out the context and history of the initiative, from the drafting stage to the current robust and complex institutional design, introduce the various types of stakeholders, including strategic governmental partners (donors and recipients), and provide a categorization of partners. In the following section we discuss the organization's mission, goals and strategies of achieving them, as stated in the Partnership's documents. Subsequently, we provide a brief analysis of the actual implementation process before we assess the effectiveness of the partnership based on expert interviews, document studies and quantitative information contained in the Global Sustainability Partnerships Database (GSPD). Finally, we conclude with a brief summary of our results and a number of careful generalizations.

The Renewable Energy and Energy Efficiency Partnership (REEEP) forms part of a larger universe of partnerships that were formed and established around the 2002 World Summit on Sustainable Development (WSSD). With more than 250 partners, (including 50 governments), $16,450,000 of available funds and an annual budget of just over €6,000,000, REEEP is one of the largest partnerships working for sustainable development. As an initiative promoting renewable energy (RE) and energy efficiency (EE), REEEP is in the energy sector which comprises 14 percent of partnerships. REEEP is among the most active in its sector.

The United Kingdom was the initiator of the partnership and has been the main driving force since inception. The preliminary arrangements for

the founding of a new partnership in the renewable energy and energy efficiency sector were made in early 2002, with the UK and Indonesia and UNIDO as first major partners. Nine other governments expressed their interest in the new initiative at this stage (among them Austria, India and Norway, key governmental partners today); fourteen others were invited. Efforts were made to acquire several important partners from the private sector, including businesses (e.g., Shell, IT Power, UK Business Council on Sustainable Energy, BP) and NGOs (WWF, Greenpeace) as well as IOs (ASEAN, UNEP, IEA). The initial provisions expected $500,000 of UK funding for the Secretariat, to be supported by other donors at later stages. First goals and targets were sketched out at that time.

REEEP is meant to be *an open-ended initiative* to facilitate multi-stakeholder cooperation in the renewable energy and sustainable development sector. As such it does not have an intended end date. Its focus was *global* from the start, and with an International Secretariat, eight Regional Secretariats (RS) and 2 additional local focal points (North Africa and West Africa), the partnership is being implemented in 57 countries on six continents. Apart from regional governing bodies, REEEP has lower level representations of the hosting institutions in the countries of implementation (e.g. REC Country Offices and Field Offices). The Regional Secretariats (RS) are subcontracted independent organizations, with the exception of South East Asia and Pacific RS is a dedicated REEEP representation financed by the Australian government. REEEP is a cooperative platform for more than 3,500 members, and 250 registered partners, among them 45 governmental actors (both national and subnational), including all of the G7 states, 180 private entities and six international organizations (UN DESA 2008). The is constantly growing. More than one-third of the governmental partners are European, 31 percent are from Asia, 18 percent are American states, 11 percent from Africa, and two from Australia and Oceania

Naturally, the national governments are seen as strategic partners, and their role is slightly different from that of regular partners (financial assistance). State partners need to declare an interest in joining the partnership, and then explicitly commit to the REEEP mission by signing a formal declaration. The most interesting and important 'new' member is definitely Norway. The Norwegian government, represented by Erik Solheim, Minister for the Environment and International Development, was looking for means to implement the idea of mainstreaming environmental considerations into international development and development aid. From this arose the "Norwegian action plan for environment in development cooperation" for which Norway needed implementing agencies. REEEP was chosen after careful considerations, negotiations, and evaluations. According to a senior REEEP official, one of the elements of REEEP that the Norwegians emphasized as being important from their point of view was the bottom-up

approach in formulating global priorities. Once a partner, Norway has had enormous influences on REEEP. One of which has been the streamlining the considerable resources it has brought to the partnership.

REEEP represents a market-oriented group of actors working for sustainable development, intending to facilitate the exchange of technologies, identifying and removing policy and regulatory barriers in the renewable energy market (also creating such markets if they do not already exist), and providing information for various stakeholders. It is clearly targeted at business actors, aiming at matching finance and concrete projects in the field of renewable energy and energy efficiency. The partnership is mostly a platform for communication between the partners, and a means to rationalize and bring coherence to its public awareness campaign activities on renewable energy. Not only does it strive to remove state-level and regional barriers for the renewable energy market, it also sets standards and regulates its members within the partnership.

The outcomes of our analysis suggest that REEEP is indeed addressing the goals that it declares, although the main goal of market transformation receives most attention. We also conclude that it is, to some extent, a "partnership that delivers," as its advertising slogan claims. It does not, however, fulfill all of its functions to a satisfactory degree, and the focus is on most important emerging RE and EE markets. Poorer countries in sub-Saharan Africa are somewhat neglected. What is more, REEEP has an uncommon governance structure—strong regional representation and a bottom-up approach. These factors have helped in its efficacy, focused on user needs/demands and effectively connect donors with recipients. This way resource allocation is efficient and the success rate of projects remains at a high level. Its current scale suggests that with such high levels of output, it definitely can have a considerable impact in the area of sustainable energy policy.

IX

Clean Water and Sanitation for All: Global Water Challenge

Derek Vollmer,[1] Kathleen McAllister,[1] and Jacqueline Coté[2]
[1]The National Academies
[2]International Chamber of Commerce, Geneva

ABSTRACT

The Global Water Challenge (GWC) grew out of a series of discussions convened between various stakeholders in the water sector including major corporations, international NGOs, foundations and academia in 2005 and early 2006. Despite their different worldviews, the participants in these discussions reached convergence on a number of topics, chiefly that they believed that water and sanitation problems had solutions, but that identifying, implementing, and then scaling up those solutions would require cooperation across sectors, better coordination among funders, and more communication and learning between projects in the field. Recognizing that there would be value in continuing this multi-stakeholder dialogue, The Coca Cola Company provided startup funding for the GWC in 2006 and was later joined by The Dow Chemical Company , Cargill, and Wallace Genetic Foundation as funders. With over 1.1 billion people lacking access to clean water sources, GWC's mission is to create a dynamic global movement to advance the safe water/sanitation agenda, by seeking sustainable, demand-driven, and scalable solutions.

Although GWC is one partnership among many globally which are focused on water and sanitation issues, GWC partners believe that it offers some unique attributes. First, it bills itself as a learning organization/forum where members from the private, public, and NGO sectors come together, share knowledge and engage in a dialogue about successes and failures in water and sanitation projects. This is significant in that these dialogues across sectors rarely happen, particularly with leadership from the private

for-profit sector; also, many of the NGO partners are in some respects 'competitors' in the field and thus not always likely to or able to share experiences. Second, GWC is structured to be a financing institution where funds are generally used as leverage and sometimes put towards building local monitoring and evaluation capacity in connection with ongoing projects. Finally GWC also functions as a vehicle for identifying projects and initiatives where sponsors, who may or may not also be partners, may then fund separately. The Bill and Melinda Gates Foundation and several other organizations not formally aligned with the partnership have participated in GWC meetings and are supporting aspects of projects which were originally identified by the GWC.

Currently the GWC lists 22 partners from the private sector, foundations and NGO community. For many partners clean water access/sanitation are important issues within their individual organizations' missions and business models, but their individual incentives for joining the GWC are more nuanced. The number and level of commitment of private sector partners in the GWC is one of its distinctive characteristics. Private sector partners have been motivated by the opportunity to learn from other partners how to effectively develop water and sanitation projects which reduce risk to their facilities. They have been and continue to invest in water and sanitation projects in the communities in which they operate, both to reduce risks to their own business and as part of their corporate social responsibility. Several partners expressed interest in being able to address the root of systemic problems, such as the lack of access to clean water and sanitation practices, which has required that they engage more and more stakeholders. The private sector partners, all major water consumers with several hundred plants worldwide, are also quite aware of the reputational benefits they derive from being visibly engaged in addressing a global problem. For the NGO partners, which are also diverse in terms of their strategic niches and worldviews, the GWC provides an opportunity to learn, innovate, leverage corporate partners' resources, and collaborate in on-the-ground work and applied research. Although NGO partners do not contribute funds directly to the GWC as core support, they do contribute funds to individual projects, thus their funds then leverage additional funds from the GWC and potentially the private sector and foundation partners.

The GWC focuses its activities in three main areas: (1) Innovative Community-Based Financing, (2) Water, Sanitation, and Hygiene for Schools, and (3) Communications and outreach. In an effort to work towards the organization's mission of triggering a global movement to ensure universal access to safe water and sanitation, the GWC prioritizes community-based creative financing and works with entrepreneurs, financial institutions, governments, and community-based organizations to identify barriers and opportunities for making sustainable investments at the local level. To date,

it appears that the GWC has been more opportunistic than strategic in its project planning. This is not unreasonable given the young age of the partnership or its emphasis on identifying successful approaches. The relationship between the partners of GWC is not formalized through a partnership agreement, but GWC has a mission which underpins its existence. Likewise, the structure of partner accountability within GWC is very loose. Partners noted that the secretariat has been effective in moderating dialogue between private sector and NGO partners, but that partners have been enabled to hold one another accountable through this dialogue. Given the open forum, and the large number of diverse partners, this method of reporting back has been identified as being more constructive than a linear report from implementer to funder.

GWC may face obstacles in the future if incentives for private sector partners are not maintained; this is vital to the financial security of GWC due to the partnership's reliance on funding from the private sector. Another challenge is that partners believe that water and sanitation still need to be higher on political agendas, especially in developing countries where capacity and political will to change water management practices is not prevalent. Interestingly, the GWC does not have developing country partners, and its only governmental partner, the U.S. Center for Disease Control, is narrowly focused and not well positioned to engage other government partners. Various partners also expressed concerns with the different worldviews present in the partnership, which may potentially lead to strategic breakdowns in project/initiative development and implementation, though to date this has not been the case. Among the NGO partners there is an internal challenge in collaborating with private sector partners that have previously been seen as part of the water scarcity/pollution problem in many regions of the world.

With only two years of operation, it is too early to assess GWC's sustainability impact. However, it has thrived so far despite the diverging background and views of its large membership. Based on this evaluation, it appears that GWC can make future contributions in monitoring and evaluation of its various projects. If carried out correctly, this partnership has the ability to serve as a replicable model for other partnerships, demonstrating the long-term value of devoting substantial resources to project monitoring and evaluation. GWC also has the potential to connect numerous on the ground projects and map a landscape for future work in this area.

X

Agua para Todos: Water for All

Cortnie Shupe and Julia Steets
Global Public Policy Institute, Berlin

ABSTRACT

This study seeks to enrich the debate on when and how partnerships can make a valuable, cost-effective and lasting contribution to sustainable development by tracing the origins, partner motivations and operational practices of the Agua para Todos (Water for All) partnership and assessing its success and impact to date. Agua para Todos presents a locally owned and oriented, innovative partnership model for the provision of affordable and safe drinking water to poor populations in Cochabamba, Bolivia. Originally encompassing one commercial entity (Agua Tuya), the city municipal water provider (SEMAPA), and water communities on a case-by-case basis, the partnership grew to include non-profit micro-finance institutions (CIDRE and Pro Habitat), the local authorities (Cochabamba Municipality) and UNDP Bolivia.

Partner incentives for participating in the initiative varied from partner entity to entity, ranging from the combination of social goals and profit to increased political legitimacy and self-help.

Agua para Todos emerged out of the extremely difficult political situation that succeeded the 'water wars' in Cochabamba. In addition to the general mitigation of conflict in its community, the partnership sought to accomplish three main goals and set measurable targets in order to reach them:

- Goal 1: Expansion of safe water provision at an affordable price to households in Cochabamba previously not linked to the main water distribution network.

Targets: Connection of 17,000 households to local distribution networks and lowering of costs from 2.50 USD to approximately 1.25 USD during 2005-2009

- Goal 2: Training members of local water committees in water management

Target: Train members of each water committee established

- Goal 3: Creation of a financing function for both local ownership and the quicker expansion of water systems

Target: Creation of a lower-interest (from 14 percent) revolving fund exclusively for water system expansion

By the end of 2007, the partnership had achieved approximately 20 percent of its expansion goals, had thus far met its targets for capacity building of the water committees in water management and had created a revolving fund for the water systems. However, it did experience some financing difficulties, such as in providing sufficient collateral in order for a water committee to receive a loan. Consequently, the municipality currently contributes 51 percent of investment into the distribution systems, substantially more than the 20 percent anticipated. Despite some initial delays in the project, Agua para Todos received impressive marks from stakeholders in the last surveying process. Moreover, interest from new, potential partner organizations as well as in replicating the Agua para Todos model in other regions further indicate the high level of success that this partnership enjoys.

While formal monitoring and evaluation processes are currently lacking, regular, informal controlling practices do exist, including structural checks and balances for partnership activities. For example, Agua Tuya is responsible for most operational activities while the Municipality controls the evaluation of these activities. Regular meetings and progress reports as well as informal communication on a needs basis help to keep all partners informed about activities.

Similar to monitoring and evaluation practices, formal governance structures are kept at a minimum. Rather than using a formal body or board, one or two leading partners generally make operational decisions on an informal basis. Nevertheless, the process for taking major decisions such as beginning cooperation with a water committee for a new connection is stipulated explicitly in the formal partnership memoranda of understanding (MOUs), which include one multilateral contract between Agua Tuya, SEMAPA, the Municipality of Cochabamba and UNDP Bolivia; and three bilateral contracts between Agua Tuya and SEMAPA, Pro Habitat and Agua Tuya and Pro Habitat and SEMAPA. MOUs provide for formal accountability between project partners.

Since the partnership's inception in 2004, observers have been able to

derive several internal and external success factors and lessons learned out of the experiences of Agua para Todos. Internal strengths include the nature of the partnership as a locally owned initiative; a high level of receptiveness from the public sector actor; dynamic leadership; flexible financial models; and the production of a high-quality product with proven technology. External factors that presented an opportunity for success included high demand for the partnership product within the affected community; customer willingness to pay for the price of the product; existing strong community mobilization and organization; and enabling legislation.

Likewise, factors hindering progress in the partnership were identified: insufficient guidelines on responsibilities; frequent staff turnover within partner organizations; and difficulties acquiring the guarantees necessary for water committees to take out loans for the construction of a water system.

XI

The Sustainable Forest Products Global Alliance

William Sugrue
U.S. Agency for International Development (retired)

ABSTRACT

The Sustainable Forest Products Global Alliance (SFPGA) was established, via a Memorandum of Understanding (MOU), in July 2002 as a partnership of the United States Agency for International Development (USAID), the World Wildlife Fund (WWF), and the Certified Forest Products Council (CFPC). CFPC later became Metafore.

USAID is the (non-military) foreign assistance agency of the U.S. government. It maintains a worldwide presence through its resident "Missions," primarily in developing countries. WWF is a global non-profit organization committed to the conservation of nature. In 1991 WWF established the Global Forest and Trade Network (GFTN), the entity of WWF responsible for implementing the SFPGA. With its corporate partners GFTN promotes and facilitates trade in forest products from certified and well-managed forests. Metafore is a small non-profit organization, established in 1997 (as the CFPC) to promote purchasing practices in North America that support the conservation, protection, and restoration of forests globally.

The goal of SFPGA, through a partnership of government, NGOs, and the private sector, is to reduce the scope of destructive and illegal forestry practices worldwide by expanding the proportion of internationally traded forest products sourced from forests certified as sustainably managed. Although the founding partners were governmental and NGO, from the outset, potential partners in the for-profit private sector were consulted since SFPGPA was envisioned as a public–private partnership involving,

and influencing the behavior of major private sector producers, exporters and consumers of forest products. Early private sector actors targeted included Ikea, Home Depot, Time-Warner, Staples, and Anderson Windows among others.

An explicit incentive to aggressively pursue public–private partnerships was created in USAID in 2001 under the leadership of a Global Development Alliance Secretariat, empowered to provide matching funds to successful USAID technical staff proposals in which public–private partnerships were integral to the proposed programmatic initiative. The incentives for WWF/GFTN and Metafore to join the SFPGA included additional financial resources flowing from USAID, a global partnership with USAID/Washington headquarters that might increase the stature of their programs in the eyes of the large private sector firms whose cooperation they needed to achieve their sustainable forest management goals, and in the case of WWF/GFTN enhanced access to USAID missions and American embassies. The large private sector firms sought lessons learned in the movement toward sustainability in management of forests, a resource upon which their future depends, green branding, improved supply chain efficiency, and linkages with other firms concerned with sustainability and good legal standing.

USAID and WWF had a long history of collaboration. Both NGOs had in place significant, established partnerships with major private sector firms in the forest products industry. USAID provided $3 million the first year and committed to maintaining that level of funding, although financial support has drifted downward to $1.4 million in FY 2007. USAID total funding, through FY 2007 was $10.7 million, WWF has contributed $34.2 million, Metafore $1.6 million.

The NGO partnerships with the large for-profit firms are not formally part of the SFPGA although essential to its on-the-ground success. Private sector firms early on found USAID's pace and bureaucratic requirements did not match their work style; USAID had no legal mechanism suitable for establishing a "partnership" with the private firms anyway. It did have in place and utilized donor–grantee mechanisms to cement relationships with the two NGOs, thus establishing USAID in the role of funder, not partner.

The SFPGA partnership has had a significant market-driven impact on improved management of forests. The value of forest product sales from well-managed forests associated with the GFTN rose from $5.9 billion in Sept. 2003 to $42 billion in Sept. 2007. The area of forest managed by GFTN participant companies increased from 10.4 to 26.6 million hectares over the same period and the number of GFTN participants that own or manage forests increased from 23 to 78 companies.

Market forces are now much more supportive and encouraging of legal, sustainable, and certified forestry than was the case pre-SFPGA. But these market forces are not yet genuinely self-supporting. The technical chal-

lenges are complex and the market does not yet fully reimburse the costs of seeking, or even accomplishing biological sustainability. It appears unlikely that certified forest management will be sustainable purely by market forces in the near term.

No funds are generated by SFPGA activities that then flow back to the SFPGA to sustain it and its activities. Decisions on its future are made in USAID, and the value-added (except for money) to USAID or to the WWF and Metafore by USAID's continuing participation is being questioned.

USAID, WWF, and Metafore managers agree that the SFPGA is not a true partnership of the three organizations. It is not really even a partnership of WWF and Metafore. The two NGOs have virtually no relationship whatsoever, except that of sharing a funding source—USAID.

The true partnerships are those linking WWF/GFTN and Metafore with the private sector. USAID has not partnered with any for-profit firm for three reasons. First, USAID was unable to identify a funding mechanism that was appropriate for a partnership even with a longtime "partner" such as WWF, let alone with a for-profit firm. Second, potential for-profit partners found USAID's processes slow and onerous. Third, the NGOs tried consciously to keep distance between USAID and their private sector partners. The NGOs saw these as very separate relationships rather than part of a broad public–private sector partnership. The NGOs' relationships with the private sector relied on a high degree of mutual trust and with a great deal of proprietary information on the table during discussions. Neither the NGOs nor the firms were comfortable having the government in the room and neither felt USAID had much to offer in the pragmatic, nuts and bolts discussions typically carried out when forging a partnership.

SFPGA has had a significant, positive environmental impact on the global trade in forest products by employing market forces. As a public–private partnership, in the view of all three "partners," it has left much to be desired. Nevertheless, the rhetoric of partnership which surrounded its launch, and which justified the SFPGA in USAID policy terms, freed significant resources in support of what were undeniably partnerships among NGOs and the private sector, thus making possible the substantive impacts and forest product market reforms which the SFPGA was conceived to address.

XII

The Common Code for the Coffee Community (4C)

Petra Kuenkel, Vera Fricke, and Stanislava Cholakova
Collective Leadership Institute, Potsdam

ABSTRACT

The Common Code for the Coffee Community Association (4C) is an international strategic alliance in the coffee sector, developed out of a cross-sector partnership between Trade and Industry, Producer Organizations and International Civil Society Organizations, supported by German and Swiss development cooperation. It aims to enhance and mainstream sustainability in the entire mainstream coffee sector through developing a voluntary code of conduct. More than 100 representatives from over 25 coffee producing countries have participated in the international process until now. The partnership arose in consequence of the coffee crises at the beginning of the 1990s when managers from companies and development cooperation realized that ensuring long-term sustainability in green coffee production would require a more strategic and long-term approach.

In 2003, after one year of preparatory discussion within the different stakeholder groups which represented the microcosm of the entire coffee sector, the official Common Code of the Coffee Community (4C) project was launched as a business-to-business initiative in the form of a public–private partnership—project between the German Coffee Association (DKV) and the public sector—the German Federal Government. The unique approach was to bring together complementary perspectives, competencies and also diverse interests to achieve durable results. The broadest possible outcome was anticipated through a tripartite participation. The ownership of the initiative was expected to be with the multi-stakeholder forum. The public–private partnership project as such was in service of the

consensus-building process by financing all expenses related to the steering committee meetings and the involvement of experts, a secretariat, and staff for the latter.

Various tripartite expert working groups were held through members of the steering committee engaging even a wider range of people from the coffee chain. Each aspect of the code, the social, the economic, and the environmental dimension was addressed by one of these expert groups. The process of negotiating a common code between three stakeholder groups proved to be a very ambitious task, which was supported through the project secretariat staff. The secretariat organized the process, prepared the steering committee meetings and facilitated expert input when needed. Additionally, during the first two years a process consultant and partnership facilitator supported the process.

A very important milestone of the partnership was the development of a code matrix in a multi-stakeholder process with expert input within the first two years: the "Common Code for the Coffee Community". The challenging task of including small farmers into the scheme and therefore the verification system is achieved through capacity building, support for the organisation of small producers into larger structural units—like cooperatives, federations or associations—and strengthening their managerial capacities in order to make sure that these would be capable to effectively support the introduction and monitoring of the 4C standard.

As a result of the growing interest in sustainability issues and 4C coming closer to actual implementation, new participants joined the 4C initiative. After having introduced first formal structures to make the verification system work, sustainable financing was elaborated on the base of a membership system. In December 2006 the existing partnership established an independent non-profit membership Association called the Common Code of the Coffee Community Association (4C). All former participants committed to become members of the new organization. The former steering committee developed into a much more formalized structure with a more formal administration structure and process and an elected membership system.

Since then the partnership focuses on setting up and managing the 4C association as a membership association, and on making 4C verified coffee available in the market. This was implemented in October 2007. The aim is that by 2015, 50 percent of the world coffee production should comply with the criteria of the Code Matrix.[1] For implementing this goal the 4C Association still needs to broaden the membership base and make the potential of the association known to as may actors as possible in the value chain.

[1] 4C Press release, 2007.

4C is a multi-stakeholder partnership that showcases the challenges in collaboration with different stakeholders, but also gives evidence to the potentials of international partnerships. It provides a very complex international example of how stakeholders within a value chain are able to work together toward a common goal for sustainability with outstanding and trendsetting results.

XIII

Sustainable Silicon Valley: A Model Regional Partnership

Blas Pérez Henríquez
University of California, Berkeley

ABSTRACT

Sustainable Silicon Valley (SSV) is a collaborative partnership comprised of representatives from the public, private, and non-for-profit sectors that is designed to promote a healthy environment, a vibrant economy and a socially equitable community. SSV is based in the San Francisco Bay Area at the heart of one of the most affluent, innovative, and entrepreneurial economic regions in the world: Silicon Valley.

Constantly evolving to remain competitive, Silicon Valley is a high-tech, energy intensive economy based on a culture of discovery that is constantly searching for new ideas to enhance productivity and efficiency.

In the aftermath of the 2000-2001 California energy crisis and the bursting of the dot.com bubble, the SSV partnership emerged as an innovative approach to address the regional economic challenges and threats caused by high energy prices and an economic slowdown. From the start, the SSV collaborative brought together a very diverse group of individuals from government, industry, academia, and environmental groups. For many, this was the first opportunity to network with unlikely partners from different sectors. SSV created a unique opportunity to candidly communicate individual perspectives and experiences, and develop a mutually agreeable approach to tackle the energy and environmental challenges of Silicon Valley.

In fact, some of the participants in the initial discussions were in the midst of legal battles over environmental issues such as the disposal of electronic products; others were concerned about sharing information

about their industrial processes and energy saving strategies with competitors. Despite the tightening economic situation, regulatory demands, and pressure from the local and international community to go beyond meeting minimum environmental standards, SSV partners were able to reach a voluntary agreement to establish energy and carbon dioxide emission reduction goals for the region.

Today, SSV partners and supporters take pride in demonstrating how a collaborative partnership can support a common goal and achieve significant results. SSV success is evidence that partnerships, even between traditional "adversaries," are not only possible, but powerful mechanisms for positive change.

Since 2001, SSV partners have been developing a structured process to confront the region's energy and environmental challenges. An initial trust-building exercise facilitated by the California Environmental Protection Agency (Cal-EPA) was critical to building the foundation of communication and cooperation. Through several informal stakeholder meetings, future SSV partners were able to candidly and openly exchange ideas and best practices. As a result, SSV partners were able to realign individual incentives and act in a cooperative manner. Energy efficiency was identified as the first goal for SSV partners.

SSV partners have applied the concept of environmental management systems (EMS), traditionally used to structure individual firm decisions, to the entire Silicon Valley region. EMS, which is a systematic approach to environmental management based on the idea of a "plan-do-check-adjust" loop, provided a road map for action to the founding group. The EMS approach calls first for the evaluation of environmental impacts, after which environmental objectives and timelines for their achievement are established and prioritized. Regular monitoring and performance reviews provide feedback to measure success and highlight future areas for improvement. For SSV industry partners, using EMS was a familiar approach to address environmental concerns.

Since 2005, SSV staff has published annual reports on partners' progress and overall programmatic goals.

While the catalyst for SSV was the 2000-2001 California energy crisis and the dot.com bubble burst, the partners' decision to use EMS as a strategic tool to manage collaborative efforts led them to identify a specific carbon dioxide emission reduction goal for the Silicon Valley: SSV partners pledged to reduce emissions in the region by 20 percent below 1990 levels by the year 2010. A few years later, during World Environment Day in San Francisco on June 1, 2005, California Governor Arnold Schwarzenegger announced similar greenhouse gas reductions goals for the state and publicly acknowledged the leadership of SSV business partners to address this issue "even faster than the statewide goals."

XIV

The ACS Green Chemistry Institute®: A Case Study of Partnerships to Promote Sustainability in the Chemical Enterprise

Kira JM Matus
Harvard University

ABSTRACT

The Green Chemistry Institute (GCI) is an 11-year old organization whose mission is to promote green chemistry throughout the chemical enterprise and around the world. GCI focuses both on disseminating science-based knowledge and information for sustainable impact, as well as the process of building a community of practice around the issue of sustainability in the chemical enterprise.

One of the main motivations behind the creation of GCI was the realization that there was a role for a nimble organization that could quickly provide support, including funding, for small projects that would demonstrate the viability of green chemistry to many sectors of industry. Partners have changed over the years, as GCI's activities and organizational structure have evolved.

In terms of being classified as a "partnership," GCI is an interesting case. At its founding, it was clearly an independently functioning multisectoral partnership. After several years, in order to improve stability, it aligned with, and then became fully a part of, the American Chemical Society (ACS). Especially in the past few years, it would be difficult to say definitively whether it is a partnership between different sectors (as its governing board still has multisectoral membership), an inter-NGO alliance between ACS and GCI, or just one more department in a large NGO (ACS).

The largest challenges faced by the partnership have been those related to its own sustainability, both financial and organizational. However, solu-

tions to the issue of ensuring GCI's long-term stability brought with them a trade-off in terms of freedom of action and nimbleness. This trade-off has presented itself multiple times, and has been at the core of the challenge faced by both ACS and GCI in their "merger."

GCI, for the large part, has always been run and driven by the people doing the work. This has changed from a volunteer membership to a permanent staff. For a long time, it could be categorized as "controlled chaos—but productive." In the past year, it has been less able to seek out, or become involved with, new projects and partnerships than it has in the past. The pace of its activities have been slowed through human resource and organizational constraints. This should change in the near future, with the arrival of the first full-time director in over 18 months, who began working at GCI in March, 2008.

Looking back over the history of GCI, its success can be seen as mixed. There are some areas in which they have been extremely effective. This includes the creation of a large and vibrant international network, the production and dissemination of educational materials and opportunities, and in outreach to the larger community. However, the structural challenges have also provided significant barriers. At the outset, GCI's effectiveness was limited by funding and staffing constraints; most of the work fell onto a handful of partners. While they were certainly dedicated, this limited the reach of the Institute. When GCI gained stability from its merger with ACS, it also lost its ability to react quickly to the needs of the community it was trying to serve. It has become less of a partnership, and more of a traditional NGO—and in reality, one relatively small (though high profile) piece of a much larger, highly visible organization. It is no longer clear what niche GCI fills. In terms of overall impact, and the ability to take advantage of leverage points that would allow it to be a real catalyst for change, it faces serious competition from some of the newer institutes belonging to the high profile green chemistry champions like John Warner and Paul Anastas.

The effectiveness of GCI may have fluctuated over time, but from all appearances, its goal of promoting green chemistry is increasingly successful. Over the past few years there has been a marked increase in attention to green chemistry on the part of industry, academia, and even the general public. This is likely related to an overall increase in environmental awareness and concern in the United States. But the technologies are maturing, and many now have had time to prove themselves to be effective and profitable in a range of industries. Changes in the financial situation, especially rising energy prices, as well as regulatory changes in the EU (REACH) and other major markets, have also been stimuli for green chemistry. GCI's work over the past decade has helped to make sure that green chemistry was available as a key response to these challenges. But as environmental concerns become a part of core strategies for many firms, it also increases

the number of technical problems to be addressed, and creates a market demand for information and expertise that cannot be filled by a single organization.

GCI's challenge, if it wishes to have an impact on sustainability, is to define for itself and the community its core strengths, and to pursue those areas where it can have an impact. The controlled chaos that could be effective in a new, emerging field is no longer strategically effective as the same field matures. At the same time, that does not mean that GCI can no longer impact sustainability. GCI can take advantage of its position within ACS to spread an attitude within ACS that green chemistry is an element of all of the areas in which it operates, which would in turn translate into making green chemistry a common element across the chemical enterprise outside of ACS. ACS should be leveraged as a resource—not just of funds, but as a way to access a broad spectrum of stakeholders.

Additionally, GCI has a long history of actively engaging partners from a variety of sectors. Even if it is operating from deep within ACS, it could still retain a partnership model for many of its endeavors. There are a large number of people within the green chemistry community that may no longer be involved with GCI, but are still invested in its success. If GCI disappears, they fear that it would provide an opportunity for skeptics to write off green chemistry more generally. This is an incentive for members of the community of practice that GCI has worked so hard to create to support GCI in turn, if only to protect their own long-term interests. GCI could, theoretically, take advantage of this in order to create more creative, effective partnerships throughout the community. GCI's expertise in facilitating these kinds of activities, more than its experience with conferences, symposia, or educational activities, may be its strategic advantage in the current environment.

XV

The Multilateral Initiative on Malaria: An Alliance to Enhance African Malaria Research

Barbara Sina
Fogarty International Center, National Institutes of Health

ABSTRACT

The Multilateral Initiative on Malaria (MIM) is an alliance of international partnerships supporting four functional components that address the malaria research priorities and scientific capacity strengthening needs identified during a ground breaking conference in Dakar, Senegal in 1997. Each component has its own leadership, seeks its own funding partners and advisors and organizes its own activities. The MIM Secretariat coordinates the components, facilitates communication and organizes the Pan-African Malaria Conference while rotating among partners (Welcome Trust (1998-1999), National Institutes of Health/Fogarty International Center (NIH/FIC), (1999-2002), Karolinska Institute (2003-2005), African Malaria Network Trust (AMANET)(2005-present)). MIM/TDR, based at the World Health Organization (WHO), provides grants to African malaria researchers. MIM/Com, based at National Institutes of Health/National Library of Medicine (NIH/NLM) provides Internet connectivity to African malaria research sites (based at NIH/NLM). The Malaria Research and Reference Reagent Resources Center (MR4) is supported by the National Institutes of Health/ National Institute of Allergy and Infectious Diseases (NIH/NIAID) contract. Despite what might be characterized as a controlled chaos approach to partnership over ten years, the MIM components have accomplished a great deal to strengthen malaria research capacity across Africa. The history of MIM reveals a complex approach to partnership and highlights the challenges to tackling the enormous problem of malaria in Africa.

The Dakar meeting is described as watershed moment at a time when it was recognized that global malaria research funding was severely underfunded and no new antimalarial drugs, vaccines, or public health use insecticides were being developing despite the enormous burden of disease in Africa and the rapid spread of drug and insecticide resistance. It was possibly the first time that leading malaria researchers from the United States, Europe, and Africa and the leadership of the world's major research agencies, foundations and donors sat around the same table to explore ways to strengthen and coordinate the research needed to develop improved tools for malaria control. The participants agreed on the need to build sustainable research capacity in Africa and the immediate priority to provide African malaria scientists access to the Internet. However, plans to sustain an organization to accomplish these goals were unresolved.

In July 1997, representatives of the funding organizations and pharmaceutical companies to meet in the Hague to discuss practical mechanisms for supporting the research and capacity strengthening priorities identified in Dakar. Participants rejected the U.S. proposal to create a "common pot" of funds contributed by all partner funding agencies or bankrolled by the pharmaceutical companies. They also discarded an alternative to accept common applications with joint peer review of proposals but accepted individual agency selection of recommended proposals to fund. The core MIM agency partners reassembled in London in November 1997 to organize the initiative as the current four component effort in which each agency agreed to take responsibility for a specific part of the program.

From the beginning, MIM faced the continuing challenge of creating itself while fostering the work of African malaria scientists according to the principles established at Dakar. Each of the MIM components achieved a cumulative set of successes while struggling with fundraising. Each component developed its own funding partnerships and approaches to supporting its activities. The rotation of the secretariat was meant to allow different partner organizations to contribute new energy and new approaches based on their strengths through MIM administration.

In 2002, an independent review panel found that a remarkable number of the objectives designed at Dakar had been realized through the work of the MIM components. The reviewers pointed to core business functions and governance which needed strengthening (specifically, the lack of a strategic plan to guide the organization in working with its multitude of partners over the last 5 years (3 ministries of foreign affairs, 12 research funding agencies, 4 United Nations agencies, 6 national development agencies and 4 private companies). MIM was urged to position itself relative to other initiatives such as the Roll Back Malaria Partnership (RBM,) the Global Fund, and the various malaria programs supported by the Bill and Melinda

Gates Foundation and define its niche as strengthening malaria research capacity in Africa in order to compete for support.

In 2005, the secretariat hosted the Malaria Research and Development Alliance that produced a detailed assessment of the global investment in malaria research and development showing a four-fold increase since the Dakar conference but indicated that only 3.8 percent was spent on malaria research capacity building. In 2006, the MIM Secretariat rotated to AMANET in Tanzania for five years following the fourth and largest yet Pan-African Malaria Conference in Cameroon attended by more than 1,500 participants from 65 countries supported by more than 25 sponsors. By 2007, MIM/TDR supported 69 malaria research grants to African scientists for a total of $12.9 million over ten years. These projects produced over one hundred research articles and trained over two hundred malaria research students. MIM/Com facilitated Internet connectivity to 24 sites in 16 African countries. MR4 received renewed contract support from NIH in 2006.

Between 1997-2007, 7 bilateral and multilateral initiatives, 5 public-private partnerships, 19 coalition and alliances/NGOs/foundations, 7 campaigns or grassroots networks, and 7 private industry initiatives were started to fight malaria intensifying the same problems recognized at the time of the Dakar meeting: lack of international donor coordination, fragmented funding, little capacity building in Africa and genuine partnership with African stakeholders. Many U.S. and European research sponsors of new malaria diagnostics, drugs, and vaccines finding the lack of malaria research capacity in Africa a major barrier to translating these products into public health successes. Over the its ten year life span, many partners have dropped long-term commitment to operational support for the MIM components. MIM is in a precarious but exciting phase of moving to Africa. Inherent in the wisdom of its founding principles, MIM nurtured its own leadership with increasing numbers of young African malaria scientists serving as advisors for MIM components, organizing the MIM conferences, and coordinating activities and fundraising. The MIM Pan-African malaria conferences garner increasing numbers of participants, sponsorship, and media coverage. Fostering MIM while doing its work likely will be the modus operandi for the MIM in the foreseeable future as its expected secretariat rotation builds organization management capacity throughout Africa and more leadership for the MIM components is assumed by the African malaria researchers MIM fostered.

XVI

Public-Private Partnerships and Pro-Poor Livestock Research: The Search for an East Coast Fever Vaccine

David J. Spielman
International Food Policy Research Institute, Addis Ababa

ABSTRACT

Livestock plays a critical, but often overlooked, role in the livelihoods of small-scale, resource-poor households in the developing world. Of the 1.3 billion people living in absolute poverty worldwide, some 678 million of them are livestock keepers. Their holdings of cattle, buffalo, sheep, goats, pigs, and poultry represent valuable stores of wealth while also serving as irreplaceable sources of income, insurance, fertilizer, energy, and nutrition.

In sub-Saharan Africa, the dependence on livestock is particularly acute among smallholders—a broad grouping that refers to small-scale farmers, pastoralists, and those whose livelihoods combine both crop cultivation and livestock keeping. Thus, livestock improvement is a potentially powerful means of promoting sustainable development and reducing poverty in the region.

This paper examines a research project designed to bring both public and private expertise to bear on the development of a vaccine for East Coast Fever (ECF), a devastating tick-borne bovine disease found throughout eastern, central, and southern Africa that is caused by the *Theileria parva* protozoa. Some 28 million cattle in the region are at risk of the disease, with at least 1 million cattle dying from it every year. In economic terms, the production losses caused by ECF-related morbidity and mortality are estimated at approximately US$300 million.

The project, headed by the International Livestock Research Institute (ILRI), based in Nairobi, Kenya, sought to develop an experimental

multicomponent subunit vaccine against ECF that could be shown to be protective to cattle in laboratory trials. The project's long-term goal was to generate a safe, efficacious affordable and easily deliverable ECF vaccine in partnership with a commercial company.

The key to success was identifying antigens that caused an immune response in the host cattle. This was to be pursued by sequencing the *Theileria parva* genome, cloning individual genes from the parasite, subjecting them to immunological assays, and determining which genes code for antigens are likely to confer immunity in the host cattle. The successful subunit vaccine would be one that incorporated sections of the *Theileria parva* DNA that, when injected into cattle, would confer immunity without infecting them with ECF.

Success required a range of expertise and resources. So, beginning in 1999, ILRI set out to develop a global partnership to sequence the *Theileria parva* and conduct research that would lead to the development of an effective subunit vaccine. Beginning in 2001, ILRI enlisted the participation of The Institute for Genome Research (U.S.A.), a global leader in genome sequencing, along with the Ludwig Institute of Cancer Research, the University of Victoria (Canada), Oxford University (UK), the Centre for Tropical Veterinary Medicine (UK), the Weizmann Institute of Science (Israel), and the Kenya Agricultural Research Institute. In the same year, ILRI enlisted the expertise of Merial Ltd., a global leader in the animal health field, to draw on the company's experience in field of vaccine development and product deployment.

With Merial's participation, the project team was able to develop an experimental vaccine. But while the testing with live cattle did generate the desired immune response—protection against ECF in cattle—the response occurred in only 30 percent of the cattle tested. Without this critical proof of concept, further partnership-based research effectively came to an end in 2007.

Despite these discouraging outcomes, research on an ECF vaccine continues. Under the leadership of the Global Alliance for Livestock Veterinary Medicines (GALVmed), efforts are underway to form a new consortium to continue to the research and secure funding.

Importantly, the project also generated several unintended consequences that will likely promote further research on an ECF vaccine. First, the project has encouraged several organizational innovations (e.g., new approaches to contracting, communicating, and intellectual property management) within ILRI and its partners to help bridge the gap between public and private sector researchers in future partnerships. Second, the project has put forth methodologies of vaccine antigen identification and evaluation that several research organizations are exploring, thus validating the project's work and laying the ground for continued investment in ECF vaccine development.

Third, the project has provided its partners with insights on how to better manage collaborative projects, including insights on when and how to end a project when it simply isn't producing the desired results.

In summary, the ECF vaccine development partnership is a potentially replicable model for other public–private research collaborations. It represents an innovative response to complex problem-solving tasks that require engagement with a range of diverse organizations and capabilities. It also offers an invaluable lesson on when to terminate a project—a decision rarely taken lightly by researchers or investors.

XVII

The Farm to Fork Initiative: A Shareholder and Management Partnership

LeRoy C. Paddock
The George Washington University Law School

ABSTRACT

The Smithfield Foods/Nathan Cummings Foundation/Ceres story involves a unique relationship between a philanthropic foundation with an environmental focus and a company in which the Foundation held a substantial investment. Smithfield Foods today is a global food company with sales approaching $12 billion dollars. Smithfield controls 17 percent of hog production and 31 percent of pork processing in the United States. Founded in 1989 through an endowment from Nathan Cummings, the Nathan Cummings Foundation's mission is to help "build a socially and economically just society that values nature and protects the ecological balance for future generations; promotes humane health care; and fosters arts and culture that enriches communities." Ceres describes itself as "a national network of investors, environmental organizations and other public interest groups working with companies and investors to address sustainability challenges such as global climate change." Its mission is "integrating sustainability into capital markets for the health of the planet and its people." Ceres helped develop the Global Reporting Initiative.

Seeing the exercise of its proxy for the 32,000 shares of Smithfield Foods to achieve transparency goals consistent with the Foundation's grant-making mission as a fiduciary responsibility, the Foundation filed a shareholder resolution for Smithfield's 2003 annual meeting. Although the resolution was challenged by Smithfield, the company initiated a dialogue with the Foundation. This dialogue led to Smithfield asking the Foundation to review the company's annual corporate sustainability report which the

Foundation agreed to do. Smithfield identifies this point in the relationship as the beginning of the partnership between the company and the Foundation.

The Foundation persisted in filing resolutions seeking greater disclosure of the environmental impacts of Smithfield's operations, soon shifting its focus to both company-operated and contract hog farming operations. While Smithfield resisted the idea of reporting on operations at contract farms for legal reasons that are set out in the full report, the company continued to discuss the idea with the Foundation and to look for an innovative solution both for reporting on the impacts of hog farming and the metrics that could be used to support the reporting.

Ultimately, Smithfield offered to undertake a pilot program through which it would report on the environmental impacts of one of its largest corporate-owned hog farming operations. Smithfield suggested using a new reporting protocol, the Facility Reporting Project or FRP, developed by Ceres that Ceres had recently tested at several locations including a Smithfield Foods affiliated processing plant. The Foundation agreed to support the pilot project and withdrew its 2007 shareholder resolution and did not file a resolution in 2008 to allow the pilot project to proceed. The Foundation sees this point as the beginning of its partnership with Smithfield, although both the Foundation and Ceres prefer to use the term "working relationship." The pilot project is currently underway and includes FRP reporting at a slaughtering facility and a processing plant in addition to the farming operation.

For Smithfield Foods, the motivation to engage in the partnership included its desire to work with critics to solve problems, to strengthen the company's reputation with the public and with some of its key customers (including McDonald's and Wal-Mart), and to improve the company's internal operations by generating better information on its environmental impacts. For the Foundation, the principal motivation was encouraging the company to increase transparency through better reporting. The Foundation believes that increased transparency will result in better economic and better environmental performance. For Ceres, involvement with the project provides an important method of testing its facility reporting protocol across an entire supply chain.

The Smithfield/Nathan Cummings Foundation/Ceres partnership is still a work in progress. More will be known about the substantive success of the relationship at the end of the year when the FRP reports are completed and the Foundation must decide whether the report on the company-owned farm is an adequate surrogate for reporting on hog farming operations throughout the Smithfield system including contract farms. What the partnership already demonstrates is the possibility of a new form of sustainability partnership—between concerned shareholders and the company in

which they own stock, the importance that reputation can play in corporate decision making related to sustainability, the influence that supply chain requirements have on company sustainability reporting, and the value of reliable information and good metrics in supporting partnerships.