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

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INTRODUCTION

Multi-stakeholder partnerships are now a significant domain of environmental governance.¹ Over a period of the last 10-15 years, the number of environmental partnerships, involving a variety of corporate, advocacy, public, or local actors have skyrocketed. This phenomenon is furthermore broad and diverse. There are several large international programs that either support or showcase hundreds of partnerships. The World Summit on Sustainable Development (WSSD) and subsequently the United Nations Commission on Sustainable Development (CSD) have endorsed and registered over 330 partnerships for sustainable development.² The United Nations Fund for International Partnerships supported 140 environmental partnership projects between 1998 and 2005.³ The Global Environmental Facility (GEF) through its Small Grants Program has financed over 9,000 multi-stakeholder projects at the local level for climate change, biodiversity, land degradation, international waters, and persistent organic pollutants.⁴ The SEED Partnership and the Equator Initiative, in turn, have held annual

¹ I am grateful to Alexander Perera and Robert Heilmayr from the WRI for discussing with me the history and experience of GPMDG and facilitating contact with member companies; as well as to Lars Lundahl, Tetra Pak, and Dan Usas, Johnson & Johnson, for sharing insights from the experience of their companies with GPMDG and green power. Steve Erario provided timely and detailed research assistance, for which I am much obliged. All analysis, interpretation of data, and arguments expressed in the report are that of the author.

² <http://webapps01.un.org/dsd/partnerships/public/welcome.do>.

³ <http://www.un.org/unfip/YPAEnvironment.htm>.

⁴ <http://sgp.undp.org/index.cfm?module=ActiveWeb&page=WebPage&s=IntheSpotlight>.

or bi-annual competitions and awards for grass-roots partnerships, drawing hundreds of applications from around the world.⁵ In parallel, many prominent non-governmental organizations and associations such as the World Economic Forum, the World Business Council for Sustainable Development, the Bill and Melinda Gates Foundation, the Clinton Foundation, the World Resources Institute, the World Wildlife Fund for Nature, the World Conservation Union, and others have announced multi-stakeholder partnerships for sustainability. And this is only the tip of the partnership iceberg in a sea of 21st-century governance options.

How is the academic community to approach a subject of sustainability governance so amorphous, seemingly unbounded, and rapidly evolving? So far, there have been a number of case studies of multi-stakeholder partnerships, highlighting their functional advantages as a mode of governance (Kaul 2005; Reinicke 1999; Reinicke and Deng 2000). The WSSD partnerships have also drawn a fair amount of analysis, some of which examine with greater scrutiny the characteristics of partnership entrepreneurs, and issues of legitimacy and accountability (Andonova 2006a; Andonova and Levy 2003; Hale and Mauzerall 2004; Witte et al. 2003). There has been little effort, however, to link research projects in order to address important cross-cutting questions about the diverse origins and structures of partnerships, and the mechanisms through which they influence (or fail to influence) sustainability. Detailed and comparative analysis of the impacts and effectiveness of partnerships is in particularly short supply.

Indicative of the fragmentation of research are the many terms used to conceptualize partnerships as a governance phenomenon: “public policy networks” (Reinicke 1999), “multi-sectoral networks” (Benner, Reinicke, and Witte 2003), “learning networks” (Ruggie 2002), and public-private institutions (Andonova 2006a). Each of these concepts emphasizes a somewhat different aspect in the functions of partnerships as well as the commonality of their network structure. More recently, Andonova, Betsill, and Bulkeley (2007) have proposed a broader framework for conceptualizing network governance and a typology to facilitate a more systematic examination of its role in transnational climate change politics. The typology is particularly useful for the purposes of the present study since it distinguishes between governance networks on the basis of two criteria: the types of actors involved in the network and its primary function. In terms of stakeholder participation, three network types are identified: largely “private networks” (e.g., where members are non-state actors), “public networks” (involving a variety of public organizations across jurisdictions and scales), and “hybrid networks” (in which both governmental and non-state actors participate). In terms of functional focus, the typology distinguishes

⁵ See <http://www.seedinit.org/> and <http://www.undp.org/equatorinitiative/>.

between “information sharing,” “capacity building and implementation,” or “rule-setting” networks on the basis of their *primary* governance objective, while also recognizing that a single network could involve several of these functions (Andonova, Betsill, and Bulkeley 2007).

This study uses the concept of “multi-stakeholder partnerships,” which is the one most widely employed in the policy literature and practice. Partnerships are defined as governance networks based on voluntary agreements between actors representing at least two different sectors (business, government, or non-profit), which steer its membership to act by establishing a common set of norms, rules, practices of information and capacity diffusion, and implementation procedures. Partnerships can be thus described as agreements of the willing, establishing flexible, network-based systems of governance in areas of common interest.

The partnership examined in this report, the Green Power Market Development Group (GPMDG), exemplifies a particular type of governance network in terms of the typology discussed above. Structurally, it fits the category of “private networks” as it involves collaboration among private (in the sense of non-state) actors—large commercial companies and a non-profit environmental think tank. The primary functional objective of the partnership is the implementation of a specific sustainability good, green power, which is also supported through information diffusion and learning functions. The report advances the argument that this particular type of partnership network is well suited to provide a set of sustainability “club goods” for its members in terms of supporting their capacity to implement sustainable outcomes by leveraging knowledge and other resources. The voluntary, non-hierarchical nature of the organization facilitates member inputs and the tailoring of the “club goods” to the collective and individual needs of participants. It thus facilitates collective action and self-enforcement of partnership goals. At the same time, these “club goods” are intended to support broader societal and public objectives, in the specific instance of GPMDG—increasing the share of renewable energy in U.S. energy markets as a means of addressing global climate change and other environmental externalities associated with the burning of fossil fuels. The case study examines the organizational characteristics of this particular partnership type, its results, and the factors which contributed to its success in linking multiple interests and sources of information to advance the implementation of renewable technologies.

The report proceeds as follows. The first section provides a background of the GPMDG partnership. The analysis then examines the incentives of its main stakeholders to engage in a network of learning and the provision of sustainability goods. The structure and internal governance of GPMDG is then discussed, providing a basis for illuminating some of the similarities and differences between this and other types of multi-stakeholder networks,

as well as a comparison with other, non-network-based institutions for linking science, technology, and environmental practice. The section on implementation examines the outcomes of GPMDG and seeks to identify through counterfactual analysis the partnership impacts on social processes, and the ways in which these impacts were facilitated by the multi-stakeholder structure. An assessment of the comparative advantages and disadvantages of the club-goods model of partnerships is followed by a conclusion on possible directions for future research.

CONTEXT

The GPMDG initiative was launched in 2000 by the World Resources Institute (WRI), a non-profit environmental organization, in cooperation with 10 U.S. corporations—Alcoa Inc.; Cargill Dow, LLC; Delphi Corporation; DuPont; General Motors; IBM; Interface; Johnson & Johnson; Kinko's, Inc.; and Pitney Bowes. The main goal of the partnership was to engage major commercial consumers of energy in the development of green power markets.⁶ The concept of “green power” was summarized as “both renewable and clean energy sources that are commonly accepted as having a relatively low impact on human, animal, and ecosystem health.”⁷ The network established as its central objective to provide a specific good: “1,000 megawatts of new, cost-competitive green power by 2010 in the U.S.”⁸ The membership of the original group, GPMDG-US, grew to 15 companies by 2007.⁹ In 2005, a sister partnership GPMDG-EU was launched with 14 European Union (EU) companies as partners.¹⁰ In February 2008, a new initiative GPMDG-California was announced with 12 corporate partners.¹¹

GPMDG was one of the first collaborative partnerships for renewable energy between a non-profit environmental organization and large commercial users of energy, at a time when green power markets were under-

⁶ Interview with Alexander Perera, WRI, January 2008.

⁷ See “Question and Answers,” published together with the 2002 press release of the partnership, available via <http://www.thegreenpowergroup.org/groupevents.cfm?loc=us>, accessed March 2008.

⁸ See <http://www.thegreenpowergroup.org/pdf/qanda.PDF>.

⁹ GPMDG-US corporate partners include Alcoa Inc., Dow, DuPont, FedEx, General Motors, Georgia Pacific LLC, Google Inc., IBM, Interface, Johnson & Johnson, Michelin NA, Inc., NatureWorks LLC, Pitney Bowes, Staples, Starbucks.

¹⁰ GPMDG-EU corporate partners include British Telecom, Dow, DuPont, General Motors, Holcim, IBM, IKEA, InterfaceFLOR, Johnson & Johnson, Michelin, Nike, Staples, Tetra Pak, Unilever.

¹¹ GPMDG-California corporate partners include Advanced Micro Devices, Apple Inc., BT Americas, Cisco Systems, eBay, Google Inc., Hewlett-Packard, Intel Corporation, Intuit, Levi Strauss & Co., News Corporation, Pactiv Corporation, Patagonia, and Wal-Mart Stores, Inc.

developed in the United States and particularly in the commercial sector. The premise of the WRI, which took the lead in establishing GPMDG, was that in order to achieve market transformation, it was necessary to involve large commercial buyers and have a measurable impact on the demand for renewable energy.¹² The moment for capturing the attention of large users of energy was also opportune. Issues of energy security, sources diversification, and market transformation were salient as the California electricity crisis unfolded in 2000. Internationally, the Kyoto Protocol to the United Nations Framework Convention for Climate Change was adopted in 1997, mandating greenhouse gas emission gaps for industrialized countries. Although the U.S. administration was clearly committed to staying out of the agreement, most industrialized countries supported it, singling medium- and long-term intentions to regulate emissions from fossil fuels. For forward-looking companies, operating in multiple markets, this international commitment created an imperative to re-orient their energy portfolio toward greener technology options.

GPMDG became part of the Sustainable Enterprise Program of WRI, which was a framework to engage the private sector in sustainability projects. The partnership approach provided a flexible and potentially productive mechanism for collaboration between WRI and companies to address collectively a range of critical questions related to green power. Why were large commercial buyers of energy not involved in purchasing or implementing green power? What can motivate them to get engaged? What barriers exist to green power development in terms of information, prices, availability, or governmental policy? How can the partnership help overcome these barriers?

Since its very initiation, GPMDG was conceived as a learning network with a specific sustainability goal: the implementation of green power by leveraging and diffusion of knowledge and experience. The information-diffusion function of the network was thus the main vehicle for achieving its capacity-building and implementation objectives. The partnership was set up to provide a set of “club” benefits for its members in terms of support for developing company green power projects, with the foresight that these “club goods” would generate broader positive externalities by supporting green energy markets.

Being one of the early partnerships for energy sustainability, which has generated a substantial amount of data on its implementation and outcomes, the GPMDG case provides an opportunity to shed empirical light on important theoretical and policy questions. From a theoretical perspective, by considering the structure, governance, and impact of GPMDG, we can examine the differences and similarities between the network-based,

¹² Interview with Alexander Perera, WRI, January 2008.

multi-stakeholder approach to linking knowledge and technology to sustainability practice and other more firmly institutionalized approaches such as publicly-sponsored science and technology assessments or advisory organizations. From a more practical policy perspective, the analysis will see to address three main questions. What motivates private actors (both profit and non-profit) to engage in collective problem solving and network governance for sustainability? Has this particular partnership produced measurable impacts on sustainability, and what contributed to these impacts (or lack thereof)? Is there a tension between the “club” objectives of the partnerships and broader public objectives? The following sections examine these questions by focusing on the experience of the original group, GPMDG-US, to benefit from the hindsight of its eight year history and data. The other two groups, GPMDG-EU and GPMDG-California, are discussed primarily in the assessment of the diffusion of GPMDG practices, and when considering the incentives of companies to join a renewable energy partnership. Information is drawn primarily from the web-based publications of GPMDG,¹³ as well as from companies’ web sites, two interviews with WRI staff working with the partnership, and interviews with representatives of two of the member companies, Johnson & Johnson and Tetra Pak.

INCENTIVES TO PARTNER

One distinctive characteristic of partnership networks is that they link together self-interested actors in voluntary action for a common goal (Andonova 2006a). Since no external force or rule directly mandates participation, a prior question that has to be addressed is: what motivates the actors’ self-interest in partnerships? The fact that multi-stakeholder networks for sustainability are a fairly new phenomenon in the scale as it exists today implies that a number of organizations are finding new incentives to branch out of their sectoral practices and seek alliances for sustainability outside of their usual domain of operation. Moreover, not all organizations and actors are equally interested in partnerships. Some non-profit organizations such as the WRI have been vocally enthusiastic about partnerships (Andonova and Levy 2003). Others have made a public decision to stay out of multi-stakeholder initiatives, or have been outright skeptical, warning against corporate “green wash” or “blue wash” when referring to partnerships between big business, environmental organizations, and the United Nations (Andonova 2006a; Andonova and Levy 2003; Ruggie 2002; Witte et al. 2003). On the business side the majority of large corporations, and an even larger share of small and medium enterprises, are most likely not involved in partnerships for renewable energy, although there is a trend of

¹³ www.thegreenpowergroup.org.

growth in the adoption of corporate environmental and social responsibility practices (KPMG 2005). What incentives have brought the WRI and large corporations in a club-like network for green power?

The WRI is a highly technical, policy-oriented, non-profit organization. Even though it is involved in policy advocacy, the WRI does not describe itself as an advocacy organization, but rather as “an environmental think tank that goes beyond research to find practical ways to protect the earth and improve people’s lives.”¹⁴ These are precisely the characteristics of non-profit organizations most likely to engage in partnerships with private and governmental actors. By focusing on relatively technical aspects of environmental protection and policy, organizations whose main assets are expertise and policy access are likely to benefit most and risk least in terms of reputation from carefully structured partnerships, leveraging governmental and business resources. Such organizations have the capacity, prior reputation, and incentives to orient partnerships around narrowly defined aspects of sustainability, which could generate common interest, while avoiding more contested issues (Andonova 2006a).

Promoting renewable energy is one of the core objectives of the WRI because of the multiple environmental benefits of such technologies. From an organizational perspective, the WRI was thus both well positioned and interested to engage a diverse set of partners in promoting renewable technology. Renewable energy was a convenient, relatively non-controversial focal point of initiating work related to climate change, after the adoption of the Kyoto Protocol, while avoiding some of the more contentious aspects of climate policies. Partnering with the corporate sector offered a potential for increasing the impact of WRI’s technical expertise in several ways.

From the start, GPMDG established a platform to define and promote the concept of “green power” in the corporate sector. The web site of the partnership identifies three sources of power as “green”: “*Green electricity*—Electricity from renewable resources including wind, solar (photovoltaic), geothermal, biomass, landfill gas, and certified low-impact hydro; *green thermal energy*—Heat from renewable resources including solar thermal systems and direct use of landfill gas; and “*clean*” *energy technologies*—Electricity and/or heat from fuel cells.”¹⁵ This definition of green power in the context of the partnership explicitly excludes large hydro power from the desirable expansion of renewables in the United States and in the context of climate mitigation. It also explicitly endorses wind power, whose development has been an object of a number of high-profile local conflicts and controversy across the United States. Implicitly, nuclear power is also excluded as an alternative to fossil fuels. The partnership thus provided

¹⁴ <http://www.wri.org/about>.

¹⁵ www.thegreenpowergroup.org.

an opportunity for the WRI to influence the framing of debate on energy security and climate change by promoting the uptake of the green power concept in corporate discourse and market practices. Such processes of issue framing are identified by the advocacy coalition and social learning literatures as critical entry points at which scientific information or ideas could influence policy discourse and action (Jenkins-Smith and Sabatier 1999; Kingdon 1984; Litfin 1994; Social Learning Group 2001).

Another benefit from partnering with large corporations from WRI had to do with achieving a direct and measurable impact on the growth of commercial demand for green energy. By partnering with large commercial users of energy, WRI sought to influence in a measurable way green power markets. "The 1000MW goal set by GPMDG members was compatible with WRI's market transformation objective," commented the present project director of GPMDG-US.¹⁶ WRI publications emphasize both the market significance and environmental value of this objective. The "Questions and Answers" document released as part of the 2002 announcement of the first GPMDG green power purchases points out that "1,000 MW is approximately equivalent to each of the following comparisons: One large coal-fired power plant; [e]nough energy for the conventional power needs of Miami, Florida; [e]nough electricity to power 750,000 homes. . . . The Green Power Group's goal of 1,000 MW represents approximately 7 percent of the total non-hydro, non-wood renewable generation capacity in operation in the U.S. in 2001." While green power markets can be supported through multiple means, including governmental regulation and incentives, the partnership approach is an alternative, more direct mechanism of influence.

The GPMDG partnership was also an opportunity for WRI to increase its resources and expertise on green energy technology and market options. Maintaining cutting-edge research is particularly important in the area of renewable technology, where knowledge, information, and technology are rapidly evolving. By promising to deliver specific sustainability outcomes, the WRI increased the likelihood that potential donors would support this type of research, particularly as it also promised to involve timely, industry-based market and technology information. Attracting partners was facilitated by WRI's technical expertise, but the partnership itself has also helped maintain and expand the organization's niche in providing policy- and market-relevant information on green technologies. In sum, the GPMDG implied important benefits for its lead organization: direct sustainability impact, issue framing around the concept of "green power," and strengthening of organizational resources and expertise in an area of priority interest. To maximize these benefits and minimize reputation risks from engaging the corporate sector, WRI identified potential partners among

¹⁶ Interview with Alexander Perera, January 2008.

companies that were both large buyers of power and, at the same time, had already demonstrated some commitment to sustainability. The partnership did not seek to create corporate interest in climate mitigation and renewable energy, but to pool exiting interest in a particular direction.

What motivated large commercial enterprises to welcome the invitation and join the WRI-led green power club? Several GPMDG publications “make the business case” of green power, highlighting three types of benefits: “(1) lower or stable operating costs, (2) reduced emissions of pollutants that pose a current or future regulatory risk, and (3) stronger stakeholder relationships” (Hanson 2005, p. 1). These can be summarized as the economic, environmental, and public-relation rationales of the partnership. It is less clear however, which of these broad incentives played a leading role in motivating companies to join GPMDG. Furthermore, the list of benefits tells as little about the added value of the partnership compared to individual action to attain similar benefits. A survey of GPMDG members would have been an ideal instrument to collect information and assess company incentives and their relative importance. The partnership did not express an interest in implementing a survey instrument, although such possibility was raised as part of this research project. Information on the broader portfolio of environmental and sustainable energy activities of each company, insights from GPMDG corporate case studies, and interviews with representatives of Johnson & Johnson and Tetra Pak are the basis for analyzing company incentives.

Back in 1999-2000, when the partnership was being organized, U.S. companies did not face an even remote threat of regulations on GHG emissions or renewable energy. Clearly, direct regulatory risk was not a significant factor for greening companies’ energy consumption. Indeed four GPMDG members, DuPont, Alcoa, GM, and Dow Chemical, had contributed to minimizing such risk through their participation in the Global Climate Coalition, a powerful industrial lobby established in 1989 to oppose the adoption of binding GHG emission limits internationally or domestically. Following the Kyoto agreement, however, and the growing awareness among the business community of the need to consider cleaner and leaner growth options, many companies including DuPont, Alcoa, GM, and Dow Chemical publicly renounced their membership in the Global Climate Coalition, which eventually disbanded in 2002. Subsequently, three of these four companies, DuPont, Dow, and Alcoa, adopted early on ambitious voluntary targets for GHG emission reductions (Table VII-1). Alcoa, for example, sought to reduce its GHG emissions by 25 percent compared to 1990 levels by 2010, while DuPont has achieved 65 percent reduction of 1990s by the present time. Other companies among the founding members of GPMDG, such as Interface and Johnson & Johnson, have been among the early leaders in corporate strategies for environmental sustainability,

TABLE VII-1 Companies that Adopted Voluntary Targets for GHG Emission Reductions

Company	Sector	GPMDG Member since	GHG Target
Alcoa Inc.	Aluminum	2000	25 percent from 1990 by 2010
DuPont	Chemicals	2000	65 percent from 1990 (achieved); 15 percent from 2004 (new) NA
FedEx Kinkos	Shipping Packaging Office	2000	NA
GM	Automotive	2000	NA
IBM	Computers	2000	12 percent from 2005 energy-related GHG by 2012
Interface	Carpets and Fabrics	2000	Carbon neutral by 2020
Johnson & Johnson	Pharmaceutical, medical devices	2000	4 percent percent from 1990 by 2005; 7 percent from 1990 by 2010
Pitney Bowes	Mail management, Hardware, Software	2000	NA
Dow	Chemicals	2003	20 percent from 1991 (achieved); Halt.absl.GHG growth by 2025
Staples	Office supply	2003	7 percent from 2001 by 2010
NatureWorks, LLC	Renewable, non-petroleum polymers	2005	NA
Starbucks	Coffee	2005	NA
Georgia-Pacific	Pulp and paper	2006	NA
Michelin	Tires	2006	NA
Google	Internet	2008	Carbon neutral as of 2007

SOURCES OF DATA: Company Web Sites, see Appendix 1 for details.

including the adoption of voluntary GHG emission targets. Johnson & Johnson adopted in 2000 a target of reducing its GHG emissions by 7 percent of 1990 levels by 2010. The present objective of Interface is nothing less but to achieve a zero carbon footprint by 2020 (Table VII-1).

For companies that had adopted GHG emission objectives or broader sustainability strategies, participation in GPMDG was seen as valuable because it facilitated the identification of a wider array of options to implement company goals. The representatives of two member companies, Johnson & Johnson and Tetra Pak, who were interviewed as part of the research, both identified “reduced emissions of pollutants” to meet company goals as the number one incentive for joining the partnership.¹⁷ Both representatives also ranked “stronger stakeholder relationships” as

¹⁷ Interview with Lars Lundahl, Tetra Pak, April 1, 2008, and with Dan Usas, Johnson & Johnson, April 2, 2008.

the second most important incentive of the three benefits identified by the WRI report, and “lower or stable operating cost” as the least important of the three. Both companies joined the partnership *after* the adoption of company-wide strategy for climate change.¹⁸ Johnson & Johnson was one of the convening members of GPMDG-US in 2000. Tetra Pak was one of the founding members of GPMDG-EU in 2005. Corporate case studies also emphasize the benefit of the partnerships approach in helping implement company strategies for sustainability and GHG reductions.¹⁹ Companies that were approached by the WRI with the idea of a green power partnership but declined to get involved were those that lacked internal commitment and management interest in renewable technologies.²⁰

While it is hardly surprising that companies with internal programs for GHG emission reductions would be the ones more likely to seek renewable technology, the more interesting question to consider is: why not do it alone? Because of its functional objectives to support project implementation through the leveraging of information and experience, GPMDG promised to provide network-specific “club goods” that were of value for members. At the time when the initiative was started, experience with renewable technology was still limited as was information on available options and their comparative advantages. Through partnering with WRI and with each other, the GPMDG promised to close this knowledge and experience gap more effectively and at a lower transaction cost. Moreover, the technical reputation of the WRI ensured the internal credibility of the knowledge it was able to leverage. The two company representatives who were interviewed pointed out that the costs of participating in GPMDG have been minimal (amounting to annual membership dues that are not very high), while the benefits from the research generated, from sharing practical experience within the group, and from WRI support for project identification have been considerable and real.²¹

Another distinctive corporate incentive for pursuing environmental goals through partnerships is the greater public recognition and improved stakeholder and community relations. GPMDG corporate case studies provide ample evidence that this particular benefit was sought after and facilitated by the partnership. Even for Interface, which is a company hardly lacking in recognition and awards for its pioneering sustainability efforts, purchasing green Renewable Energy Credits (RECs) with the support of the GPMDG network was valued among other things for “differentiating

¹⁸ Ibid.

¹⁹ See, for example, the corporate case studies of IBM, British Telecom, Interface, and Johnson & Johnson available via www.thegreenpowergroup.org.

²⁰ Interview with Alexander Perera, January 2008.

²¹ Interview with Lars Lundahl, Tetra Pak, April 1, 2008, and with Dan Usas, Johnson & Johnson, April 2, 2008.

products or services in a competitive market place.”²² As a result of its output-oriented dimension, GPMDG has the additional advantage of helping to build very visible and material aspects of the greening of member companies—wind turbines, solar panel installations on company rooftops, or installations to utilize local land field gas—all popularized broadly through publications and press releases managed by the WRI. Partnering with recognized non-profit organizations has been an important mechanism across partnerships more broadly to legitimize voluntary approaches to environmental stewardship and strengthen company reputation (Andonova 2006a; Nelson and Jenkins 2006; World Economic Forum 2005).

Indicative of the relevance of the public-relations and legitimating value of partnerships is the fact that many GPMDG companies participate in multiple partnerships for climate and sustainability (Table VII-2). The table reveals, however, a highly uneven interest among GPMDG in other partnership activities. Interface, Johnson & Johnson, Alcoa, and DuPont appear by far most active in pursuing environmental partnerships. DuPont and Alcoa are relatively vulnerable to environmental scrutiny as a consequence of the sectors in which they operate (aluminum and chemicals), a factor likely to increase the reputation and risk management value of partnerships (Andonova 2006a; World Economic Forum 2005). Interface and Johnson & Johnson, by contrast, are not known to be subjects of strong environmental advocacy pressure. These two companies have been particularly proactive as corporate environmental leaders and the multiple partnerships in which they participate have helped achieve recognition for this activism.

While WRI reports tend to emphasize the potential economic advantages of green power in terms of price stability, predictability, and hedging against peaks in conventional fuel prices or energy demand, these benefits are not among the main motivating factors for companies to seek out renewable energy partnerships. The representative of Johnson & Johnson pointed out that the company expected to pay and paid a price premium for green power projects. The environmental and public-relations value of the partnership was thus more important. Moreover, the corporate case studies reveal that some of the economic benefits of green power cannot be appreciated at the time when the company makes a decision to join GPMDG or other partnerships. They are more fully appreciated only after the implementation of some projects and sharing those experiences with other members.

A number of corporate case studies make a point of comparing the anticipated and actual economic benefits and costs of projects. For example, the IBM corporate case study of its Austin facility purchase of green power,

²² See “Interface: Using Renewable Energy Certificates to Differentiate Products,” available via <http://www.thegreenpowergroup.org/casestudies.cfm?loc=us>.

TABLE VII-2 Sustainability Partnerships and Memberships of GPMDG-US Companies

Company	Environmental Partnerships and Memberships
Alcoa	Business Environmental Leadership Council Earthwatch Institute (Partner) Global Roundtable on Climate Change International Aluminium Institute (Member) International Council on Mining & Metals (Member) Organizational Resource Counselors Executive Business Issues Forum (Participant) The Conference Board Chief EH&S Officers' Council (Member) U.S. Climate Action Plan World Business Council on Sustainable Development World Economic Forum (Member)
Dow	Global Compact Global Roundtable on Climate Change Responsible Care U.S. Climate Action Plan World Business Council on Sustainable Development
DuPont	Business Environmental Leadership Council Business Roundtable Climate Resolve Business Roundtable S.E.E. Change Initiative Chicago Climate Exchange Environmental Defense Global Nanotechnology Standards of Care Partnership EPA Climate Leaders EPA Energy Star EPA Power Partnership Global Compact Global Roundtable on Climate Change U.S. Climate Action Plan World Business Council on Sustainable Development
FedEx Kinko's	Not available at FedEx Kinko's web site
General Motors	Climate Leadership Partnership Coalition for Environmentally Responsible Economies (CERES) Freedom CAR Suppliers Partnership for the Environment (SP) The Nature Conservancy U.S. Council for International Business (USCIB) U.S. Climate Action Plan World Business Council on Sustainable Development World Environment Center
Georgia-Pacific	Environmental Performance National Environmental Performance Track (program of the EPA)

continued

TABLE VII-2 Continued

Company	Environmental Partnerships and Memberships
Google	Climate Savers Computing Initiative Global Roundtable on Climate Change Google.org Renewable Energy R&D Initiative RE<C (Renewable Energy Cheaper than Coal)
IBM	Business Environmental Leadership Council World Business Council on Sustainable Development
Interface	Business Environmental Leadership Council California Climate Action Registry Canadian Industrial Program for Energy Conservation (CIPEC) Carpet and Rug Institute Climate Leaders CEO CAST Chicago Climate Exchange Envirosense Consortium, Inc. EPA's Green Power Partnership EPA's Landfill Methane Outreach EPA's SmartWay Transport Forum for Corporate Conscience Forum for the Future Global Roundtable on Climate Change Maine Green Power Connection (MeGPC) Michigan Business Pollution Prevention Partnership (MBP3) National Minority Supplier Development Council, Inc. (NMSDC) National Research Council North American Green Purchasing Initiative (NAGPI) Pollution Prevention Assistance Division (P2AD) Respect Europe Rocky Mountain Institute Society for Organizational Learning (SoL) The Forum for Corporate Conscience The Natural Step U.S. Green Building Council (USGBC) World Business Council on Sustainable Development
Johnson & Johnson	Business for Social Responsibility Harvard Medical School, Center for Health and the Global Environment The Conservation Fund Global Environmental Management Initiative The Nature Conservancy The Student Conservation Association The Trust for Public Land The Wilderness Society U.S. Climate Action Plan U.S. EPA National Environmental Performance Track (NEPT) World Business Council on Sustainable Development World Environment Center World Resources Institute World Wildlife Fund

TABLE VII-2 Continued

Company	Environmental Partnerships and Memberships
Michelin	Not available at Michelin web site
NatureWorks, LLC	Not available at NatureWorks or Cargill web sites
Pitney Bowes	World Environment Center
Staples	Carbon Disclosure Partnership Climate Northeast Partnership Green Power Market Development Group U.S. EPA Climate Leader Partnership U.S. EPA Green Power Partnership
Starbucks	Conservation International Earthwatch Institute Fair Trade Global Compact

SOURCES: Company web sites. See full list in Appendix 2.

emphasizes first the anticipated premium of \$30,000 for the green power purchase compared to conventional power, which was justified in terms of achieving “hedge in the face of unpredictable energy markets,” cost stability, and opportunity to reduce GHG emissions. The case also highlights, however, that “As it turned out, Austin Energy’s fuel charge for conventional power spiked in 2001 and IBM saved \$20,000 in its first year in the program. When the fuel charge rises again in 2004, IBM will save over \$60,000 for year . . . in November 2002, IBM approached Austin Energy to buy more green power (487,000 kWh). . . . In September 2003, IBM signed another five-year contract for 6.0 million kWh per year. . . .”²³

The Johnson & Johnson case on a project for Heat and Power from Landfield Gas implemented by its ALZA Pharmaceuticals facility in California similarly points out that: “[The project] was approved in 2003 with a pro forma annual pretax savings of \$900,000 and a 15 percent internal rate of return (IRR) based on energy price projections of electricity and natural gas. Unexpectedly high energy prices since 2003, however, have driven the return on the project above 20 percent IRR.”²⁴ These cases suggest that managers or environmental departments interested in promoting green energy within a company might be interested in gaining from the partnership precisely such a demonstration effect of the possibilities for improved cost management of green power, rather than being able to anticipate specific economic benefits.

²³ See www.thegreenpowergroup.org, corporate case studies.
²⁴ Ibid.

This analysis suggests that the overarching incentives for companies to join GPMDG are not entirely specific to this particular partnership. A survey by the World Economic Forum on the “business reasons for engagement in partnerships” shows that the top two reasons identified by respondents were “committing to the company’s own values, principles, policies and traditions” (over 80 percent of respondents) and “protecting corporate reputation and brand” (close to 50 percent of respondents) (World Economic Forum 2005, p. 14). Compared to other partnerships, however, the GPMDG provided the additional advantage of specific deliverables to support the implementation of companies’ environmental and energy goals.

ORGANIZATION AND GOVERNANCE

GPMDG exemplifies an organizational structure highly characteristic of partnerships. It functions as a relatively loose and non-hierarchical network with minimal institution of formal rules and procedures. At the same time, the distinctive features of this partnership were derived closely from its dual functional objectives: implementation of a set amount of green power in the U.S. commercial sector to be supported through the diffusion of relevant technology and policy information. The structuring of the partnerships involved mechanisms to ensure its external legitimacy and internal transparency and credibility, which have been critical for its success.

The identification and publicizing of a measurable sustainability objective, which had to be achieved within a period of time, was an important mechanism for safeguarding the environmental integrity of the initiative. Selecting companies with already established environmental commitments was another such mechanism. Once the 10 convening companies became interested in the partnership, they themselves agreed on the target of 1,000 MW of green power. This process assured the internal ownership of the goal while at the same time establishing a visible criteria for the provision of a specific sustainability good, thus preempting possible environmental skepticism of the corporate partnership approach.

Following the agreement of all members to be listed as partners behind a set of green power objectives, the group was announced through a press release. The press release was the only mechanism of voluntary commitment on the part of members and of “officially” establishing the group.²⁵ Each partner, including the WRI, signed an information non-disclosure agreement to facilitate an open dialogue within the group and a process of best practices diffusion. The non-disclosure agreements ensured that information about the partnership would be released only after unanimous

²⁵ Interview with Alexander Perera, WRI, January 2008.

approval of all members. There was a tacit understanding that membership would be kept small to facilitate more productive learning and to avoid diluting the sustainability and information-sharing objectives of the group. For similar reasons, new members are only admitted with unanimous approval, and companies which are direct competitors cannot be admitted to GPMDG.²⁶ This highly restrictive structure is relatively unique to GPMDG and was dictated by its very pragmatic approach toward achieving a set environmental goal through a club-like, committed membership.

Following the initial planning and leadership process, the WRI describes its role mostly as the “convener” of dialogue.²⁷ As the main hub of the network, WRI staff maintains the partnership web site and regular contact with individual companies through the year, discussing and identifying opportunities for new renewable projects. WRI staff also assists with collection of data and analysis of options and best practices to help companies implement projects of interest. The partnership meets as a group quarterly or three times a year. Each meeting is hosted by one of the members, and provides an opportunity for that member to showcase a particular technology implemented in their facilities. The meetings also provide a forum to share experiences across companies on green power options, where each company stands on its commitment to increase the share of green power, as well as on specific barriers encountered in the course of implementation and lessons learned. 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.²⁸

Decisions with respect to pursuing (or not pursuing) a specific green power project are managed internally by the member companies. Companies themselves also undertake the financing of their green power purchases and investment, while the partnership has helped facilitate the supply and diffusion of information on available incentives, public policies, or opportunities for bundling of purchases to achieve a better price. The budget of the partnership covers primarily research and administrative costs. It is managed by the WRI, but its size or structure is not publicly disclosed. Resources for running the partnership come primarily from external grants generated through program-specific grant proposals and typically supported by private foundations and in limited instance by governmental funding (e.g., the U.S. Department of Energy [DOE] and Environmental Protection Agency [EPA]), as well as from membership dues paid by compa-

²⁶ Information based on interviews with Alexander Perera, WRI, January 2008, and with Robert Heilmayr, WRI, March 19, 2008.

²⁷ Interview with Robert Heilmayr, WRI, March 19, 2008.

²⁸ Ibid.

nies as a mechanism to demonstrate their ongoing commitment to the partnership.²⁹

There is no formal annual report of GPMDG. WRI annual reports reflect the GPMDG experience on a bi-annual basis. Summary information on the type of projects implemented and the companies which realized them was published annually on the web site of the group until 2005.³⁰ The summary information and assessment of achievements is based on voluntary self-reporting by members, as well as shared information through regular interaction and on-site visits of green power projects. There are no formal procedures for delisting members on the basis of performance. However, one of the original GPMDG members (Delphi Corporation, which is listed as a member in the first press release of GPMDG, but not presently)³¹ left the partnership due to insufficient interest to maintain a commitment for green power. The GPMDG thus presumes self-enforcement through the voluntary participation of interested actors. The organization of the partnership was left deliberately loose and non-hierarchical to engage the members to the fullest and advance one of its main objectives of leveraging research, information, and knowledge for sustainability.

GPMDG operates in many ways as a learning network for corporate change, a concept elaborated by John Ruggie (2002) to describe the Global Compact. Similar to the Global Compact and other networks, for which information diffusion and learning are important functions, GPMDG seeks to initiate dialogue among business leaders. It has facilitated a “consensus based definition” (Ruggie 2002) of what constitutes green power and what is the corporate and societal value of green power. It does require some form of voluntary reporting and publicizes information through the Internet on the achievements of the network. Corporate case studies are another common instrument used by learning networks, including GPMDG, for sharing best practices and increasing the public visibility of their activities (Ruggie 2002).

The commonality of these information diffusion tools across partnership networks can help appreciate some important differences between partnerships, on one hand, and more formal publicly sponsored assessments, on the other hand, as two mechanisms for leveraging knowledge and technology for sustainability. Recent studies of scientific and technology assessments have challenged the notion of a linear diffusion of information from producers to users of knowledge.³² Instead, formal assessments have been conceptualized as a type of “boundary institution” or “social

²⁹ Interview with Alexander Perera, WRI, January 28, 2008.

³⁰ <http://www.thegreenpowergroup.org/groupevents.cfm?loc=us>

³¹ Ibid.

³² For a summary discussion of this literature see Clark et al. (2006).

processes” that straddle in more subtle ways the boundaries between science, policy making, and sustainability (Clark et al. 2006). In the context of multi-stakeholder learning networks, by contrast, the sense of a boundary between producers and users of technical knowledge for sustainability is almost dissipated. Such merging of the production and uptake of knowledge is not always practical, or even desirable, in a range of contexts. This is true particularly with respect to scientific organizations involved in core research, which need to maintain a distance from economic and political interests along with a rigorous peer-review process to ensure scientific credibility. Partnerships, therefore, could be providing a parallel, not necessarily an alternative, mechanism for leveraging multiple sources of information for sustainability, including the knowledge stock of target audiences (Andonova 2006b). This does not imply that partnerships functioning as learning networks are immune to issues of credibility of the information produced. This case study demonstrates that one aspect of GPMDG, which member companies valued most, was the already established technical reputation of WRI and the internal transparency of the partnership. These factors increased trust in the quality of partnership information and learning, as well as its external credibility.

The GPMDG network also has characteristics that are unique in a number of ways. The careful and specific planning of the membership structure and ex ante identification of measurable outcomes is absent in many partnership efforts. The Global Compact, for example, has been frequently criticized for lack of measurable indicators to assess its impact on corporate practice. The goals of the WSSD partnership initiative were also left open-ended (Andonova and Levy 2003), and as a consequence, the accountability and potential effectiveness of WSSD partnerships as mechanisms of sustainability governance have been called into question (Hale and Mauzarrall 2004). GPMDG experimented with a distinctive, tightly structured, club-like network for promoting a set of sustainability objectives through learning and information exchange. The implementation and outcomes of this approach are assessed in the following section.

IMPLEMENTATION PRACTICES AND OUTCOMES

The implementation and sustainability impacts of multi-stakeholder partnerships have been notoriously difficult to assess. This is due to multiple factors. Many of the partnership initiatives are relatively new, and in some sense a running target, as they expand, contract, or disappear. Some partnership programs, as already indicated, fail to establish clear and publicly available criteria for assessment of outcomes. The quality of implementation reporting is also highly variable across partnership initiatives and sometimes even across projects within partnership programs. But

even when information on partnership outcomes is more readily available, assessing their independent impact poses an additional analytical hurdle of disentangling their contribution to sustainability beyond and above what could have been achieved in the absence of a burgeoning number of partnerships. The latter analytic problem is not unique to partnerships. Scholars of intergovernmental environmental regimes and global environmental assessments have resorted to multiple methods such as counterfactual analysis, process tracing, and comparative case design to disentangle the causal impact of these institutions (Haas et al. 1993; Miles et al. 2002).

In the case of GPMDG, contrary to many partnerships, it is relatively unproblematic to assess implementation and outcomes against the immediate objectives of the group. According to the most recent March 2008 GPMDG-US update, the 15 member companies have purchased or implemented 733.5 MW toward the 1,000 MW objective.³³ The completion of the first green energy projects as part of the group totaling 15 MW were announced in 2002. These included projects by the General Motors Corporation, IBM, Johnson & Johnson and Kinko's, which experimented with a range of technologies such as landfill gas for fuel and electricity, photovoltaic panels, and purchase of electricity generated by wind, geothermal sources, and small hydro.³⁴ In 2005, the group made the largest annual contribution toward its 1,000 MW objective, implementing 315 MW of green power, while in 2006 and 2007 members procured 111.8 MW and 118.2 MW, respectively.³⁵ These trends imply a high likelihood that the group would achieve its target of 1,000 MW of green power by 2010.

Another tangible outcome of the partnership is the demonstration of a wide array of green energy technologies. Virtually all types of green power have been tried out as part of the initiative. Of the 733.5 MW of green energy developed, 471.8 MW was purchased in the form of wind RECs, 31 MW from biomass RECs, and 24.4 MW from landfill gas RECs. In addition, the group has facilitated the development of 34.8 MW of wind power, 72.8 MW of landfill gas and biomass-based energy, 44.5 MW of low impact hydro, 36.3 MW of fuel cells, and 18.4 MW solar and other power.³⁶

While these figures provide a clear measure of the implementation of GPMDG objectives, focusing on them alone is not sufficient to address the counterfactual question of the added value or independent impact of the partnership. Wouldn't these and similar projects have been implemented and green energy purchased even in the absence of the partnership? Many organizations of smaller size or resources have designed and pursued indi-

³³ Perera (2008).

³⁴ <http://www.thegreenpowergroup.org/pdf/pressrelease.PDF>, accessed March 2008.

³⁵ Perera (2008).

³⁶ Perera (2008).

vidually green power. Colby College, for example, following a successful initiative of its Environmental Advisory Group, began purchasing green power in October of 2003. It presently purchases 100 percent green electricity (approximately 17,428,000 kWh annually), with roughly equal shares of Maine hydro power and Maine biomass power. In addition, it purchases RECs to offset electrical demand in the newly constructed Schair-Swanson-Watson alumni building required for its Green Building certification, bringing the share of green power purchased by Colby to 115 percent.³⁷ We could stipulate on the basis of this and many other similar examples that GPMDG companies could have and would have pursued green energy even without GPMDG. Indeed, 7 of the 15 GPMDG-U.S. members are listed by the EPA among the national top 25 purchasers of green power (Table VII-3). This indicates that companies have achieved ambitious renewable energy targets, which go above and beyond what they have implemented as part of the partnership.

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.³⁸ To substantiate such an argument, however, it is necessary to consider not only the specific goods produced by the partnership, but also more subtle changes in social processes such as issue framing, corporate culture, timing of market impact, and the formation of new policy coalitions, that could be linked to the implementation of the partnership (Clark et al. 2006; Kingdon 1984; Litfin 1994; Sabatier 1988; Social Learning Group 2001). By tracing the changes in social and market processes we could gain a more nuanced understanding of impacts, which would not have necessarily occurred in the absence of the network.

As one of the first initiatives focusing specifically on green power, GPMDG has had an impact on the framing of debates related to energy security and climate change. Such influence has materialized on several fronts. As a consequence of corporate engagement in the partnerships, the focus on green renewable energy as opposed has gained currency among GPMDG members, but also more broadly in the corporate sector and beyond. The EPA's Green Power Partnership, which serves as a forum to recognize the organizations which support green power, has played an important role in further diffusing the concept in the broader societal and policy space. GPMDG and GPMDG companies have received multiple awards as part of the EPA's Green Power Partnership, which is a direct rec-

³⁷ <http://www.epa.gov/grnpower/toplists/partner100.htm>.

³⁸ Interviews with with Robert Heilmayr, WRI, March 19, 2008; Alexander Perera, WRI, January 2008; and Dan Usas, Johnson & Johnson, April 2, 2008.

TABLE VII-3 GPMDG-U.S. Member Companies Listed by EPA Among the Top 25 Purchasers of Green Power

GPMDG Company	Green Power % Total Electricity Use ^a	Annual Green Power Usage (kWh)
Whole Foods	100	
Johnson & Johnson	39	457,851,838
Starbucks	20	185,000,000
DuPont	4	180,063,500
Nature Works	100	130,000,000
Staples	20	121,800,000

^aReflects the amount of green power as a percentage of total purchased electricity use.

SOURCE: <http://www.epa.gov/grnpower/toplists/top25.htm>.

ognition of the contribution of the partnerships to promoting green power as a focal point of practice and policy discourse.

GPMDG has also contributed to collective learning and diffusion of best practices with respect to green power in many tangible ways. One of the early information documents on the partnership titled “Background and Lessons from the Green Power Market Development Group” speaks of the scope of networking, research, and leveraging of information undertaken for the development of just the first 15 MW as part of GPMDG:

In December 2000, with the potential loss of the production tax credit for wind projects in December 2001, the Green Power Group issued a “request for information” on wind projects across the United States. This request for information generated a tremendous response: 12 different companies shared information on over 30 projects. Five projects totaling over 200MW were selected by different members of the group for research and review in February 2001. Two projects were withdrawn by suppliers, two projects were bought by utilities who were seeking green power, and one project was subject to high service charges by the utility, driving the price out of the buyer’s range. For many developers this is the first time they have engaged non-utility buyers. . . . Beginning in March 2001, the Green Power Market Development Group began mapping landfill gas sites identified through the EPA’s Landfill Methane Outreach Program with over 250 company facilities. The review included potential opportunities either to generate electricity or to use landfill gas as a substitute fuel for natural gas and reduce dependence on fossil fuels. The Green Power Group began to meet with developers of landfill gas sites in the spring of 2001. Members of the Group have collectively identified and reviewed over 30 potential sites. As of March 2002, three sites have been developed, six sites are in negotiation, and four sites are undergoing feasibility studies.³⁹

³⁹ See http://archive.wri.org/newsroom/mediakits_text.cfm?ContentID=160.

The above quote illustrates the role of GPMDG in bridging gaps between knowledge, technology, markets and sustainability practice, as well as the added value of this approach for members in terms of driving down the transaction cost for action and providing a forum for collective action. A member of the WRI team commented that the extent of member willingness to share best practices and lesson learned through discussion and corporate case studies was larger than anticipated, and has been a critical factor for the success of the group as a learning network and its expansion to new markets, namely Europe and California.⁴⁰

An analysis of the corporate case studies, which focus on different companies and projects, reveals several recurring themes of collective learning. An important lesson reflected across corporate case studies has to do with the location specifically related to the implementation of green power. Through the support of the partnership, companies have been able to explore how best to use locally available resources and when renewable resources are scarce, to consider alternative products, such as RECs. Most of the case studies discuss site-specific projects as well as context-specific public or price incentives for pursuing green power. Given the high variability and fragmentation of standards and incentives within the United States, the partnership provided an important service in coordinating relevant information, identifying potential roadblocks, and taking advantage of available incentives.

The importance of community relations in the development of green power is another recurring theme in the case studies, which was not fully appreciated by the partnership initially.⁴¹ While renewable energy installations might be perceived as a low-risk and highly visible opportunity to green the image of a company, the practical implementation of such technologies can be met by uneasiness or resistance by local communities as a consequence of potential or perceived negative externalities on the local environment or landscape. Several projects, among which Nike's wind park in Laakdal, Belgium, and Johnson & Johnson's landfill gas project in its facility ALZA Pharmaceutical in California had to develop multi-pronged strategies including public consultation, environmental impact assessments, investment in community energy efficiency, and technology choice to minimize external impacts, smooth implementation, and support community relations. On the other hand, British Telecom's (BT's) case study of its on-site solar and wind system near its Goochilly Visitors Center, United Kingdom, highlights the enthusiastic reception of the project by the public and BT employees, motivating the company to consider replicating similar projects elsewhere.⁴²

⁴⁰ Interview with Robert Heilmayr, WRI, March 19, 2008.

⁴¹ Interview with Alex Perera, WRI, January 2008.

⁴² For more detail on the case studies see www.thegreenpowergroup.org.

GPMDG also impacted processes of market development in several distinctive ways. Through research, advocacy, and leveraging of members' purchasing power, GPMDG made a unique contribution in pioneering and promoting purchases of RECs. A WRI report describes RECs as tradable instruments that reflect the "environmental attributes—for example, avoided CO₂ emissions—that are created when electricity is generated using renewable resources instead of using fossil fuel sources such as coal, oil, and natural gas" (Hanson and Van Son 2003, p. 1). RECs represent a price premium for green power, which a company can choose to pay to help developers sell it at a competitive market price to the grid and thus support its expansion. The 2003 WRI report of GPMDG highlights several benefits of RECs for member companies, including meeting GHG emission and renewable energy targets at a lower price and transaction cost, using RECs for brand differentiation and improved customer relation, and achieving access to wider selection of suppliers and thus circumventing some of the geographical, economic, or connectivity constraints associated with green power (Hanson and Van Son 2003). In 2003, 10 GPMDG members—DuPont, Staples, Alcoa, Cargill Dow, Delphi Corporation, Interface, Johnson & Johnson, Kinko's, Pitney Bowes and WRI—purchased collectively 36 MW in RECs. This was the largest purchase of RECs in the United States at the time. In the following year, 6 GPMDG members made a similar purchase of 39 MW in RECs, supporting biomass generation and wind power. Presently RECs account for 63 percent of the total 733.5 MW of green power developed as part of the partnership.⁴³ The total market sales of RECs in the United States in 2003 amounted to 600 million kWh. By 2006, the REC market grew over 10-fold to 6,800 million kWh.⁴⁴ While GPMDG cannot claim all the credit for this growth, it has had a substantial impact by supporting REC markets when it did and at the scale which it achieved through bundling the interest of its members.

The partnership also had a spillover effect on policy processes despite its narrow and pragmatic focus. Over time, the group realized that for markets to scale up, it is critical to have supportive policies and institutions. In its policy work, GPMDG had the advantage of leveraging several kinds of political resources: the public visibility and technical reputation of WRI; the market and political influence of the companies involved in the initiative; and, probably most importantly, the credibility associated with actual implementation of green power projects by these actors. While GPMDG policy letters to legislators are typically signed by two or three individual company representatives, these documents start by emphasizing the background of the group; its core mission and achievements; as well

⁴³ Perera (2008).

⁴⁴ Bird et al. (2007, p. 4).

as the commercial and societal benefits of green power. The policy initiatives focus on several issues that, from the perspective of the companies and the WRI, are critical for supporting the expansion of green power in the United States. These issues include providing production tax credits for longer time periods (5-10 years) to improve the investment security for developers; extending the higher 1.9 cent per kilowatt-hour tax credit to all green power (currently it only applies to wind, closed-loop biomass, and geothermal energy facilities, while other green energy projects qualify for 0.9 cent/kWh tax credit); and addressing issues of connectivity and transferability of production tax credits to provide greater flexibility for companies and public utilities to develop green power projects.⁴⁵

The extension of the partnership to Europe with the establishment of GPMDG-EU in 2005 and to California with the announcement of GPMDG-California also speaks of a wider impact of the original partnership network on corporate strategies. The European case is particularly interesting. Contrary to the U.S. context in 2000, when the relatively thin market and policy development provided a wide gap to be filled by engaging commercial interests in a partnership for green power, the EU represents the most advanced market for renewable energy technology and the most regulated market in terms of GHG emissions and trading. Even in the European context, however, the value of the network in facilitating dialogue, learning, and lending credibility to a company's environmental commitments are most frequently emphasized.⁴⁶ The EU group has not adopted a specific target for green power, functioning primarily as a learning network. The California group responds to another set of incentives related to the pro-active and rapidly changing policy environment in the state, which is ripe in opportunities to influence green power development.

Overall, the GPMDG partnership has implemented a range of green power outcomes in accordance with its original goals. At the same time, it has been a part and in some instances one of the initiators of important processes of social, market, and political transformation. The growing interest to frame the U.S. energy debate around the concept of green power, the involvement of corporate actors in policy coalitions around this concept, the growth in green power markets and instruments such as RECs, the appreciation of the local nature and community aspects of green power development, and the increased confidence of large commercial buyers in green power options were all impacted to a smaller or larger extent by this network.

⁴⁵ Policy documents are available via <http://www.thegreenpowergroup.org/policy.cfm?loc=us>.

⁴⁶ Interview with Lars Lundahl, Tetra Pak, April 1, 2008. See also www.thegreenpowergroup.org for GPMDG-EU corporate case studies.

ASSESSMENT

Partnerships for sustainability are broad and diverse phenomena. This case study contributes to illuminating the significance of these phenomena by focusing on one fragment in the partnership mosaic. The study contributes to understanding the dynamics of a particular type of partnership—"private," outcome-oriented networks, which often seek to achieve public benefits through the provision of valued club goods for members. To draw the broader implications of this case, it is also necessary, however, to consider it in the context of the larger mosaic. How is this type of network similar to and different from other types? Which of its structural characteristics contributed most to its success? Are there any potential drawbacks to addressing sustainability issues through private networks and club goods?

The GPMDG case illuminates some of the broader advantages of partnerships as learning networks associated with their non-hierarchical structure, voluntary self-interest membership, an easy exit option, and leveraging of interest and information. Ensuring the internal and external credibility and legitimacy of the process remain important, however, as with other institutions for information assessment and diffusion. GPMDG was successful as a learning network to a large degree because its lead actors took into account issues of credibility and legitimacy. The functional design of the partnership contributed to its functional success. Club-like networks dominated by private actors, but organized behind grand public goals, are vulnerable to skepticism. GPMDG preempted such skepticism by instituting a set of clearly defined sustainability goals and by reporting regularly on the extent to which and mechanisms through which these goals are being addressed. It also made explicit the linkages and positive interdependence between the club goods it promised to deliver for its members and sustainability benefits. The applicability of these insights on the nexus between partnership design, credibility, and functional success is likely to be relevant to most corporate-driven or -dominated networks, and possibly for other partnership types.

Understanding the anatomy of GPMDG also raises a discussion on potential limitations of club-like partnership networks. Such partnerships assume that by voluntarily supporting and leveraging resources for a set of club goods, the partnership would contribute directly or indirectly to larger public goods. One potential risk of this approach is that even if the partnership is highly successful in achieving its immediate goals, it could skew public sustainability objectives and policies toward the particular sphere of interests of network members. This is not necessarily a bad thing, but could be an important limitation of club-like networks. Over time, GPMDG 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.

Other important instruments for reducing GHG emissions such as taxing fossil fuels to reflect their full environmental cost or introducing more ambitious renewable portfolio standards are largely left out. The enthusiastic support for a particular policy instrument which advances desired club goods could have the unintended (or even intended) effect of crowding out potentially more efficient policy alternatives. Over-reliance on RECs, for example, might have potential drawbacks such as undermining the attractiveness of experimenting with new renewable technologies or resulting in double counting of emission reduction credits by developers, buyers, and/or public entities, unless some type of certification is put in place. It is also not obvious that all RECs meet the “additionality” requirement, e.g., that they stimulate investment in renewables that would not be made in the absence of this price support. When fossil fuel prices are very high such investments may make sense on their own. While RECs and tax credits change the relative prices of energy sources, an alternative strategy might be to change the relative prices by making fossil fuels more expensive, with either a tax or a cap and trade. This latter strategy would have the additional benefit of providing stronger incentives for consumers to increase the efficiency of energy use. Thus, RECs might be more appropriate as a transition instrument toward more rigorous regulation of the environmental externalities of fossil fuels.⁴⁷ The GPMDG partnership has not engaged in such discussion with respect to RECs.

Another potential pitfall of club-like networks is their limited external and public accountability. “Private” networks cannot be obliged or even expected to provide detailed information on all aspects of their operation, particularly if such information is considered sensitive. At the same time, when club-like networks claim to contribute to the public good, this inevitability raises expectation about some degree of public reporting and accountability. In the case of GPMDG, this dilemma was resolved successfully 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 failures as well as successes. Suspicion of uneven reporting would inevitably undermine the credibility of partnership information and claims, and by extension the legitimacy of network-based multi-stakeholder governance.

⁴⁷ I am grateful to Tom Tietenberg for discussing these points with me and for his insights.

CONCLUSION

GPMDG exemplifies a highly successful partnership for linking knowledge, technology and sustainability outcomes. This study illuminates the sources of this success. It also points to the need of further cross-cutting and comparative analysis. Partnership research has still not addressed in a consistent manner and across a number of cases questions about the outcomes and impacts of partnerships. This report suggests that it is reasonable to establish a set of common metrics that scholars of partnerships can use to assess outcomes against partnership goals, as well as to trace their impacts on social learning, markets, policy discourse, and coalitions.

A second promising avenue for cross-cutting research has to do with understanding the conditions under which partnerships are more likely to succeed as new instruments of collective action for sustainability. Do these conditions vary according to the structural and functional type of partnerships? Is the establishment of clear, commonly accepted goals and transparent structure a necessary condition for partnership success? These types of questions can be more effectively addressed through comparative case studies, designed so as to consider partnership failure, not just success.

Finally, cross-cutting comparisons are important to understanding the institutional embeddedness and interconnectedness of partnerships, and their role in linking knowledge and action across scales and across space. The GPMDG case, for example, is part of a broader landscape of partnerships for renewable energy, and even a larger set of climate partnerships. Many of the members of GPMDG are also members of other partnership initiatives providing a very direct link between networks. How do partnerships on similar issues compare? Are business-oriented initiatives on renewable energy, for example, different in their objectives compared to those driven by public entities or advocacy organizations? Do partnerships operating in the same issue domain interact? Do they complement, compete, or bypass each other? Approaching such questions with common methods of research promises to illuminate more fully the complex patterns of the sustainability partnerships mosaic.

APPENDIX 1: SOURCES OF DATA PRESENTED IN TABLE VII-1

www.pewclimate.org

<http://www.dow.com/commitments/goals/2015goals.htm>

<http://www.dow.com/commitments/goals/effortstodate.htm>

http://www2.dupont.com/Sustainability/en_US/Footprint/index.html

http://www2.dupont.com/Sustainability/en_US/Performance_Reporting/data_summary.html#5

<http://commitment.fedex.designcdt.com/greenhousegas>

<http://www.gm.com/corporate/responsibility/environment/principles/index.jsp>
<http://www.gp.com/aboutus/csrr/environment/policy.html>
<http://www.google.com/corporate/green/energy/reducing.html>
<http://www.ibm.com/ibm/environment/climate/>
http://www.jnj.com/community/environment/policies/climate_friendly.htm
<http://www.michelin.com/corporate/front/templates/affich.jsp?codeRubrique=76&lang=EN#Env>
<http://www.natureworksllc.com/our-values-and-views/green-manufacturing/greenhouse-percent20gas-percent20reductions.aspx>
http://www.pb.com/bv70/en_us/extranet/contentfiles/editorials/downloads/ed_OurCompany_css_Corp_Responsibility.PDF
<http://www.staples.com/sbd/content/about/soul/energyclimate.html>
http://media.starbucks.com.edgesuite.net/dotcom/csr_reports/OMR-005_FY06_CSR_AR.pdf

APPENDIX 2: SOURCES OF DATA PRESENTED IN TABLE VII-2

Alcoa: http://www.alcoa.com/global/en/about_alcoa/sustainability/env_partnerships.asp
 Dow: <http://www.dow.com/commitments/care/index.htm>
 DuPont: http://www2.dupont.com/Sustainability/en_US/sustain_action/initiatives/index.html
 FedEx Kinko's: n/a
 General Motors: <http://www.gm.com/corporate/responsibility/partners/>
 Georgia Pacific: <http://www.gp.com/aboutus/csrr/environment/performance.html>
 Google: <http://www.google.com/corporate/green/energy/index.html>
 IBM: n/a
 Interface: <http://www.interfacesustainability.com/commit.html>
 Johnson & Johnson: <http://www.jnj.com/community/environment/partnerships/index.htm>
 Michelin: n/a
 NatureWorks, LLC: n/a
 Pitney Bowes: http://news.pb.com/article_display.cfm?article_id=4297
 Staples: <http://www.staples.com/sbd/content/about/soul/energyclimate.html>
 Starbucks: <http://www.starbucks.com/aboutus/pressdesc.asp?id=742>
<http://www.starbucks.com/aboutus/newpart.asp>
<http://www.starbucks.com/aboutus/StarbucksAndFairTrade.pdf>
<http://www.earthinstitute.columbia.edu/grocc/participants.html>
<http://www.us-cap.org/about/members.asp>
<http://www.wbcds.org/web/about/north-america.htm>

Web sites were browsed thoroughly for evidence of environmental partnership listings; where available, site maps were used to ensure web pages listing partnerships were not missed. Finally, searches were performed via google.com to locate the word “partnership” on a company’s web site (only the first 10 results were examined).

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VIII

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

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INTRODUCTION

The 2002 World Summit on Sustainable Development (WSSD) in Johannesburg will be mainly remembered for the promotion of a new form of global governance: the so-called partnerships for sustainable development. These initiatives typically bring together actors from various sectors—governments, industry, activists, scientists, or international organizations—and build on a voluntary agreement to achieve a specific sustainability goal. This report assesses one of these novel multi-stakeholder partnerships that has received sustained attention from academic and practitioners' circles alike: the Renewable Energy and Energy Efficiency Partnership (REEEP).

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 CONTEXT OF THE RENEWABLE ENERGY AND ENERGY EFFICIENCY PARTNERSHIP

The Renewable Energy and Energy Efficiency Partnership forms part of a larger universe of partnerships that have been devised and established around the 2002 WSSD. It is a *Type II* partnership, denoting its voluntariness and flexibility, versus the intergovernmental *Type I* partnerships (bound by treaties and declarations). They were formally defined, at the fourth preparatory meeting of the summit, as “specific commitments by various partners intended to contribute to and reinforce the implementation of the outcomes of intergovernmental negotiations of the WSSD (Programme of Action and the Political Declaration) and to help the further implementation of Agenda 21 and the Millennium Development Goals (MDGs)” (Kara and Quarless 2002). The United Nations (UN) invited such partnerships to register with the secretariat of the Commission on Sustainable Development (CSD), a sub-committee of the UN Economic and Social Council. By April 2008, 342 multi-stakeholder initiatives had been listed in the CSD Partnerships Database.¹ In addition, many similar agreements are in place but have not been formally registered. The total number of partnerships for sustainable development is likely to exceed 400.

All partnerships address at least one of the Millennium Development Goals² and/or one of the five so-called WEHAB areas (water, energy, health, agriculture, and biodiversity) defined at the Johannesburg Summit. Within this broad framework, the thematic focus of partnerships is quite diverse, ranging from gender equality to climate change. Partnerships also vary in terms of their planned duration and the number and type of partners involved.

The Political Context of Partnerships for Sustainable Development

The fact that partnerships emerged as an official outcome of a UN summit is fairly unique, since official outcomes of intergovernmental meetings usually comprise international agreements. To explain this outcome, scholars have argued that partnerships are an answer to a demand for better implementation of sustainable development. However, partnerships

¹ <http://webapps01.un.org/dsd/partnerships/public/welcome.do>. Last access: May 4, 2008.

² Millennium Development Goals are listed as follows on the United Nations site for the MDG Indicators (<http://mdgs.un.org/unsd/mdg/default.aspx>; last access: October 5, 2006): Goal 1: Eradicate extreme poverty and hunger; Goal 2: Achieve universal primary education; Goal 3: Promote gender equality and empower women; Goal 4: Reduce child mortality; Goal 5: Improve maternal health; Goal 6: Combat HIV/AIDS, malaria, and other diseases; Goal 7: Ensure environmental sustainability; and Goal 8: Develop a global partnership for development.

seem not to emerge where there is a particular regulatory deficit (Andonova 2006; Biermann et al. 2007: 48); nor do most partnerships have the (financial) means to reach their self-stated goals (Biermann et al. 2007: 246); nor do they raise much additional funds for sustainable development (Hale and Mauzerall 2004: 235); and partnerships always arise when there is greatest need (Biermann et al. 2007: 249). Rather, the partnerships tend to be supply driven, and are often politically motivated (Andonova and Levy 2003: 23).

Partnerships were heavily supported by and pressured for by the North, the United States in particular. The UN responded to the pressure from the North, demanding business to be included into the UN circuit as a part of civil society (foreword by Boutros Boutros-Ghali in Zammit 2003: xiv). At the Johannesburg summit, there were considerable differences among developed countries about what partnerships should look like. According to a member of the bureau of the WSSD, the idea of partnership was born within the bureau itself.³ The bureau considered partnerships “just the articulation of relationships that already existed.”⁴ However, national delegations considered partnerships as politically contentious and were divided over the idea of partnerships. Most support came from the United States and corporate lobbyists, but the European Union (EU) was also supportive of partnerships as an official outcome of the upcoming Johannesburg conference. The main points of discussion were the U.S. rejection of additional timetables and international agreements, whereas the EU wanted both in addition to a more stringent monitoring of the partnerships process.⁵

Developing countries were not in favor of the proposal with much suspicion, but were not united on the issue (foreword by Boutros Boutros-Ghali in Zammit 2003: xiv). The G-7 feared that the partnerships discussion would distract from the intergovernmental process and the need for new international commitments. On the other hand, other countries, like China, were against the direct support of non-governmental organizations (NGOs) by foreign investment.⁶

In spite of initial reluctance on the part of the G-7 and China, partnerships for sustainable development were agreed upon as an “official outcome” of the Johannesburg summit. During the preparations for the WSSD, it became clear that few binding targets and timetables would be agreed upon, primarily due to U.S. skepticism about additional international agree-

³ Personal interview with WSSD Bureau member, May 2007, New York.

⁴ Ibid.

⁵ Personal interview with EU delegate to CSD 11, May 2007, New York.

⁶ Ibid.

ments,⁷ and therefore partnerships would possibly be the only outcome. Within the G77 there were a few advocates; South Africa and Indonesia, as hosts of the WSSD and the preparatory process, wanted some visible outcomes. The promise of additional investments partly channeled through partnerships also convince doubting delegations in favor of the partnership process (Mwanza 2005: 105). Guidelines for the partnership were not finalized at the WSSD. Indeed, the proposed UN mandate on partnerships was so weak and the guidelines remained so loose that even the most reluctant delegations could finally agree upon them.⁸

In the follow-up process, the EU raised concerns about the inadequate monitoring process. This caused disagreement and eventual deadlock over additional, stricter guidelines.⁹ Therefore, the pre-WSSD status quo remained in place, resulting in a UN partnership model, which matches closely the initial U.S. proposal for partnerships. Most commentators therefore maintain that the United States was the main driver in the partnership process (Lempert 2002; Whitfield 2005: 363). CSD was charged with the management of the registration database. It is within this backdrop that REEEP needs to be evaluated.

REEEP in the Context of CSD Partnerships

With more than some 250 partners, almost 50 governments involved, \$16,450,000 of available funds, and an annual budget of just over €5,000,000, REEEP is one of the largest networks of stakeholders working for sustainable development. The average number of partners per partnership registered with the CSD is 27.8. Accordingly, it has more state partners than average, but their geographical and developmental distribution is generally in line with the rest of the CSD partnerships, the most important exceptions being fewer African states and more industrialized states on board.¹⁰

⁷The U.S. reluctance to commit to new global accords was at least partially informed by the terrorist attacks little than a year before the WSSD. With international priorities shifting towards security concerns the WSSD was “not born within the optimism and high hopes that had accompanied earlier summits” (Najam and Cleveland 2005: 126).

⁸ Personal interview with Jan Pronk, UN Special Envoy to the WSSD, April 2008, The Hague.

⁹ Personal interview with EU delegate to CSD, May 11, 2007, New York.

¹⁰ All quantitative information, unless otherwise indicated, is taken from the Global Sustainability Partnerships Database (GSPD) currently developed at the Institute for Environmental Studies (IVM). The GSPD contains data on 331 partnerships as of August 2007. Cf. Biermann et al. 2007.

Partnership's Growth—from Johannesburg Until the Present

The United Kingdom was the initiator of the Partnership and the main driving force in its functioning since the earliest stages. 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 United Kingdom, and Indonesia and UNIDO as the first major partners. Nine other governments had expressed their interest (among them Austria, India, and Norway, key governmental partners today); 14 others were invited. Efforts were made to acquire important partners from the private sector (e.g., Shell, IT Power, UK Business Council on Sustainable Energy, BP), NGOs (WWF, Greenpeace), and IOs (ASEAN, UNEP, IEA). The initial provisions expected \$500,000 of U.K. funding for the temporary coordinating Secretariat, to be supported by other donors at later stages. First goals and targets were sketched out at that time.

This preliminary phase was concluded between August and September 2002, during the UN WSSD in Johannesburg, when the Partnership was officially presented. The REEEP was 'established' as one of the *Type II* outcomes, with the United Kingdom as the driving force of the new initiative. Pilot programs were set up in Brazil, Sri Lanka, and India (in cooperation with BP Solar and Shell Renewables), the Philippines (with Bronze Oak), China, and Europe. After that, there were two program cycles which were run by the Foreign and Commonwealth Office (FCO) branded as REEEP and managed through the U.K. embassies. There were about 48 projects supported through these two cycles during 2003 and 2004. A full Partnership meeting was held in London, September 15-16, 2003, shortly before the official launch.

REEEP was formally launched at a conference in London on October 23, 2003, with the governments of Australia, Austria, Brazil, China, the Netherlands, Germany, Ireland, Italy, Spain, and the United Kingdom as among the "founding members." As the deputy director of REEEP Binu Parthan points out:

. . . it was the global, political positioning of REEEP, showing the importance of issues that the initiative was addressing. It also showed the support that REEEP had, because it was attended by the highest levels of the British government.

The United States joined REEEP on April 28, 2004. In May 2004 Marianne Moscoso-Osterkorn was appointed International Director of the International Secretariat, and the initiative gained formal legal status as an

international NGO registered in Austria.¹¹ On June 1, 2004, the first General Meeting of Partners was held in Bonn, as a side event of the Intergovernmental International Conference for Renewable Energies (“Renewables 2004”). Partners present at the meeting adopted a long-term program of work, identified future funding possibilities, and agreed on a governance structure. The meeting approved a set of documents and statutes that comprises the REEEP “constitution.” A Governing Board was also introduced, scheduled for bi-annual meetings. Since then only minor changes were made to the institutional design of the organization—in 2005 eight Regional Steering Committees were added to the existing Regional Secretariats.

Geographical and Temporal Focus

REEEP is meant to be an *open-ended initiative* to facilitate the multi-stakeholder cooperation in the renewable energy and sustainable development sector. As such it does not have an intended end date.¹² Its focus was *global* from the start, and with an International Secretariat, eight Regional Secretariats (RSs) and two additional local focal points (North Africa and West Africa),¹³ the partnership is being implemented in 57 countries on six continents. Apart from regional governing bodies, REEEP uses lower level representations of the hosting institutions in the countries of implementation (e.g., REC Country Offices and Field Offices). The RSs are sub-contracted independent organizations.

The Partnership’s geographical scope may change in the years to come, as it considers concentrating efforts in a few key states (Brazil, China and India, Mexico and South Africa), to achieve greater impact.

REEEP projects are implemented worldwide. In the 2005/2006 portfolio, 24 percent were being run in Africa, 24 percent in the Americas, 22 percent in the Asia/Pacific region, 16 percent in Europe, and the remaining 14 percent had global or multi-regional scope (E3G 2007). In the recent

¹¹ The International Secretariat is based in Vienna, Austria, in the UNIDO headquarters. The eight Regional Secretariats are South East Asia and Pacific RS (Carlton Victoria, Australia, hosted by the Australian Business Council for Sustainable Energy), South Asia RS (New Delhi, India, India Habitat Centre), Southern Africa RS (Cape Town, South Africa, AGAMA Energy), Russia and Former Soviet Union RS (Moscow, Russia, Russian Regional Environmental Centre), Latin America and the Caribbean RS (Washington DC, USA, Organization of American States), North America RS (Washington DC, USA, Alliance to Save Energy), East Asia RS (Beijing, China, Chinese Renewable Energy Industry Association), Central and Eastern Europe RS (Szentendre, Hungary, Regional Environment Center).

¹² REEEP belongs to the 10 percent of WSSD partnerships that have indicated an open-ended timeframe, compared to an average planned duration of partnerships of around five years.

¹³ North Africa: Based within the Mediterranean Renewable Energy Programme (MEDREP), Rome, Italy; and West Africa: Based in Economic Community of West African States (ECOWAS), Abuja, Nigeria.

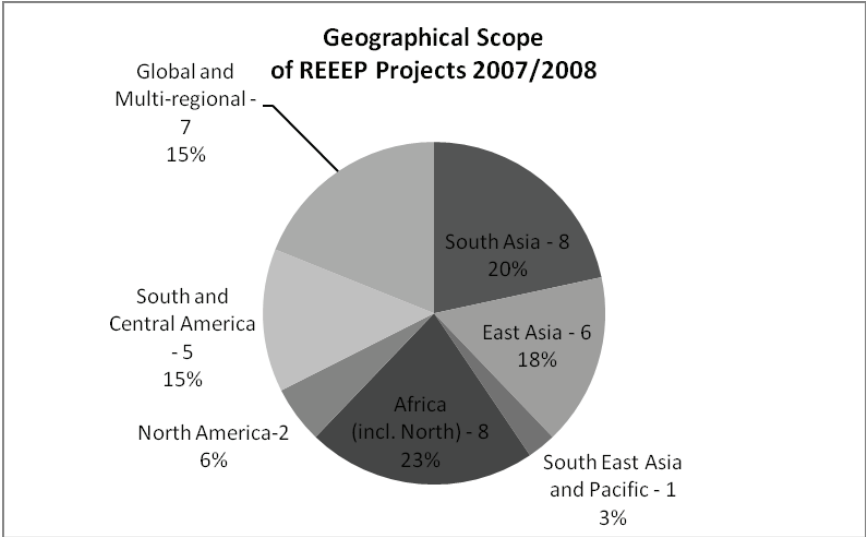


FIGURE VIII-1 Geographical scope.
SOURCE: Author’s adaptation on data in REEEP (2007a).

portfolio for 2007/2008 the percentage of global projects remains at a similar level (Figure VIII-1).

Despite its large scale and a global scope, REEEP puts great emphasis on its regionalization (or “act locally, think globally”) as a strategy for action. As we shall see in the following sections, the decision-making procedure is initiated from the bottom up, and an important role is played by the RSs—REEEP’s “eyes on the ground” that ensure REEEP “meets regional needs” (REEEP 2008). In that sense it can be said that the Partnership combines a global scope with a localized management approach.

Partners

REEEP is a cooperative platform for more than 3,500 members, and 250 registered partners, among them 45 governmental actors (both national and sub-national), including all of the G7 states, 180 private entities, and 6 international organizations (UN DESA 2008). The membership remains open, and the number of partners is constantly growing. More than one third of the governmental partners are European, 31 percent are from Asia (with 6 separate regional governments in India), 18 percent are American states, 11 percent from Africa, and 2 governmental partners (Australia and New Zealand) represent Australia and Oceania.

Before the Partnership was legally formalized as an Austrian NGO, there was no strict procedure for becoming a partner. This constituted a problem for the initiative, especially with regard to governmental partners on the initial stages. A number of states that declared some commitment to REEEP before or during the London meeting, most notably the government of Australia, soon became inactive observers rather than actual partners. Since there were no binding commitments and no signed documents, there could also be no “institutional memory” of the declarations, and one shift on the ministerial level could cause much damage to the cooperation within the REEEP framework. It took three years to bring the Australian government back into the Partnership—a founding member, participant in the London Conference, Australia rejoined REEEP only in 2005.

The current constellation of partners classified by sector is illustrated in Figure VIII-2. Twenty-six percent of the partners are local, regional, and central governments, together with international organizations resulting in 32 percent of “public” involvement. Sixty-five percent of partners, twice as many, can be classified as “private” (both for- and non-profit), while the remaining partners are scientific organizations and other partnerships. REEEP has signed six Memoranda of Understanding with international organizations and partnerships working in the energy sector. These partners are CLASP, Energy and Environment Partnership with Central America, Global Network on Energy for Sustainable Development, Global Village Energy Partnership, International Energy Agency, and the Mediterranean Renewable Energy Program (MEDREP).

The Secretariat welcomes governmental, business, academic, and NGO co-operation, as “any natural or legal person identifying with the aims of REEEP may apply to become a Partner” (REEEP Statutes 2004, Art. 3 [1]). 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 mission¹⁴ by signing a formal declaration. This is usually framed as an important political event, which is publicized at a high governmental (ministerial) level, either in the applicant country, or in London, or at the International Secretariat at the UN City in Vienna.

¹⁴ The Mission Statement reads: “We are committed to working with partners from governments, business, finance and civil society around the world to expand the global market for renewable energy and energy efficiency. The Renewable Energy and Energy Efficiency Partnership (REEEP) is a Type II World Summit on Sustainable Development partnership providing a new and flexible way of working together to achieve common goals. Through REEEP we will share knowledge, communicate across national boundaries and work to spread best practice in order to overcome the barriers to the development of renewable energy and energy efficiency. We believe that REEEP will help its partners achieve a sustainable energy future.”

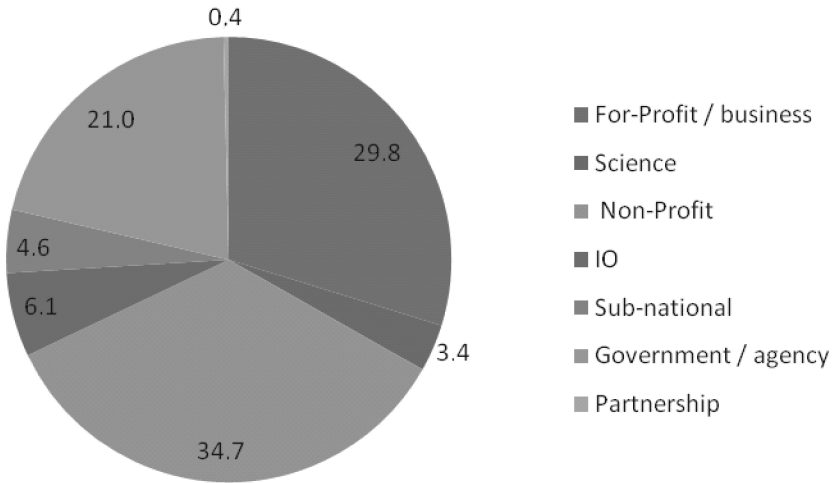


FIGURE VIII-2 Structure of REEEP Partners.

The procedure of application to become a regular REEEP partner is simple. The candidates are required to fill in a short form, where they state their institutional status, areas of expertise, and interest—in order to establish the possibilities of mutual benefit. The partner needs to be formally accepted by the REEEP Secretariat, and declare support for the Partnership's mission and furthering its goals. The application gets a primary approval after it is scrutinized by the Secretariat. Subsequently, it needs to be accepted by the Governing Board (by a two-thirds majority), and once that happens, it is uploaded into the CSD database. A successful candidate therefore becomes a member of the network and is able to share and receive information and experience, as well as receive REEEP project funding. Becoming a partner is also explicitly an image-building enterprise, showing the cooperating party as a supporter of the generally conceived "sustainability." In return, the REEEP secretarial staff declares an informal obligation to contribute to the members' publicity by ensuring "that ministerial, academic and professional 'points of view' become news articles in the press and industry web sites."

The REEEP staff is also determined to build the social support for the partnership by introducing the "Friend of REEEP" status for individuals. Becoming a "Friend of REEEP" is automatic for any Internet newsletter

subscriber—showing REEEP’s strong commitment to its information disseminating functions.

Donors and Recipients

Of the 45 governmental partners,¹⁵ 11 contribute financially to the functioning of REEEP. The Department for the Environment, Food and Rural Affairs (DEFRA, United Kingdom) is the main contributor (€3,500,000), followed by the Norwegian Ministry of the Environment (€1,200,000), and the Irish Ministry for the Environment, Heritage and Local Government (€250,000). The other donors are the governments of Italy (€140,000), Austria (€105,000), Australia, Canada, Germany, Spain, United States (all €70,000), and the Netherlands (€33,000).¹⁶ Austria, Australia, France, and Italy provide the Partnership with in-kind contributions of administrative staff and office space. The European Commission also supports REEEP financially (UN DESA 2008).

The United Kingdom is not only the initiator and main driving force, but also the most important of all the donors. Two entities within the British government are dealing with REEEP, namely DEFRA and the FCO. The Partnership’s General Assembly and Governing Board are chaired by Henry Derwent, Director for Climate, Energy and Environmental Risk at DEFRA, formerly Special Representative to the Prime Minister on Climate Change. Prior to the establishment of the permanent International Secretariat, the Virtual Secretariat of REEEP was based at FCO. REEEP is an important part of the British renewable energy (RE) and energy efficiency (EE) policies, as well as the ideas present in the recent draft Climate Change Bill. According to Secretary of State (DEFRA) Hillary Ben, the United Kingdom “has a special responsibility to help the poorest countries to adapt to climate change and to help them invest in climate-friendly energy production and energy efficiency to ensure that all the Millennium Development Goals are met. . . . Supporting the REEEP is one of the ways in which the UK is working to meet this global challenge” (REEEP 2007a: 3).

Of the 11 donors, 8 were among the founding members of REEEP. Next to Australia, which was already discussed, the additional donors are the Netherlands, Norway, and the United States. The Dutch financial contribution is the smallest, and is limited only to funding the Partnership’s search engine and database—*Reegle*. The United States joined the Partnership in

¹⁵ The CSD database, through which REEEP reports on its activities, mentions 44 governmental partners, but the Czech Ministry of Environment is listed under “Major Groups,” while it should be, in our opinion, on the list of governmental partners.

¹⁶ The figures mentioned are donations for the projects and activities in the 2007-2008 call.

early 2004 and had a major impact in the early stages of its involvement. This was to some extent due to the activity of Larissa Dobriansky (a then-member of the REEEP Governing Board). The story in this case is similar to the Australian one. After Dobriansky left her position in the U.S. administration, American cooperation within REEEP slowed down. Recently, with a new organizational pattern (since 2007 REEEP cooperation has been transferred to the Department of State), and the new contact-person responsible (Griff Thomson, also a member of the Governing Board), U.S. activity related to REEEP has significantly increased. The Washington International Renewable Energy Conference (WIREC) saw the presentation of the effects of regional consultations regarding RE, conducted by REEEP. The search engine *Reegle* was the official knowledge-managing tool of the WIREC.

Yet the most interesting and important “new” member is definitely Norway. The government in Oslo expressed some interest in the Partnership even before Johannesburg 2002, but no Norwegian delegation was sent to the London launch in 2003. Formally Norway joined REEEP only in 2005 after a process of consultations with the Partnership and the donor states (notably the United Kingdom). 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,”¹⁷ 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 forming global priorities.

Once a partner, Norway had a major influence on the way REEEP functioned, in particular through streamlining the considerable resources that it brought into the Partnership. REEEP staff point to organizational culture, experience, and a different “Scandinavian” perspective that the Norwegians introduced as their main assets. Geographical coverage and experience in providing development aid in other regions than the previous donors (especially the leading partner, the United Kingdom) helped REEEP to extend its activity into new geographical areas. In terms of organizational culture, Norway introduced a more deliberative approach to decision making, based on consultations at all levels. Developmental expertise is used on the ground level, as Norwegian experts, with an impressive track record in development assistance from a more non-governmental or bottom-up perspective, are working in the Regional Steering Committees (RSCs), short-

¹⁷ <http://www.regjeringen.no/upload/UD/Vedlegg/Utvikling/ActPlanEnv.pdf>. Last access: May 21, 2008.

listing projects for evaluation. Binu Parthan suggests that the Scandinavian countries and their approach to development is well complementing the British perspective. “We were able to marry that long-term approach with a more large-level, but more focused, more business-like developmental approach of some of our earlier partners, like the UK.”

The French government is also formally a REEEP partner, providing in-kind contributions rather than participating extensively in its activities. The main reasons for this state of affairs could well be that France has other channels of operation in the energy sector—namely ADEME (Agence de l’Environnement et de la Maîtrise de l’Energie), which is also a global initiative, to some extent doubling REEEP’s goals and activities. The cooperation with France is for the moment limited to sharing project outputs and information. According to REEEP staff the cooperation is quite smooth and is increasing in volume, which can, at some point, lead to France engaging more actively in the Partnership’s functioning. One of the crucial areas of possible cooperation pointed out is RE and EE projects in francophone West Africa and Indochina. RSCs are receiving many interesting project proposals from those countries, yet the Partnerships geographical limitations (post-colonial “aid regimes”) do not allow it to support those initiatives. Many of such projects are forwarded to the French government and implemented outside the REEEP framework. The French also support the REEEP focal point at the ECOWAS in Abuja, Nigeria, yet this arrangement is rather informal in character.

Three other governments are providing in-kind support—Australia, Austria, and Italy. In the latter two cases the contributions are indirect. Austria supports operating costs for the International Secretariat at the Vienna International Centre.¹⁸ Italy indirectly supports the REEEP activities in North Africa and the Mediterranean through the Focal Point in Tunis (at MEDREP, another energy partnership). This arrangement is more formalized and functional than the one with France in West Africa, and MEDREP is included in the project selection process (two projects in the 2007/2008 Portfolio are implemented in the Maghreb). The Australian case is somewhat different because the Australian government is providing staff to represent REEEP in the region, as dedicated REEEP regional managers, delegated by the Partnership.

The key donor partners provide the necessary resources, yet the consent and cooperative attitude is needed from the governments of the target states. This is why the main recipient countries—Brazil, China, and India, as well as South Africa and Mexico—are, according to the declarations of

¹⁸ Binu Parthan recalls an instance when the Chinese authorities associated Austria with REEEP. This shows additional informal and indirect publicity on high political levels that involvement in the Partnership may bring.

REEEP officials, as important as the donors. Since the main goal of the Partnership is RE and EE market creation and facilitation it is evident that target states are necessary to fulfill these aims, even though much of the funding comes from OECD donors. What is interesting, some of the key target countries (China, federal government of India) are not in fact REEEP partners, although cooperation between the Partnership and the recipient states is taking place at all levels.

Mission, Objective, and Strategy

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 in the first place if they do not 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 streamline the renewable energy “message” in the effort of informing and educating the wider public. It is therefore both a deregulatory and regulative enterprise—aimed at the removal of state-level and regional barriers for the renewable energy market, yet at the same time devoted to regulation and rule-setting within this relatively new and rapidly growing sector. This puts REEEP within a wider trend in global environmental governance, where the emphasis is moved from public regulatory approaches to voluntary private ones. Despite its technical and market-centred approach, the official statements of partner-government representatives emphasize mostly REEEP’s role in reducing greenhouse gas emissions and coping with climate change as well as providing energy security.

The mission of REEEP is derived from the energy policy objectives agreed at the World Summit for Sustainable Development, and the report of the G8 Renewable Energy Task Force. It adheres therefore to a rather “technocratic” and viability-driven vision of sustainability, seeing public-private business cooperation as an appropriate way to provide the developing and transition countries with sustainable sources of energy, to bring economic benefits to those who choose the path of renewable energy, make the Renewable Energy and Energy Efficient Systems (REES) affordable to the poorest, and, ultimately, reduce greenhouse gas emissions. The British under-secretary of state Bill Rammell in his speech during the Partnership’s official launch recognized energy security of both developed and developing countries as an important task for REEEP. He also claimed that reaching the bold targets put forward at the WSSD in Johannesburg can only be

possible through a network cooperation, in which REEEP plays a key role, translating these goals into concrete policies and actions (Rammell 2003).

The uniqueness of REEEP is supposed to lay in its global focus combined with a regional, flexible “bottom-up” approach, in which local problems are identified and overcome through transnational efforts. It is aimed both as acting by itself—through the provision of information, financial resources, and coordination services—as well as creating lower level, regional, or issue networks as an institutional umbrella. Moscoso-Osterkorn (2008) refers to the REEEP as a “partnership of partnerships” precisely because of this community-building role.

The initial goal of the Partnership, enumerated in its documentation prior to the Johannesburg meeting was:

To accelerate global market growth and deployment of renewable energy and energy efficiency systems (REES) in pursuit of national, environmental, economic, social and security objectives, (UN 2002)

Current goals mentioned in the CSD database are almost identical:

To accelerate a global market for Renewable Energy and Energy Efficiency Systems (REES) and the removal of the obstacles to sustainable energy through policy and financial measures, (UN DESA 2008)

Market creation, transformation, and facilitation is also the primary goal according to Deputy Director Binu Parthan (2008):

We focus on the energy market and we would like it to develop in a way which is best for RE and EE. That is essentially the goal. The strategies that we use are *Policy and Regulation* and also *Business and Finance*. This is the way in which we operate. Depending upon the level at which we work, the political level, the operational level, grass-root implementation level or so, there are different additional targets we might have, but the overarching objective is to develop the market for RE and EE.

The “Statutes of REEEP,” however, emphasize the overarching goals of tackling climate change and improving energy security, while poverty eradication is not mentioned at all:

(a) Further the objectives in the field of energy for sustainable development as negotiated in the World Summit on Sustainable Development, Johannesburg 2002: to achieve a significant increase in the use of renewable energy and energy efficiency systems in order to *improve energy security, tackle climate change and provide access to modern and reliable energy services*.

(b) Foster international collaboration to *accelerate the market growth of modern renewable and energy efficiency systems*, with the objective of

removing the barriers (policy, regulatory, market and technical) to their development, to lower their costs and make them affordable energy options for all.

(c) Translate the political commitment shown for renewable energy at WSSD into concrete action and take forward the key recommendations of the G8 Renewable Task Force Report 2001. (REEEP Statutes 2004, emphasis added)

In the light of these statements, we argue that the six most important goals of REEEP are:

1. Removing policy obstacles for RE and EE;
2. Removing financial obstacles for RE and EE (together with the first goal leading to market creation and facilitation);
3. Poverty alleviation and development (including the provision of material benefits for those states and populations that introduce RE and EE);
4. Addressing climate change (reducing GHG emissions);
5. Increasing energy security;
6. Disseminating information, technology, network building, rising awareness.

We will use this six-fold division in the following sections. It needs to be noted that the first two goals, related to the general market transformation, are emphasized the most; the third goal—poverty alleviation and development—is a rather secondary goal, while climate change mitigation and providing energy security are not addressed explicitly in the CSD database, and mentioned only by governmental officials from state partners. Information dissemination can be seen as an instrumental goal for reaching both market transformation and, indirectly, the three long-term goals.

In order to measure the effectiveness in reaching the goals outlined by the key partners, REEEP provides lists of indicators. The current list—“Targets” for 2007/2008—enumerates short-term concrete benchmarks to be reached. These are (UN DESA 2008)

1. The establishment of at least two new or enhanced financial facilities for RE and EE implementation;
2. Demonstrable increased engagement of local financial institutions in the RE and EE market or commitment to engage following targeted training and support for national and government finance sectors;
3. Documented successes in bundling projects for financing through conventional and/or carbon finance mechanisms;
4. Support for the establishment and ongoing activities of at least two

national or regional networks that draw together the finance and developer communities and enhance access to investment and project implementation;

5. Active dissemination of information on the value and success of RE and EE investments, and linkages to the carbon market, through media, appropriate forums, workshops, and conferences;

6. Having substantial engagement with governments on the development of licensing, standards, connection agreements, codes of practice, labelling, and planning guidance for sustainable energy in at least three regions;

7. To be formally engaged in the energy planning process in at least five countries;

8. To undertake effective policy awareness/promotion activities for local and/or national government officials and/or regulatory agency officials in at least three regions; and

9. To work with governments to contribute to the development and/or implementation and/or review/revision of policies or regulatory mechanisms in at least five countries.

These targets are related to both areas of REEEP activity—"Business and Finance" as well as "Policy and Regulation." The actual impact on policy making and social relevance, both being at the core of the Partnership's mission, are indicated in points 5-9, while the first four concentrate on the coordinating and finance-attracting role as an "enabler, multiplier and catalyser." In the following sections, we will analyze REEEP's governance and decision-making structure as well as its concrete activities related to its main goals.

Partnership Organization and Governance

REEEP has a rather robust, yet clear organizational structure (Figure VIII-3). It is typical for multi-stakeholder partnerships, although the emphasis on regionalization necessitates the existence of multiple lower level cells—Regional Secretariats with their respective Regional Steering Committees and regional Focal Points. The structure in this shape (apart from the RSCs, which were introduced later) was agreed during the 2004 Bonn First General Meeting of Partners.

The heart, or "central service hub," of the Partnership is the *International Secretariat* in Vienna. The functions of the Secretariat, according to the Statutes (2004) of REEEP, are to

- (a) Facilitate and manage communication between Partners;
- (b) Serve as a focal point for information sharing between Partners;

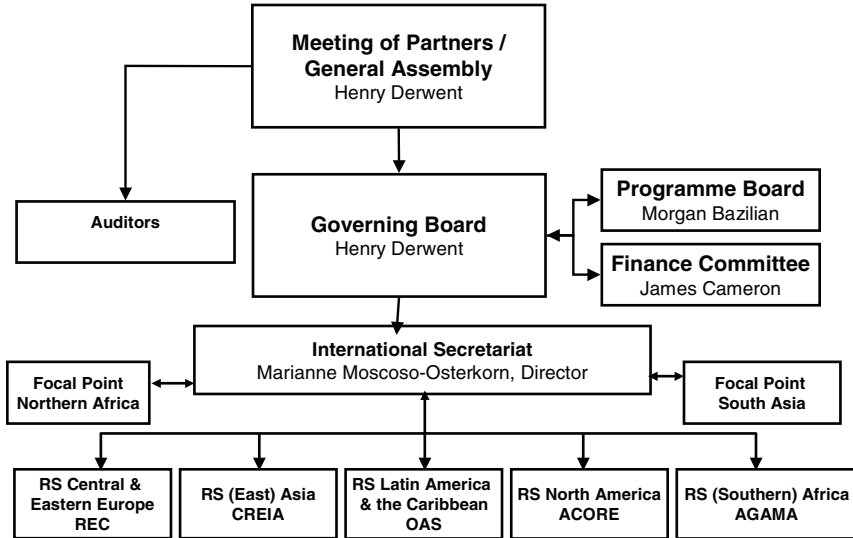


FIGURE VIII-3 REEEP organizational structure.

SOURCE: Available at http://www.rec.org/reep/docs/strategy_and_work_plan_2005.pdf.

- (c) Organize and report on meetings of the Governing Board and the Meeting of the Partners;
- (d) Work with partners to develop and raise funds for regional REEEP secretariats;
- (e) Function as a clearing-house of renewable and energy efficiency initiatives and projects, receiving and disseminating funding bids and proposals to interested donor partners and investors;
- (f) Implement the decisions of the Governing Board.

RSs (and the Focal Points to a lesser extent) represent REEEP on the ground. RSCs include partners, relevant regional players and stakeholders, and are crucial in the process of project evaluation, short-listing, as well as in preparing regional priority lists.

The Partnership has only a handful of directly contracted full-time employees. In the Vienna “headquarters” there are eight full-time staff members, including the International Director Marianne Moscoso-Osterkorn, Deputy Director for Program Coordination Binu Parthan, and Network Director John French. The RSs are independent institutions in the region and act on the base of a rolling contract. Each of the RSs has a set of duties to perform, such as representing REEEP in key meetings, organizing the regional consultations, providing feedback from the ground level, and

hosting RSCs for project selection, among others. The RSs' performance is evaluated on an annual basis. Between 8 and 10 staff members working in the RS are directly employed by REEEP. In addition, between 30 and 50 specialists are contracted for specific project implementation.

Apart from the Secretariats, all other REEEP bodies are chaired by delegates of partners from the United Kingdom, Ireland, and Climate Change Capital. Partners are expected to contribute to the functioning of the Partnership, but the engagement is voluntary, and neither monitoring nor penalties are stipulated. The Statutes (Art. 4 § 3) mention the option of expelling a partner by a two-thirds majority of the Meeting of Partners in case of a "severe violation" of the duties. It is however expected that partners promote REEEP in order to expand the Partnership's global reach and to increase the penetration of renewables and energy efficiency (REEEP 2005: 2). The 250 partners are thus the most important force in REEEP, yet two conditional comments need to be made here. First, partners-donors are in fact the most important and influential group in REEEP. Second, saying that partners are the most important force in the organization does not imply that they can interfere with the decision-making procedure, to which we shall come back later in this section.

The highest governing authority in REEEP is the *Meeting of Partners*, a general assembly of all the partners, held biannually.¹⁹ Each partner can participate and has one vote. The first meeting was held in Bonn and it confirmed the appointment of the International Director. The generic functions of the Meeting of Partners include (REEEP Statutes 2004)

- (a) Adoption of the agenda of the meeting;
- (b) Presentation of final accounts, annual report and auditors' report;
- (c) Ratification of final accounts;
- (d) Adoption of programme of activities for the next working period;
- (e) Adoption of budget for the organs of REEEP;
- (e) Appointment of the members of the Governing Board;
- (f) Appointment of two auditors;
- (g) Decision on date and place of the next meeting of Partners;
- (h) Decision on amendments of this Statute and dissolution of REEEP;
- (i) Adoption of financial rules for REEEP;
- (j) And other matters prepared by the Governing Board.

The main governing body of the Partnership is the *Governing Board*, according to the statutory documents consisting of between 6 and 19 delegates of various partners, from all the sectors and possibly also all the regions. The Board is responsible for the conduct of the business of REEEP "in accordance with the Statutes," which translates into:

¹⁹ At least once every four years or at the will of one tenth of Partners, the Governing Board or the previous Meeting at any moment, as the Statutes (Art. 5 and 7) read.

- (1) Develop and oversee the key strategic direction of the REEEP, including targets, timeframes and funding priorities;
- (2) Prepare the financial rules of REEEP to be adopted by the Meeting of Partners;
- (3) Establish an accounting system for REEEP;
- (4) Establish an annual estimate, report and accounts and balance of accounts;
- (5) Prepare and call for Meetings of Partners;
- (6) Inform Partners about REEEP's activities and financial status;
- (7) Administer the assets of the REEEP organs;
- (8) Consider and decide upon applications to become Partners;
- (9) Provide instructions to the International Secretariat.

Its members hold office for a period of four years. It currently comprises (REEEP 2008) The Chairman—Peter Betts, Director, International Climate Change Directorate; Department for Environment, Food and Rural Affairs; The Treasurer—James Cameron, Director Climate Change Capital; The Secretary (Rapporteur)—Elfriede Anna-More, Director, Austrian Environment Ministry; as well as five regular board members: Martin Schoepe—German Ministry of the Environment; Corrado Clini—Director General, Ministry for the Environment and Territory, Italy; Piotr Tulej—Head of Energy and Environment Unit, European Commission; Alfred Ofosu-Ahenkorah—Executive Director, Ghana Energy Foundation, Ghana; and Rajendra Pachauri—Director-General, The Energy and Resources Institute, India.

The *Program Board*, chaired by Morgan Bazillian, prepares the Global Priority List based on regional priorities, and confirms the selection of projects for funding. The selection (short-listing) of projects is conducted by the Steering Committees, and the Program Board recommends the approved selection to the Finance Committee. It offers guidance to the International Secretariat “based on the feedback from project implementation (through monitoring and evaluation)” (REEEP 2005). It consists of RE and EE systems experts from REEEP regions and donors.

The *Finance Committee*, chaired by James Cameron, is a body internally monitoring the finances of the Partnership “as laid out in the Financial Rules and Regulations” (REEEP 2005). It comprises all donors with an annual contribution to REEEP of at least €70,000. It is meant to give recommendations to the Governing Board regarding “financial aspects of the REEEP governing structure and work programme, as well as opportunities for fundraising” (REEEP 2005). The whole governance structure is subject to regular external auditing by two independent auditors selected by the Meeting of Partners.

IMPLEMENTATION PRACTICES/FUNCTIONAL ANALYSIS

As already mentioned, in its early stages, REEEP was an informal initiative lead by the British government, and formalization took place only in 2004, when the official Statutes of the *Renewable Energy and Energy Efficiency Partnership* were signed, and the Partnership gained legal status as an NGO under Austrian law. REEEP gained its current institutional and organizational form (discussed in Chapter III) in 2005/2006, but the structural framework was agreed in Bonn in 2004. This Meeting can be seen as the conclusion of a long, initial planning process, which started before the WSSD, when the first ideas of REEEP appeared among the British government officials.

The first timeline for action and accomplishment, set out in early 2002, stipulated a major review of progress to be conducted in August 2005 (a three-year plan). However, after a number of positive reviews on the occasion of the London conference in 2003 and the Bonn Meeting in 2004, this period was extended, and a new assessment date was not formally agreed upon. Continuous assessment is conducted through the REEEP Annual Reports.

The Partnership itself had two main leaders—the two Directors of the Secretariat to date. Amal-Lee Amin was the contact person with the British government before Johannesburg and head of the Virtual Secretariat until 2004. Marianne Moscoso-Osterkorn joined the Partnership in May 2004, but officially she became the International Director in September that year, supported by the Deputy Director Binu Parthan who joined in October. However, the Secretariat's leadership should not be taken as the only driving forces of REEEP. Equally important is the presence of personalities like the Chair of REEEP Programme Board Morgan Bazilian or the Chair of Finance Committee James Cameron.

Funding

The funding of REEEP at the outset was rather modest, the sole contributor being the United Kingdom and the initial budget of only €50,000. The pool of available resources grew with the number of donors, reaching €228,228.73 in 2004/2005, €6,053,761.96 by 2005/2006, until arriving at the present level of over €16 million. Some of the donations are earmarked (concrete projects, administrative costs, etc.), and therefore the contributions of some states are actually divided into smaller donations, each with a concrete aim. The expenditures are audited by external auditing firms.

In the *Donors and Recipients* section we have already discussed the list of donor states and their current contributions, both financial and in-kind. In terms of resource allocation to different sectors (goals), the current budget is illustrated in Figure VIII-4.

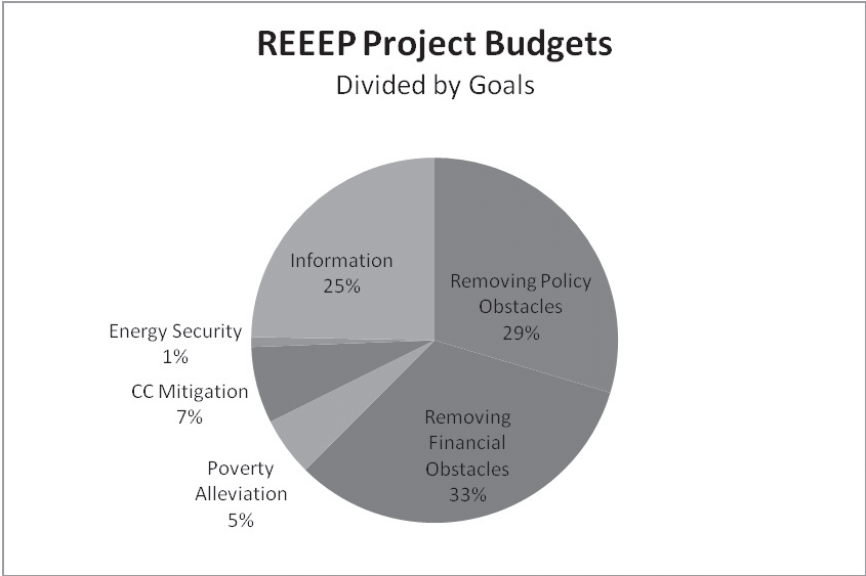


FIGURE VIII-4 Budget.

SOURCE: Author's adaptation on data in REEEP (2006a, 2007a).

Decision Making in REEEP

REEEP staff members emphasize that the decision-making process (regarding project implementation—the main activity) within the Partnership is (a) absorptive and (b) immune to individual influence. Many of the partners also indicate that it is a bottom-up process, which is seen as one of REEEP's most positive achievements.

The process begins with regional consultations organized between the major stakeholder and players in each of the regions by the RSs. RSCs that include the representatives of players and partners draft regional priority lists, which are then forwarded to the Program Board (see Figure VIII-5).

The Board sketches out a Global Priority List, according to which RSCs again, in turn, choose from the applications submitted for a project call, and come up with a ranked short list of the best projects in the region. The short lists are forwarded to the International Steering Committee (ISC), which consists of the REEEP donors, and also key institutions—the World Bank and the International Energy Agency, as well as UNIDO. Those institutions are included in the process for additional consultations, to avoid the doubling of REEEP and third-party efforts. The ISC produces a final selection of projects, which have been accepted for REEEP funding.

That decision is then confirmed by the Finance Committee, and once that happens, the road is open to implementation. There were six such REEEP program cycles so far, the first one started in 2003, after the aforementioned regional consultations (no formal organization framework was yet in place at that time), the sixth cycle includes projects accepted for realization in 2007/2008.

Implementation is accompanied by a very tight monitoring scheme. All projects need to submit quarterly reports, containing outputs, impacts as well as detailing the timings, risks, approach, and media activity for each project alongside a financial review (REEEP 2006a: 35). These reports are reviewed and recommended by RSs and sent to the International Secretariat, which makes a decision regarding acceptance of progress and payments. When a project is completed, a final report on the whole initiative and finances is submitted, often prepared with the help of external experts and auditors. After a set period of time a general impact assessment is conducted to examine the value of the project and its contribution to the more general goals (climate change mitigation, MDGs, future replication and regional scaling-up).

As we have already mentioned, some 10 percent of REEEP projects are abandoned because co-funding is not found, or fail for other reasons. There is no formal mechanism in such a situation, and, as in any organization, such instances usually cause a general wave of putting the blame on other organs or external factors. REEEP staff, however, suggests that in the near future a formal “negative” feedback mechanism will be established, involving data collection from the involved players and a report on the causes of failure, so that the Partnership can avoid similar mistakes in the future (a certain “worst practices” kind of reporting).

Major REEEP Activities Beyond Projects

There are three forms of activity that go beyond project development and implementation. The first is “Twinning Cities,” a “mechanism to exchange experiences” (REEEP 2008) between municipal authorities from the “South” and their OECD counterparts. The program is aimed at know-how and technology transfer in the areas of EE and RE. It is a common initiative of REEEP and the Global Centre for Community Sustainability, working through the Global Energy Network. The network currently consists of American, Chinese, and Israeli organizations, soon to be joined by Japanese and Mexican ones. The second initiative is the Reegle Search Engine, developed together with REN21.²⁰ It is supposed to be an accessible source of information on renewable energy, for practitioners,

²⁰ The search engine is available at www.reegle.info.

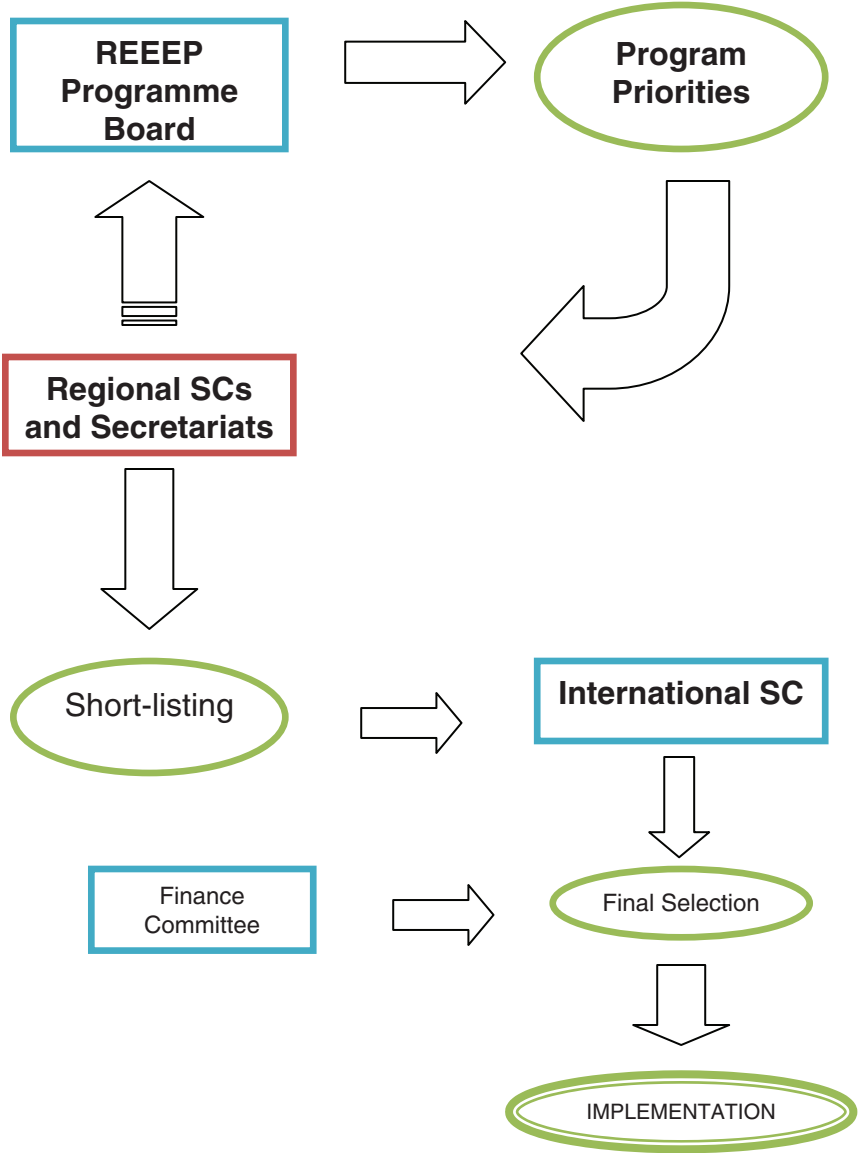


FIGURE VIII-5 Decision-making scheme.

policy makers, and academics. Lastly, REEEP's Voluntary Carbon Offsetting scheme is meant as a mechanism of linking potential sellers in the developing world with private and public buyers in the OECD countries. The pilot contract signed under the scheme was between the British Foreign and Commonwealth Office and the South African wind energy company Genesis Eco-Energy for 40,000 tons of carbon emissions. According to REEEP, the greatest advantage of the scheme is the fact that the Partnership facilitates the transaction by first finding the seller, verifying the provided information, and then by conducting negotiations on behalf of the client through the RSs (2008). The aim of Voluntary Carbon Offsetting is to exchange CERs for financial resources necessary to develop RE and EE technologies in the selling countries, but the mechanism is also about improving the "environmental" record of OECD-based companies and Western governments.

INCENTIVES

The principal benefits that the Partnership was expected to generate allow us to classify the REEEP as being "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" and to a lesser extent "focusing on facilitating the process of partnering and the building of communities of practice around issues of sustainability."

In more concrete terms, the main incentive for the establishment of REEEP was the need to coordinate the efforts to create and develop markets for RE and EE globally. The British government, as the initiator, provided a clear business-oriented approach at the outset of the Partnership. REEEP was presented as the only effective means of operationalizing and moving towards the very general objectives agreed in Johannesburg, and earlier by the G8 Renewable Energy Task Force in 2001. The apparent British domination, especially at the beginning of the initiative, may explain the French government's reluctance to engage in the works of REEEP; the same can be said of the United States.

Because of the apparent success of the Partnership, measured in terms of the constantly increasing number of partners and available funding, the donors perceive REEEP as an effective "delivery mechanism," through which the resources they supply are meaningfully allocated. Norway is the best example for this reasoning, since REEEP has been chosen to be one of the tools for the "Norwegian action plan for environment in development cooperation." A recent increase of funding from New Zealand shows that other donors are also satisfied with REEEP's activity. In the words of the Irish Minister for the Environment, Heritage and Local Government, John Gormley:

In a very direct and effective way, REEEP contributes to the task of building an effective global response to climate change. It is a vehicle through which participants can make a real and positive difference, particularly in the least developed countries in sub-Saharan Africa. (REEEP 2007a: 4)

For the recipients, REEEP provides not only the necessary information, experience, and financial resources, but also promotes good practice. Its competitive project-funding scheme (only one out of eleven projects receives funds) engages high-quality projects that utilize funding efficiently.²¹ For a great number of smaller partners the main incentive is, however, simply funding of RE and EE projects. For some businesses REEEP membership helps to “green” their image.

A PRELIMINARY ASSESSMENT OF REEEP

REEEP advertises itself as “a partnership that delivers.” One of its senior officials suggested that within the framework of the UN DESA, the REEEP was one of the most active partnerships. To what extent are these claims justifiable? We provide a four-part analysis of the partnership’s effectiveness. First, we use an expert survey conducted within the context of the GSPD database.²² Second, using the list of six main goals declared by REEEP in its documents we assess them against the Project Portfolios from the last three years to see whether or not the goals are actually addressed and to what extent. Third, we use the GSPD database to check the concrete output REEEP has generated in its areas of activity. Finally, we compare REEEP’s impact and activity with the overall sample of partnerships in the energy sector and with the total sample of CSD partnerships.

Expert Assessment of REEEP

In the expert survey, a number of experts, including one that does not specialize in energy, have thought of REEEP as a major success story; 42 percent of experts recognized the name of REEEP, and most of them had detailed knowledge of the Partnership’s activities. Its overall performance has been rated slightly above average (relative to partnerships that a sample of experts have known/recognized). On a scale from 1 to 5, REEEP’s per-

²¹ A senior REEEP staff member quotes one of the partners, who contends: “REEEP money is smart money.”

²² This survey is part of an ongoing data-gathering effort and was conducted during CSD-15 in May 2007 in New York where 92 experts were surveyed on perceived effectiveness of CSD partnerships; 30 percent of these experts were energy experts, 16 percent climate change and air pollution experts.

formance in the following issues was assessed as over 3 (“Neither poor nor good performance”) but below 4 (“Good performance”):

- Contributing to the Millennium Development Goals
- Mobilizing additional financial resources for sustainable development
- Generating innovative solutions for sustainable development
- Addressing an urgent issue within their area of work
- Including all relevant stakeholder groups

In the eyes of experts, REEEP’s performance in the following issue was assessed as over 4 (“Good performance”) but below 5 (“Very good performance”):

- Addressing a problem that is insufficiently covered by intergovernmental agreements

If we compare the expert assessment of REEEP’s performance to other partnership that were assessed by experts, it scores above average in all issue areas covered by the survey. It also scores about average in including all relevant stakeholders (an additional question in the survey).

From this we can conclude that REEEP is highly recognized in the CSD partnerships circles and is generally seen as a successful and active organization. This is also an image that REEEP was able to sustain among policy makers. The G8 Energy Working Group has listed REEEP as a “delivery mechanism” for the promotion of energy efficiency in buildings. But in order to see if it is truly a “partnership that delivers” we need to look more closely at the output it generates in relation to its declared goals and broader functions.

From Declared Goals to Implemented Projects

Previously mentioned, we enumerated the six most important goals of REEEP:

1. Removing policy obstacles for RE and EE;
2. Removing financial obstacles for RE and EE (together with the first goal leading to market transformation);
3. Poverty alleviation and development;
4. Addressing climate change (reducing GHG emissions);
5. Increasing energy security;
6. Disseminating information, technology, network building, rising awareness.

The first two goals, together accounting for market transformation, facilitation or creation, are declared as major mid-range targets, the latter three are rather broader goals related to sustainability, while the last goal is a means of achieving the rest. We have coded all the REEEP projects contained in the Project Portfolios for 2005/2006, 2006/2007, and 2007/2008—grouping them under each of the six declared goals. The choice was made according to REEEP's own declaration in the Portfolio, where each project was explicitly declared as addressing a certain goal. In numerous cases a project addressed more than one goal, yet one was always dominant, and thus the goals were coded as *major* and *additional*.

In the Project Portfolios, REEEP presents 84 projects accepted by the Partnership. Not all of them were in fact implemented; some were abandoned. E3G (2008) suggests that 10 percent of REEEP projects by 2007 have been dropped or failed, while some are already completed. What matters for us in this section is rather the activity of REEEP measured as creating possibilities of reaching its goals. In order to accomplish them, projects have to be chosen for funding, and these projects ideally address the goals that the Partnership has set. The analysis shows that REEEP's projects are mostly concentrated, as expected, on market transformation (Figure VIII-6).

Sixty-five percent of projects accepted between 2005 and 2008 had "market facilitation" as their major goal. The third most important goal (after policy regulation and removing financial obstacles) that the projects address is providing information. In a sense, this can also be seen as work towards market transformation, as most of those activities concentrate on the dissemination of knowledge regarding the importance of RE and EE, and therefore the prerequisites to create a market for sustainable energy services. It is interesting to note that energy security, which was strongly emphasized by the British partner (before Johannesburg and at the London meeting), receives very little direct attention in the Project Portfolios. Also climate change mitigation measures and steps towards policy alleviation are among REEEP's priorities, but this fact is not equally reflected in the actual projects undertaken. These outcomes are consistent with the Partnership's own declarations, but a bit less in line with the governmental partners' declarations.

When secondary declared goals are added, it appears that information dissemination gains importance, becoming the second most prominent issue for the Partnership. Four other goals (1, 2, 3, 5) do not gain much more attention, the provision of energy security still standing out as an empty declaration. What is interesting, however, is the attention that climate change mitigation receives as a secondary goal. This can be explained by the recent shift in sustainability discourse, with "reducing greenhouse gas emissions" becoming a buzzword for policy makers. It needs to be noted

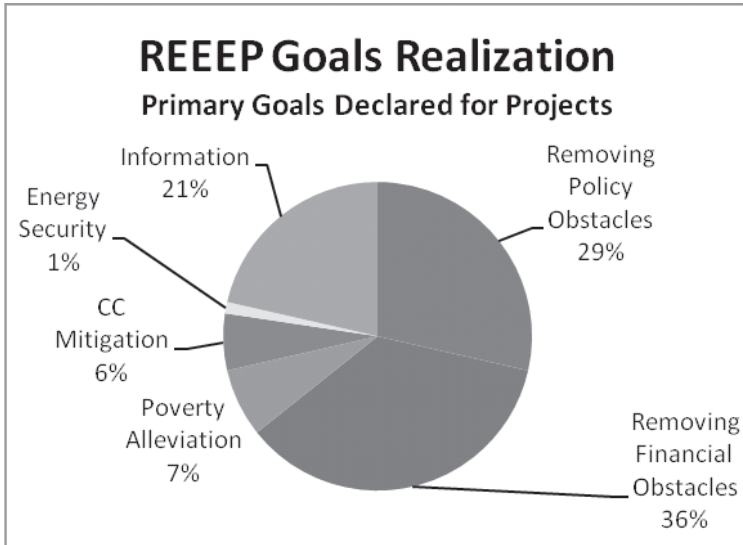


FIGURE VIII-6 Overall projects to goals.

SOURCE: Author's adaptation on data in REEEP (2006a, 2007a).

that all REEEP activity indirectly is supposed to lead to the reduction of greenhouse gas emissions worldwide, therefore direct declarations might simply aim at fundraising and increasing project publicity.

A very significant shift in attention can be observed when comparing early projects (2005/2006) with the most recent ones. In the first Portfolio only three goals were addressed as primary, and among these “removing financial obstacles” was by far the most important. Only one project was addressing the “removal of policy and regulatory obstacles,” while the remainder was geared towards “information dissemination.” The recent Portfolio is much more balanced, with policy and financial facilitation divided equally, and much more attention paid to poverty alleviation and climate change (which can be explained by the proposed “buzzword” hypothesis). Energy security again is not addressed at all in the newly accepted projects.

The significant shift from financial to policy facilitation can be explained by the Partnerships’ growing political impact. Only with experience and a recognized positive image can REEEP influence actual policy-making processes and influence governments (like Ecuador for example) to turn to REEEP for advice and direction in creating RE and EE market-friendly policies.

The outcomes of our analysis suggest that REEEP is in fact addressing the goals that it declares, although the main goal of market transformation receives most attention. This is also an image that emerges from project budgets' analyses, mentioned earlier. The more far-reaching goals are called upon for tactical reasons, while poverty alleviation is a secondary theme. As already noted in section 2, the claims of "global scope" are also questioned by the actual geographical spreading of the new projects accepted for realization in 2007/2008. In the future, judging by that geographical shift, we might observe even less projects aimed at poverty reduction, and a greater concentration on the removal of policy obstacles, as well as more projects implemented in Asia, and less in sub-Saharan Africa.

Functions and Output

After assessing REEEP according to its own goals and the fit with its implemented projects, we now analyze REEEP's performance in relation to an outside evaluation of its main functions and related activities. The reasoning behind this assessment is straightforward. In order for REEEP to realize its main functions, it needs to engage in particular activities, while other outputs might be less relevant to achieving a specific goal. We speak of a "fit" between function and output if the function is matched by the corresponding output.

According to the conceptualization of the GSPD, REEEP has three main functions:

1. *Knowledge dissemination:* Dissemination of knowledge, including dissemination of "good practices"
2. *Technical implementation:* Implementation of previously existing plans and policies, with or without a technical content, including "pilot projects"
3. *Norm setting:* Setting up new norms or standards or spreading the use of such new norms, including the certification of products

If we look at the extent to which REEEP fulfils its functions, through the output gathered from an analysis of the Partnership's web site and other online sources, we see that REEEP only fulfills its function of *knowledge dissemination*. There is also "excess output," which means that there is some output generated that does not help the REEEP fulfill the key functions mentioned. This can be due to a different definition of functions in the GSPD than that to which the Partnership adheres, or to the fact that the removal of both financial and policy obstacles is in fact conducted through information dissemination, providing examples of "best practices," seminars etc.

According to the GSPD coding, REEEP is generating the following types of output (out of 11):

Database and systematically organized retrievable information. Information is made available through an online database (whether with or without restricted access) or (internal and external) publications list with online retrievable links. This category does not include an online database with all Partnership documents.

New institutions, organizations and new partnerships. The Partnership (not individual partners) established new institutions, organizations, and new partnerships.

Conference and workshop participation (excluding conferences and workshops organized by the Partnership). The Partnership (not individual partners) attended conferences and/or workshops and/or presented the Partnership at a conference or in a workshop (excluding the 2002 WSSD and parallel sessions).

Advocacy and public advertisement. Any publication by the Partnership (not by individual partners) arguing in favor of the Partnership cause with a wider audience than policy makers (public); campaign material, newsletters, and petitions; and publications to brand the Partnership (posters, leaflets, brochures).

Reports. Any publication by the Partnership (not by individual partners) pertaining transparency and accountability towards the partners, stakeholders and wider audiences (such as annual reports, and evaluations of the Partnership).

Workshop/seminar/conferences. Includes training seminars, exhibitions, stakeholder consulting events and courses, organized by the Partnership (not by individual partners), excluding events organized during the 2002 WSSD and parallel sessions).

Infrastructure and technology transfer. Construction or improvement of new and existing physical facilities (e.g., roads, buildings, water reservoirs, technical installations) by the Partnership (or on behalf of the Partnership) and the application and transferring of new technologies or technologies that are new in the implementation context, this also includes the exchange of grassroots innovations between different groups.

Standards. Any publication by the Partnership (not by individual

partners) setting out policy standards and procedural standards (excluding internal operating procedures) for application to a sustainable development issue.

REEEP belongs to the 63 percent of CSD partnerships that actually have at least some measurable output and to the 20 percent of partnerships with output that fulfill at least some of their functions according to the conceptualisation of “fit.” This general observation partially confirms the positive evaluation by experts in the energy sector and the close match between implemented projects and proclaimed goals. However, the lack of measured output in the fields of technical implementation and norm-setting point to room for possible improvements in REEEP’s overall performance.

REEEP’s Impact in Comparison: The Energy Sector and the Overall CSD Sample

REEEP is the largest among energy partnerships in terms of the number of partners. If we compare its fit of function and output with the whole of the energy partnerships in the CSD sample, we see that REEEP is in the 52 percent of Partnerships that have measurable output. As noted in an earlier IVM Report (Mieczkowska 2008), REEEP is among the top three energy partnerships with the highest output coding results. Similarly to the other 21 energy partnerships, however, REEEP has “knowledge dissemination” as its main function. It is the “widest and at the same time the weakest tool in achieving sustainable development goals” (Mieczkowska 2008: 9), which can suggest that although seemingly active, the partnership may not be choosing the best way of reaching its goals.

In sum, REEEP is not only one of the largest and most active partnerships for sustainable development within the CSD sample, but it also generates significant output, which is channelled according to one of its primary functions. The *knowledge dissemination* function receives most attention, and such large-scale projects as the *Reegle* or *RETScreen* suggest that the impact of REEEP in this area is substantial. This is consistent with the experts’ opinions quoted in the previous section. REEEP has much less output in the *technical implementation* function, although some projects in the “developmental strand” contain output related to it.

CONCLUSION

Our aims in this report were to first provide a comprehensive description of the Renewable Energy and Energy Efficiency Partnership, and second, to assess its activity in the sustainable energy sector. The conclusions that can be drawn from our study suggest that REEEP is in fact a very

rare case among the Type II institutional outcomes of the Johannesburg Summit. It is not only exceptionally large, with 250 partners and a very impressive budget; it is also, 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 on most important emerging RE and EE markets, although understandable, poses worrying questions about the future of environment/development aid in smaller, poorer countries, especially in Sub-Saharan Africa. What is more, REEEP represents an interesting perspective on global governance. We argue that its relative success is related to its bottom-up approach and visible regionalization. This does not mean that REEEP resembles grassroots NGOs. On the contrary, a business/state bias is visible in the overall activity of REEEP. However, the bottom-up approach is definitely helping REEEP to provide exactly what is needed on the ground and effectively connect donors with recipients. This way resource allocation is efficient and the success rate of projects remains at a high level. REEEP is therefore a reliable organization, constantly attracting new partners. 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.

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IX

Clean Water and Sanitation for All: Global Water Challenge

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INTRODUCTION

The Earth Summit in Rio in 1992 was the first major United Nations (UN) meeting with significant business participation. It was there that business began to learn to be a partner in the search for sustainable progress. And it was there that nongovernmental organizations (NGOs) and governments realized that business, previously seen by many as a force for unsustainable development, could be a powerful partner for sustainability.¹ But it was not until the 2002 World Summit on Sustainable Development that multi-stakeholder partnerships for sustainable development became a key focus of the international community. In particular, governments and the NGO community sought to engage the private sector more directly and more concretely at this summit.

Multi-stakeholder, including public-private, partnerships cover a large spectrum of associations, ranging from ad hoc collaboration on a specific project to a full-fledged pooling of resources with dedicated staff. To date it is difficult to gauge how many of these partnerships have been formed. The registration system of the UN Commission for Sustainable Development has not been widely utilized by the private sector and therefore the information currently available through this registry is incomplete and unrepresentative. Despite the lack of an authoritative source of information on such partnerships much has been written on the subject on the basis of what is

¹ Partnerships for the Planet: <http://www.partnerships4planet.ch/en/partnerships-for-trust.php>.

on hand. The most interesting and useful work has focused on individual partnerships as examples of how companies have met different challenges in collaboration with other actors.

Water partnerships involving the private sector have flourished early on as it has been widely recognized that the breadth of water problems facing the world today is far too large and complex for business as a whole to tackle, let alone individual companies. Businesses that build, operate, and finance water infrastructure have had no choice but to collaborate with national and local governments, and central to these relationships has been the issue of access and right to water, as well as water governance and management, which have utilized much of the literature and occupied many forums on water partnerships. But for many companies water is an essential element in the industrial process; for some it is also a product or a by-product. So water is of strategic concern to many business sectors and this is the reason why companies are engaging in such multi-stakeholder partnerships.

What follows is an analysis of a relatively young partnership, Global Water Challenge (GWC)² involving companies in different sectors, international NGOs, and several foundations and which is, in the words of GWC, “committed to **Learning** from ongoing and past projects, **Connecting** those who can help each other, and **Investing** new resources and time.”

THE PARTNERSHIP IN CONTEXT

With over 1.1 billion people lacking access to clean water sources and 2.6 billion lacking sanitation (WHO 2007), improving and extending these services is one of the major global sustainability challenges, but one that may not always receive the attention it deserves. It is a resource with no substitute, and it is vital to communities, agriculture, and industry. Water is considered a commodity, but taking this narrow view means overlooking its societal and cultural significance, as well as the unique geographical context. Sanitation is also narrowly viewed, and as such, many initiatives aimed at improving services in the water and sanitation sector have placed a priority on technical solutions. In light of this, the partners who would

² We are grateful to Tanvi Nagpal for discussing with us the short history and governance of GWC and facilitating contact with partnering organizations, as well as to Dan Vermeer, The Coca-Cola Company, David Graham, DOW Chemical Company, and Michelle Grogg, Cargill, for sharing their experience as private sector, GWC partners. Ned Breslin, Water for People, and Charlie Brown, Ashoka, provided their perspectives as NGO partners to GWC, for which we are much obliged. Finally, Monica Ellis of the Global Environment and Technology Foundation provided substantial background information and feedback on early drafts. All analysis, interpretation of data, and arguments expressed in the report are that of the authors.

eventually create GWC agreed that the problem in the sector was not simply a lack of projects, but a failure to appreciate the systemic nature of the challenges.

In early 2005, in an effort to bring together water and sanitation leaders from different sectors (government, private, NGO, and academia), the U.S. Department of State convened a forum to share perspectives on this global challenge. To date there had been no organization facilitating this type of dialogue, particularly with strong private sector participation. 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 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 Global Environment & Technology Foundation (GETF) organized a series of these dialogues throughout 2005 and early 2006. The outcome was the call for the creation of new organization that would bring awareness and scalable action to the cause of safe water and sanitation. With initial funding from the Coca-Cola Company, GWC was formed. Additional startup funding was provided by The Dow Chemical Company (Dow), Cargill, and Wallace Genetic Foundation.

GWC was expected to contribute to the solution in two interrelated ways: First, it would become a learning organization/forum where members from the private, public, and NGO sectors could come together, share knowledge, and learn about the most successful/failed approaches to safe water/sanitation practices. This is significant in that these dialogues across sectors rarely happen, particularly in a global context. Second, GWC is structured to be a financing institution, but funds are generally used as leverage and sometimes are put towards building local monitoring and evaluation capacity in connection with ongoing projects. GWC also functions as a vehicle for identifying projects and initiatives which sponsors, who may or may not also be partners, will then fund separately. The Bill & 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 GWC.

Currently, GWC has 22 partners: Acumen Fund, Ashoka, Blue Planet Run Foundation, CARE, the Cargill Foundation and Cargill Citizenship Committee, the Case Foundation, Catholic Relief Services, The Coca-Cola Company, The Dow Chemical Company, Emory Center for Global Safe Water, Millennium Water Alliance, Population Services International, Procter & Gamble, UNICEF, United Nations Foundation and Better World Fund, U.S. Centers for Disease Control and Prevention, Wallace Genetic

Foundation, Water Advocates, Water for People, WaterAid, WaterPartners International, and Water Supply & Sanitation Collaborative Council.

Most of the partners in GWC already had relationships with several other partners, whether formal (through other partnerships) or informal (personal connections through attending conferences). New partners were invited to join the partnership, after they had been reviewed by an informal group of partners and approved by the Board of Directors. Invitations came directly from the secretariat. In general, recently invited partners already had close working relationships with GWC and GWC partners, and their strategies align with the mission of GWC. Partners have to commit to attending an annual Partners' meeting and a Learning Forum, but they do not have to "agree" with everything that other partners are doing. Naturally enough, this does mean that there is occasional tension, between the private and NGO sectors, but also within the NGO community. Many of the NGO partners, though working together in the same space, are competitors with different worldviews and representing different constituencies. However, partners have indicated that this tension is expected and that it has been helpful in stimulating creative thinking. In the future, GWC is not expecting to grow its membership much, though it will work to invite more funding partners, which will be explained in more detail later.

PARTNERSHIP PROGRAMS

Programmatically, GWC focuses in two main areas: (1) supporting community-based financing and local entrepreneurs, (2) water, sanitation, and hygiene for schools. In addition, communications and outreach are central to its mission. By implementing these strategies, GWC attempts to achieve its mission of "generating a global movement to meet the urgent need for safe water and sanitation by spurring collective awareness and investment in innovation by corporate, public, and nongovernmental actors."

Local Innovations and Community-Based Financing

GWC focuses on approaches that leverage resources for safe water, sanitation, and hygiene to the highest extent. The organization places an emphasis on creative financing for water and sanitation projects, and as such, partners work with entrepreneurs, financial institutions, governments, and community-based organizations to identify barriers and opportunities for making sustainable investments at a local level. By allowing individual communities to own and operate the water/sanitation equipment, this approach encourages sustainable water management practices. Partners note that past experience with philanthropic efforts to donate infrastructure

have sometimes increased vulnerability due to the lack of responsibility that local people feel for the water supply unit. In addition, GWC is identifying local entrepreneurs who will provide innovative and sustainable solutions to water supply and sanitation that can serve communities and be scaled up without philanthropy. To this end it is exploring the use of non-grant tools such as small loans, loan guarantees, and equity. To most of the partners, the focus on scalability means that there is some role for private sector actors at the local level to make further investments.

In early 2008, GWC joined one of its NGO partners, Ashoka, in organizing the Changemakers³ competition to identify innovative locally determined solutions to drinking water and sanitation challenges. This competition, which provides small cash awards (U.S.\$5,000) as well as international exposure, is intended to help shed light on locally developed solutions which could be scaled up and replicated. Innovations are shared, discussed, and judged online before three winners are selected, and whom GWC partners have already made pledges to support initially in scaling up.

Water, Sanitation, and Hygiene for Schools

GWC's central project is the Water, Sanitation and Hygiene for Schools program in Kenya. Much of the promise of this pilot project was based on an academic study carried out in 2006 in western Kenya to assess the impact of safe water and hygiene education in schools (O'Reilly et al. 2008). Surveys were distributed to 390 students from nine schools in the region and a parent/guardian of each student was interviewed. This study examined how students' knowledge of safe water and hygiene practices influenced their parents' behavior. Researchers not only assessed the behavior of students and parents, but also monitored and evaluated the distribution of clean drinking water for students, the functioning status of school latrines, and the availability of soap for hand washing. After conducting this research and analyzing the findings it was evident that education on water/sanitation practices influences behavior—the number of students with knowledge of water treatment procedures tripled, and more importantly, absenteeism in project schools decreased by 35 percent, whereas the control schools experienced an increase of 5 percent (O'Reilly et al. 2008).

Deciding to work through schools as an avenue for community-behavior change, GWC, along with the Bill and Melinda Gates Foundation (which contributed \$9.5 million to the project), created a community impact program entitled Sustaining and Scaling School Water, Sanitation and Hygiene

³ Global Water Challenge and Ashoka's Changemakers, <http://globalwaterchallenge.org/work/changemakers.php>.

Education Plus (SWASH+) in 2006. This program is intended to ultimately reach 1,500 schools and communities in Kenya's Nyanza Province and is implemented by a coalition of partners led by CARE. Under this program, impacts on children's health and growth, as well as adoption of sanitation practices in communities, are monitored. One of the objectives of the program is to engage the Kenyan government to improve access to safe water as well as sanitation and hygiene education in the region. GWC is now involved in understanding the lessons of the Kenya Schools' project to create a similar program in Central America. The Central America project is funded by GWC and its implementing partners, CARE, CRS, and Water for People.

Besides the SWASH+ program, GWC has also provided \$254,000 in financial support to the African Medical and Research Foundation (AMREF) for school-based community education projects, focused on clean water and sanitation practices. AMREF works with GWC to create educated communities that work with health care providers to ensure safe sanitation practices in various communities throughout Africa. The grant to AMREF is a supplement to a U.S.\$4 million grant from the European Union to work in the Mtwara rural region of Tanzania on community water and sanitation and health. GWC worked with AMREF to incorporate schools as part of the project. GWC's funds in this case are also being used to develop monitoring and evaluating capacity within the communities, as a complement to the broader program.

Communications and Outreach Activities

Secretariat staff and partners contend that campaigns and building awareness around certain issues are key to GWC's success in achieving its mission. GWC views public outreach, mass media, and public policy as key components in creating a larger movement around the issue of access to clean water and sanitation practices around the world. To achieve their mission, GWC Secretariat staff attend high-level conferences such as the World Economic Forum, Fortune Magazine's "Green Conference," and various TED (technology, entertainment, design) conferences to disseminate information about GWC projects and raise awareness about the urgent need for safe water and sanitation worldwide. Through individual partners, Secretariat staff is linked to these conferences, encourages involvement, and attempts to leverage funds for GWC projects in the water/sanitation sector. As part of their communication strategy, GWC also involves mass media in their campaigns and attempts to highlight the growing global crisis of access to clean water and sanitation. Additionally, GWC has also implemented a new web site which includes updates on GWC projects, as well as a new center, that highlights water/sanitation issues in the media.

Though not officially a GWC activity, partners are raising some of these issues with the U.S. Congress. Several GWC private sector partners wrote letters to Congress in support of a funding increase in the 2008 House Foreign Operations Appropriations' Bill, specifically for the Water for the Poor Act of 2005.⁴ Subsequently, the U.S. Senate allocated \$300 million, a substantial increase from the initial funding of the Water for the Poor Act of 2005, to support safe drinking water and sanitation supply projects throughout the world. The new language in this legislation cited strict parameters for allocation of the funding with specific emphasis on funding of \$125 million for water and sanitation supply projects in Africa. Efforts by GWC partners played a key role in bringing the importance of these issues to the attention of U.S. decision makers, and it should be noted that the private sector partners did not approach Congress on behalf of their affiliated corporations. These partners approached Congress based on knowledge gained from GWC meetings and the belief that influencing national government action is another key lever in generating a global movement.

INCENTIVES TO PARTNER

Incentives to join GWC vary by partner, although each partner's individual goals for the water and sanitation sector align with GWC's broadly stated goals. In general, GWC offers individual partners access to collective expertise and encourages them to learn from past project experiences in this sector. Many of the partners expressed concern that small on-the-ground projects were not sustainable or successful at addressing the lack of clean water/sanitation in various parts of the world. By acknowledging the global scale of this problem and noting that isolated projects are not globally effective, the partners can leverage resources and shared knowledge to promote sustainable solutions. For donors, GWC offers a *network* of experienced local and international NGO partners, as well as the opportunity to see their funds immediately leveraged by other funding partners and, in some cases, implementing partners.

One of the unique aspects of GWC is the level of commitment of private sector partners, and this is perhaps where the key lessons are in terms of engaging the private sector in these sorts of partnerships. First, each of the private sector partners has corporate sustainability goals which are consistent with GWC's goals. Partners highlighted this for several reasons:

⁴ In 2005, Congress passed the Water for the Poor Act (P.L. 109-121), making safe water and sanitation in the developing world an official goal of U.S. foreign relations. In 2008, the Senate appropriated \$300 million, specifying that the funds go to where they were needed most (U.S. Department of State 2008).

(1) they are considered leaders in the field in seeking sustainable water and sanitation solutions; (2) they have the latitude within their own organizations to pursue innovative water and sanitation initiatives; (3) they have a wealth of experience in the field due to ongoing initiatives; and (4) they are expected to achieve their corporate goals, which in some cases may *require* collaborating with outside organizations. One common theme that emerged was that the private sector partners, all of which are global corporations, wanted to identify a global initiative that “respected the scale” of a global challenge. In other words, the project-based approach that they had all been employing respectively was likely insufficient to address the challenge on the scale that they were hoping.

The Coca-Cola Company was initially motivated by a series of risk assessments it conducted from 2000 to 2005. These risk assessments helped the company identify where it needed to work with communities on safe water and sanitation challenges near its operating facilities. Water is the key ingredient to all of the company’s products and it has a commitment to be the corporate leader on water stewardship globally. The company looked at benefits both in terms of its own business interests as well as benefits for the wider community—since many of the risks existed at a watershed scale. The company realized that it would need to be increasingly engaged “upstream,” but that convening other stakeholders also meant that there were potentially wider net benefits. Conclusions from the risk assessments highlighted the need for more work through partnerships, but also a broader movement that could learn from on-the-ground experience and catalyze further action.

The Dow Chemical Company’s primary incentives to partner appear to be the reputational benefits it gains through participation, which directly support internal sustainability goals. Dow likewise has been involved in several water and sanitation initiatives globally, some through partnerships. Many of these have been motivated by the company’s 10-year sustainability goals, in which it seeks to become the largest, most profitable, and *most respected* chemical company in the world. This last point has led the company to think more broadly about sustainability, meaning that the 2015 goals are considering Dow’s local influence as well as its global footprint, and Dow is emphasizing innovation, or in their terms “three breakthroughs” to address world challenges, of which safe drinking water is one.

The third private sector partner, Cargill, has been previously engaged in partnerships in the water and sanitation sector, but believes that there is a great deal of redundancy in having so many isolated projects worldwide. The company also expressed interest in addressing the root of systemic problems, and so GWC provides a forum to learn more about existing projects and experiences, as well as convene the stakeholders engaged in the various aspects of the problem.

Additionally all private sector partners noted that GWC provides a forum for them to demonstrate the work that they are doing to an audience of NGOs; this has helped all partners identify areas in which the companies might be able to contribute expertise, but has also been an opportunity to build bridges between the private and NGO sectors. Another incentive is knowledge sharing among partners. Private sector partners note that learning from other private sector approaches to the global water problem is extremely valuable. GWC allows that information to be transferred among partners in a “safe” space without revealing business secrets from individual partners. The partnership provides a mechanism to enable “global brands” to work together on “global problems.” It is also one of a few forums where actors from the different sectors are able to have dialogue in a relatively neutral setting, and all partners have indicated that this has been valuable. Cross-sector knowledge sharing is an important aspect of GWC meetings, and similarly, NGO partners are also able to share experiences with one another—this knowledge from the field is not always widely shared.

Specific incentives for NGO partners include the opportunities to collaborate with partners and leverage additional resources. At present, NGO partners are all individually engaged in water and sanitation projects, sometimes in partnership with other groups, but independent of GWC—in other words, they would still be doing the work they do whether or not the GWC existed. Here, GWC funding for new projects is one obvious incentive for NGO involvement. GWC funds are used as a supplement to funds contributed directly by private sector partners. However, NGO partners also commented that GWC provides a unique forum to directly engage private sector partners and influence funding decisions; this reduces the amount of time that individual aid organizations might spend on fundraising, and allows them to collectively reach the donor community in an expedient manner.

There are no set criteria for foundation partners yet; their incentives for becoming a partner to GWC appear to be that GWC’s mission aligns with their own. Active GWC Foundation partners include the Wallace Genetic Foundation and the United Nations Foundation (UNF). The Wallace Genetic Foundation helps to fund program and communications work. UNF provided office space and other administrative support for the first 15 months, followed by a grant for overhead and some salary expenses, which allowed the GWC to incorporate and move into its own office.

ORGANIZATION AND GOVERNANCE

GWC was originally incubated within the UNF, a reputable international organization with experience in forming partnerships and which had existing relations with some of the founding partners. UNF provided office

space and other administrative support for the first 15 months, followed by a grant for overhead and some salary expenses, which allowed the GWC to incorporate and move into its own office. GWC has recently left UNF to become a standalone organization, although UNF continues to be a funding partner to GWC and also has fiduciary responsibility until GWC receives its U.S. tax-exempt status (501c3) as a non-profit organization. GWC sought to create a lean management structure that could provide three primary functions⁵:

- providing efficient oversight that inspires donor confidence,
- creating visibility to attract additional support for the water and sanitation sector, and
- providing reliable, peer-endorsed information and measurements of success.

Essentially, GWC has been viewed as a platform to channel the work of previously unconnected organizations.

The relationship between the partners of GWC is not formalized through a partnership agreement, but GWC has a mission which underpins its existence. Some private sector and NGO partners acknowledged that GWC is different from other partnerships because of the balanced participation between the NGO and private sector partners, who have formed trust and can now begin to leverage their collective expertise to identify the most important steps in implementing effective water/sanitation programs. Various NGO and private sector partners noted that representatives from the private sector and the NGO communities have equal voices at GWC learning forums and each group's shared expertise is valued by the partners. Partners also noted that few other partnerships that they are involved in have such a balance of NGOs and private sector companies, especially at the scale of GWC.

The partnership has established a new Board of Directors which meets twice a year in person and once via conference call. The Board has eight members, most of whom are U.S. citizens. Members of the Board are Chairman of the Board, William (Bill) K. Reilly (former Administrator of U.S. Environmental Protection Agency), Manuel Arango (Mexican businessman and philanthropist), Harriet (Hattie) Babbitt (former Deputy Administrator for U.S. Agency for International Development), Steven L. Barker (CFO of the World Resources Institute), Peter D. Bell (former President of CARE), Alexandra Cousteau (Co-founder of EarthEcho International), Neville Isdell (Chairman of Board and CEO of The Coca-Cola Company), and Andrew N. Liveris (President, CEO, and Chairman of the Dow Chemical

⁵ According to the GWC Organizational Plan.

Company). It hopes to include more international members soon. A private sector participant noted that the involvement of the corporation's Chief Executive Officer (CEO) on the GWC Board is indicative of the high level of commitment from that partner. Other private sector partners noted that the composition of Board Members, who are all highly esteemed throughout the water, sanitation, development, and conservation communities, was a driver in the decision of their organization to join GWC.

Board members were recruited with the help of the GETF, which suggested and vetted the candidates. Existing GWC partners provided input to the list of prospective Board members. The initial Executive Director, Paul Faeth, took a leadership role in suggesting names and making initial contacts with potential Board members. The Steering Committee, which was the precursor to the Board, before GWC was incorporated, suggested names to pursue as well. The Co-Chairs of the interim Steering Committee, Bill Reilly and Dan Vermeer (Coca-Cola), helped vet potential candidates. Mr. Reilly became the Chair of the new Board and also made contacts with potential Board members. In the case of Coca-Cola and Dow, members of the Steering Committee from those companies approached their CEOs on behalf of GWC. To avoid conflict of interest, no GWC partner who could be in a position to accept program funds can be on the Board.

GWC also has an Executive Committee which meets by conference calls once per month to discuss more specific issues about current programs/projects. The Executive Committee of the Board is made up of the officers of the Board, Mr. Bill Reilly, Chair; Amb. Hattie Babbitt, Co-Chair; Mr. Peter Bell, Secretary; and Mr. Steve Barker, Treasurer.

The structure of partner accountability within GWC is very loose. Responsibility falls primarily on the Secretariat staff who must then balance the views and actions of both the implementing partners (e.g., Ashoka, Water for People, CARE) and the financing partners (DOW Chemical, Coca-Cola, Cargill). At this time, GWC's loose partnership structure seems to be serving partners well—partners note that they expect to be held accountable by one another, but that the forum GWC provides (with multiple partners at the table) has been helpful in discussing contentious issues. For example, if Water for People is discussing the difficulty of implementing water/sanitation project in Ghana, Ashoka can offer support in the form of similar experiences—rationalizing the concept to the financing partners who may be unfamiliar with implementation work in that capacity. As GWC matures, and potentially adds more funding partners, a more formal structure may be needed to ensure long-term sustainability and success of the partnership.

IMPLEMENTATION, MONITORING, AND ANALYSIS

Based on information from interviews conducted with GWC Secretariat and numerous partners, it appears that GWC uses an opportunistic approach for project planning. At learning forums and meetings between partners, projects are discussed and partners can decide what projects would be most successful with the help of GWC funds. GWC does not utilize an open solicitation for proposals.

GWC strongly focuses its efforts on developing a body of knowledge to better inform its partners on best practices for scaling up efforts to provide clean water and better sanitation practices in various regions. In this context, the partnership was not formed to simply implement on-the-ground projects; rather, GWC intends to play a strong role in linking the knowledge and shared expertise of its partners to project managers whose primary role is implementing programs that achieve the GWC mission. GWC's organizational plan indicates that GWC would develop a knowledge database on drinking water and sanitation issues, although it is unclear whether or not this is being pursued. Given the suite of partners, GWC could be an appropriate platform for such a database, which might be accessed by users from many different sectors. However, creating this database will require careful thought as to how it would relate to myriad existing databases and knowledge resources, as well as how it would be managed going forward (e.g., is it focused on GWC projects and partners or is it globally useful?).

GWC's flagship SWASH+ program is beginning year 2 of its program to deliver clean water to schools and educate the affected communities about good hygiene practices. GWC acts as both a sponsor and a planning/organizing partner for this program. The SWASH+ program has an Executive Committee, and representatives from GWC, as well as the Bill & Melinda Gates Foundation, have been present for all meetings during the program's first year. Representatives at these meetings share project updates, challenges, lessons learned, and innovative ideas as they seek to scale up the effort. Their questions have required the team to engage in discussions beyond service delivery.

GWC Secretariat

GWC has established a Secretariat office in Washington, DC, to manage the day-to-day activities of GWC. The current budget of this secretariat is approximately \$3 million of which a third goes to personnel and operating costs and the other two-thirds to projects. Seed funding for GWC was provided by the Coca-Cola Company, Cargill, the Dow Chemical Company, and Wallace Genetic Foundation, totaling \$2.5 million. Each new private sector partner is required to make a financial contribution to GWC

although the amount varies by partner. Non-private sector partners are not expected to make any direct financial contribution to GWC. Individuals, outside of the partnership, are also encouraged to pledge additional funds to GWC in support of funding sustainable projects on the ground.

Paul Faeth is the Executive Director of GWC and operates out of the Secretariat's office. Through his facilitation of the partnership's learning forums he manages the partners towards a clear set of objectives. Various partners expressed the opinion that his management, along with that of Tanvi Nagpal, Director of GWC's Water and Sanitation Initiatives, contributes to the continued engagement of GWC partners.

In addition to Paul Faeth and Tanvi Nagpal, the Secretariat's office comprises two additional staff members. One full-time staff person is responsible for community building, increasing the level of awareness for water/sanitation issues, and considering campaigns with the Ad Council this year to increase public knowledge about GWC-sponsored projects. Another staff member handles GWC logistics and coordination among the partners. GWC has recently added a Director of Development and Partnerships to its staff.

Monitoring and Evaluation

GWC has devoted special attention and resources to this aspect of its on-the-ground activities. In addition to the learning that takes place through partners sharing their past experiences, partners expect to learn from GWC-funded projects, which of course require monitoring and evaluation. GWC annually reserves additional funds (generally \$50,000-60,000) in its budget in order to evaluate projects sponsored by the partnership. In some instances, such as the AMREF project mentioned earlier, GWC is even providing funding specifically to monitor and evaluate outside projects, if there is potential for the monitoring results to feed into a learning forum.

GWC has developed a standardized monitoring protocol to help compare projects in different regions and countries. Under the Water, Sanitation and Hygiene for Schools program, this protocol requires that each proposed project collect baseline survey data to monitor absenteeism, the presence of water, soap, and water treatment in schools throughout the project, and then at regular intervals for two years thereafter, monitor actual maintenance funds. In addition, many of the projects also collect health data from clinics. Unfortunately, some of these data are not very reliable because school-age children become ill for many reasons. Not all of the reasons can be linked back to the water and sanitation conditions at school.

Despite the monitoring protocol that GWC has implemented under the Water, Sanitation and Hygiene for Schools program, indicators of the program's success in meeting measurable outcomes are not published to

date. No quantitative metrics seem to be set for the partnership, at least at a global level. However, GWC staff expressed the need to assess the monitoring criteria at a regional level in order to “scale up” projects such as those in the Water, Sanitation and Hygiene for Schools program.

Partnerships’ documents use phrases such as “substantially reduce the number of people who have no access to . . . basic needs.” Partners point out that they are addressing a global problem, and that each project or intervention will not singly “solve” the problem, but should make a measurable difference. However, since the partnership is meant to be something greater than the sum of its parts, it would be useful for GWC to consider metrics for evaluating the partnership’s impact beyond the specific projects it implements. As has been noted, there are countless ongoing projects already taking place, and GWC was formed in part to catalyze a global movement and connect these disparate pieces. Yet as long as progress is reported in terms of project-level impacts, it is difficult to distinguish GWC as something unique.

Partners also expressed some concern about short timeframes being established for implementation, which can lead to premature claims of success or little opportunity to look back. As previously mentioned, a key aspect of GWC is its capacity to be a learning forum. However, if implementing partners focus on communicating the successful aspects of their projects, and deemphasizing less successful aspects, then the partnership misses out on important learning opportunities. Moreover, a collection of “successful” projects does not indicate that GWC as a partnership has been successful, since partners point out that the added value is in connecting these isolated projects. Conversely, documenting and analyzing failed projects, and communicating this to a broader audience, could be an immensely valuable output with impacts that do indeed go well beyond the project scale.

Providing feedback on the progress and effectiveness of GWC-sponsored projects is stated as a main programmatic focus of GWC. This is a potentially unique aspect of the partnership, considering that many similarly focused partnerships have not devoted sufficient time and resources to monitoring and evaluation. Specifically, partners such as Emory University, Acumen Fund, Ashoka, UNICEF, and the U.S. Centers for Disease Control and Prevention attempt to monitor and evaluate projects. Private sector partners indicated that they want honest feedback in evaluating projects; while this may seem intuitive, the reality is that partners may feel compelled to highlight successes and downplay failures, which is common to many if not most partnerships for sustainability. GWC also emphasizes that it will specifically focus on assessing and communicating the unique aspects of scaled projects—this echoes partners’ interests in identifying scalable

solutions, although it is not clear precisely how such solutions ought to be assessed, and who the audience might be.

In addition to evaluating projects and interventions, individual partners continually assess their own participation in GWC. As such, the partners have different metrics and timescales set for these internal evaluations. For example, Coca-Cola assesses its strategic involvement every three years, although its funding commitment is reviewed annually. Dow Chemical and other partners have suggested that they will continue to participate as long as there are perceived benefits; successful partnerships in other areas have been able to balance participation so that the partners' individual drivers collectively add up to a sustainable solution (Zadek et al. 2001).

CHALLENGES AND FUTURE DIRECTIONS

One primary challenge which is external to the partnership is the issue of water/sanitation itself: it needs to be higher on the political agenda, especially in developing countries where capacity and political will to change water management practices is not prevalent. This of course cycles back to the lack of government partners in the partnership. Interaction with governments in the United States and elsewhere seems to be taking place on an ad hoc basis, and while there may be reasons to limit the partnership primarily to the private sector and NGOs, some partners expressed concern that government partners may be a missing link, particularly given GWC's focus on identifying scalable solutions. Even if projects identify funding mechanisms independent of the local or national government, these interventions still must operate within a political context which, if not amenable to cross-sectoral collaboration, will limit the effectiveness of GWC's efforts. The imprecise role of governments versus the role of the private sector in this area certainly adds a level of complexity, but partners are very clear that the GWC is not supporting water privatization, a highly contentious issue in the developing world. Instead, GWC supports public-private partnerships and arrangements which have incentives for the private sector to support scaling them up, without delegating all control to private interests since water is such a vital public good.

Internally, GWC may face obstacles in the future if the commitment of private sector partners is not maintained; this is vital to the financial security of GWC due to the partnership's reliance on funding from the private sector. GWC must also continue to attract the right combination of partners which allow it to deliver on its stated goals—as noted earlier, the lack of government partners in particular may present challenges down the road in scaling projects up. Interestingly, GWC does not have developing country partners, and its only governmental partner, the U.S. Centers for Disease Control and Prevention, is narrowly focused and not well positioned to

engage other government partners. One of GWC's strengths, the balanced participation of corporate, philanthropic, and nongovernmental partners, brings with it the challenge of creating a decision-making body which can represent honest views even as certain partners receive funding from the corporate partners.

Some private sector partners strongly emphasized the need for GWC not only to be conscious of the scale of the global water problem, but also to strive to make a positive impact within this area. GWC partners must continually work together to focus on developing scalable initiatives and sponsoring various projects with that emphasis in mind. For example, GWC partner WaterHealth International, a for-profit company which promotes the provision of clean water at a very low price point to the world's underserved populations, has delivered over 200 community water systems in India and is serving over one million people. Their goal is to deploy 2,000 systems in the next few years. GWC partners would benefit from encouraging program operation with future goals, such as this, in mind.

Some NGO partners expressed concerns with the different worldviews represented by various GWC partners, which might lead to strategic breakdowns in project/initiative development and implementation. It is important that all partners tap into the collective expertise offered by GWC and work together to develop innovative mechanisms that promote clean water/sanitation. GWC offers a shared mission for partners, but also key to GWC success is the involvement of partners from developing countries, where the water/sanitation work is being carried out. Partners from developing countries could participate in various capacities, such as becoming formal GWC partners or providing knowledge for GWC partners concerning the implementation, success, and failure of on-the-ground projects. In this case, GWC partners would be required to look beyond a public versus private debate and examine possibly different views of how sustainable change can be encouraged in the sector.

Among the NGO partners there is an internal challenge in collaborating with private sector partners that has previously been seen as part of the water scarcity/pollution problem in many regions of the world. However, to date this has not led any of the NGOs to leave the partnership. To overcome the challenge, partners cite the value of interacting "at the table" with various private sector partners—attempting to influence their business models and encourage sustainable water management practices. In general, potential outcomes for increased safe water practices and increased education on sanitation greatly outweigh risks or challenges that NGO partners may face. More importantly, some NGO partners believe that the private sector partners possess critical expertise in certain areas (e.g., supply chain management) which could be extremely beneficial to project implementa-

tion and successful replication, though to date this expertise is not being mined.

This then relates to the last identified challenge for GWC: the way in which it chooses on-the-ground implementing partners. Generally, the NGOs take on the role of implementing partners; however, it would be useful for GWC to tap into the private sector partners who have employees on the ground in developing countries. For example, 40 percent of Cargill's employees and assets are in developing countries, with a majority of those employees in Central America. As GWC continues to work in Central America, it would be beneficial to engage these employees as partners on the project-implementation level in coordination with the various NGO partners. One additional tension which is likely generalizable in global partnerships but often overlooked is the fact that the various NGO partners coming together represent differing constituencies and worldviews, and consequently, differing approaches to solving problems in the field. Within GWC, this does not seem to have led to strategic breakdowns, but it is nonetheless worth noting since these organizations are in some cases competitors.

With only two years of operations it is too early to make a precise assessment of GWC in terms of its impact on sustainability, benefits and costs to its members, economic efficiency, or replicability. However, it has thrived so far despite the diverging background and views of its large membership. In our view this is due to the dual mission of the partnership, a learning forum where the partners can provide their views and a project finance organization. The partnership has also benefitted from an efficient and effective secretariat which has managed to facilitate without being overly assertive. Transitioning duties to the secretariat has allowed partners to focus less on the day-to-day management of partnership activities (e.g., communications, project identification), and dedicate more resources and attention to maximizing impact.

There are several issues that GWC partners may consider as the partnership matures. First, as many partners have noted, GWC has been a useful platform for mapping out the landscape of water and sanitation initiatives. Most partners indicated that they would not individually be able or willing to invest the resources to do this, but that it was immensely valuable in identifying projects and assigning priorities. For the time being, this benefit extends to GWC partners, which is not uncommon given the exclusive nature of its membership. However, it might also be well positioned to extend this capability to a larger global audience, particularly given that part of the GWC's mission is to create a global movement. Although it is already comprised of several major international aid organizations and corporations, there is definitely a much broader community that could

benefit from an initiative which is surveying the landscape of activities and identifying promising solutions.

On a somewhat related point, GWC will need to determine where it is best suited to make key contributions to the field of water and sanitation. Certainly, its emphasis on monitoring and evaluation seems to be unique and could add significant value beyond the scope of the individual projects. However, partners noted that there has been a tension between partners who would like to emphasize this aspect of GWC, versus partners and Board members who would like to see more on-the-ground projects. So GWC partners may be challenged to reconcile these competing interests and strike a balance which can deliver tangible, measureable results at the project level, but also make good on the notion of learning from these promising approaches.

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X

Agua para Todos: Water for All

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CONTEXT OF THE PARTNERSHIP

Like most developing countries and emerging economies, Bolivia faces the challenge of extending basic services like water and sanitation to its population at affordable prices. By the late 1990s, the municipality of Cochabamba, for example, was only providing a fraction of its households with running water. Those inhabitants connected to the water network received water at subsidized rates. Families not connected to the network had to rely on *aguatero* tanker trucks. These provide water at higher cost (around 2.50 USD/m³) and often lower quality. Moreover, local water storage in barrels and tanks often led to additional pollution and created health risks.

In 1998, the government privatized Cochabamba's water and sewage systems and ended its policy of subsidizing water. It did so to comply with conditions imposed by the International Monetary Fund (IMF)¹ and to attract private investment to expand the coverage of its water network. Indeed, the contract with the commercial water provider, Aguas del Tunari, contained precise and time-bound targets for the extension of coverage. To finance this expansion of the water distribution network, Aguas del Tunari increased user fees. Consequently, families experienced the doubling of their monthly water bills, which for many poorer households amounted to around a quarter of their overall income. The increases left the city's

¹ The IMF made water privatization a condition of the 138 million USD loan to the central government.

poorest unable to pay and thus cut off from the water supply. Despite this increase in cost, the expansion of the water network did not proceed as quickly as expected and communities both within and outside Aguas del Tunari's concessionary area were kept waiting for their connection.

In February 2000, mass protests erupted against the deal between the central government and Aguas del Tunari. Protests eventually turned violent, leaving one teenage protester dead, almost 200 protesters and over 50 police officers wounded, and the state in such chaos that these months of unrest gained the name "water wars." On April 10, 2000, the Bolivian government signed an agreement with the leader of the protests which repealed privatization legislation and cancelled the contract with Aguas del Tunari. It returned control of the city's water provision to the pre-privatization municipal provider, SEMAPA, for a period of 40 years. It also immediately passed a law, the *Ley de Saneamiento Basico* (Law No. 2066),² which recognized traditional communal practices, protected small, independent water distribution systems, ensured public consultation for rate determination and prioritized social needs over financial goals. Reflecting this law, the concessionary contract with SEMAPA contains special protections for low-income water users.

These steps were effective in quelling the violence of the water wars. The root problem of access to water, however, remained. SEMAPA did not have the necessary financial resources and technical capacities for expanding water coverage quickly enough. In this way, both the all-public and all-private attempts to bring safe drinking water at affordable rates to the inhabitants of Cochabamba had failed.

Against this background, the *Agua para Todos* (Water for All) multi-stakeholder partnership emerged. Its goal is to enable access to water for Cochabamba's inhabitants, including the poor. Through the partnership, local communities in need of water services cooperate with a local company, Agua Tuya/Plastiforte³ (further simply "Agua Tuya") which creates secondary water distribution systems; with the main municipal water provider SEMAPA; and with the non-profit foundations CIDRE and Pro Habitat that provide micro-financing and training. Later, other partners such as UNDP Bolivia and the local municipal government (*Alcaldia*) joined *Agua para Todos*, adding new financing mechanisms.

Agua para Todos provides a local, innovative, and demand-driven model for providing the poor with affordable access to safe drinking water.

² Passed in April 2000, available at aguaboliivia.org.

³ Plastiforte is a pipe manufacturing company. Agua Tuya develops projects with local communities to install and finance water systems. Optimisa is an engineering consulting company. The three companies are linked through the umbrella Grupoforte, and jointly they offer the full range of services needed to plan and implement local water distribution networks.

The initiative belongs to the group of action-oriented partnerships that are designed to provide a good or service viewed as critical to sustainability and which was previously not provided sufficiently. This case study traces the partnership's origins, motivations, work practices, and organization and assesses its success and impact to date. By doing so, it seeks to enrich the debate on when and how partnerships can make a valuable, cost-effective, and lasting contribution to sustainable development.

THE EMERGENCE OF THE PARTNERSHIP

Establishing the Partnership: Founding Partners

Already for several years prior to the eruption of the water wars, the private Bolivian company Agua Tuya, cooperating with the pipe manufacturer Plastiforte and the engineering consultants of Optimisa, had worked with local water committees to build water storage tanks and local distribution networks. The water committees are community-based institutions organizing local water supply that were particularly active outside SEMAPA's original concessionary area. Since 2000, the new water law has been recognizing them as legal water service providers. Building local networks and tanks enabled communities to buy water from private providers in bulk and thus achieve better prices (on average 1.25 USD/m³ instead of 2.50 USD/m³). Moreover, the larger collective tanks were of better quality and allowed a monitoring of water quality. As coverage extension plans for the main water network stalled, an increasing number of communities within SEMAPA's concessionary area also became interested in Agua Tuya's work.

While these projects improved access and water quality in some communities, they faced several major challenges. Firstly, there were no guarantees for the quality of the installed networks and their maintenance. Secondly, the building of these secondary networks was not coordinated with SEMAPA's expansion plans and it was therefore not guaranteed that they could eventually be linked to the main water lines. Finally, many of the poorest communities lacked the necessary resources for financing the building of these local networks.

In early 2002, Gustavo Heredia, Agua Tuya's Director, laid the first groundwork for the *Agua para Todos* partnership by approaching SEMAPA's CEO, Gonzalo Ugalde, with his idea for cooperation to address some of the problems at hand. The core of his proposal was to coordinate the planning process for local distribution networks. Accordingly, especially for local networks built within SEMAPA's newly extended concessionary area, SEMAPA would approve construction plans. This would guarantee that the local networks were compatible with the main lines built by SEMAPA

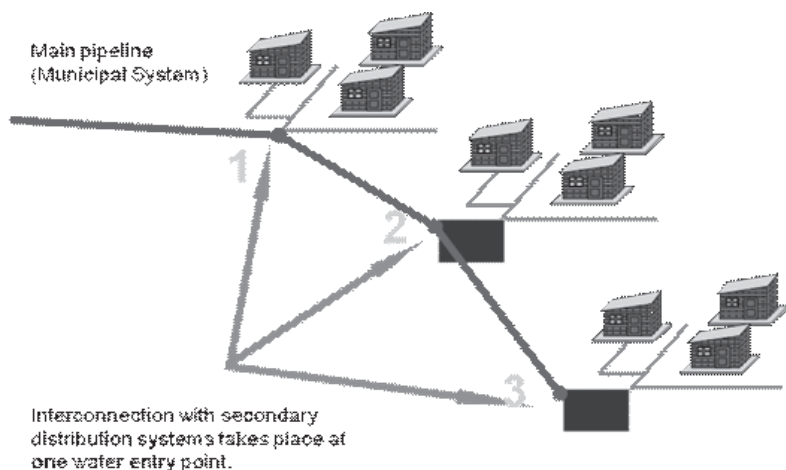


FIGURE X-1 Main pipeline of a municipal system.

SOURCE: Heredia, 2007:1, Interview with Gustavo Heredia, Director, Agua Tuya.

and that they lived up to SEMAPA's quality standards. At the same time, it would enable SEMAPA to concentrate its resources and capacities on extending the main pipeline system and thus make faster progress there. The partners of *Agua para Todos* agree that this initial informal phase, which involved many personal discussions and led to an agreement of goals convincing to all involved, was crucial for the subsequent success of the partnership.

Through its concessionary contract, SEMAPA had the right to cooperate with other organizations to deliver water, provided that water quality and expansion goals were met. Ugalde therefore expressed interest in the endeavor. Following several meetings between himself, Gustavo Heredia, Juan José Salinas⁴ and Stefan Seidel,⁵ his colleagues were also convinced that it would be possible to address concerns relating to the quality of the design and maintenance of secondary networks and the compatibility of these networks with SEMAPA's main lines. In October 2004, Agua Tuya and SEMAPA signed a formal, bilateral contract, establishing the partnership *Agua para Todos*.

⁴ Head of SEMAPA in southern Cochabamba.

⁵ Technical Advisor for SEMAPA.

Growing the Partnership: New Partners

Soon thereafter, other organizations joined the *Agua para Todos* partnership. CIDRE is a non-profit foundation with the objectives of promoting regional development through (micro-)credit and capacity-building activities. It had begun working with Agua Tuya following the water wars in 2000. Since then, CIDRE had lent approximately 170,000 USD for a total of nine projects with Agua Tuya. It had good experiences in regards to repayment from communities, which generally occurred within one year of the loan and sometimes even less.

For this reason, when Gustavo Heredia approached CIDRE with his idea for a broader partnership, the foundation happily agreed to continue their cooperation with the company, but saw no need to sign a new partnership agreement, as they viewed the new form of cooperation as an extension of their previous partnership.⁶ Projects funded through the prior cooperation consisted of either (1) shared risk loans with an equal carrying burden between Plastiforte and CIDRE or (2) direct financing through micro-credit for individual community projects on a case-by-case basis. Within the framework of *Agua para Todos*, CIDRE prolonged the latter cooperation option, which allows for the direct micro-financing of water communities. Their main strength consists of the professional and experienced provision of credits with low transaction costs.

Pro Habitat, a non-profit foundation which aims to improve housing and shelter, including the provision of basic services, signed bilateral contracts, one each with Agua Tuya and SEMAPA, in November 2004. Within the framework of *Agua para Todos*, Pro Habitat trains and builds the capacity of the water committees with which it works. In some instances, Pro Habitat also extends micro-credits to finance local water networks. In contrast to CIDRE, however, provision of micro-credit presents only a secondary function.⁷ Increasingly, Agua Tuya has also been offering capacity-building services. Therefore, the last project involving Pro Habitat finished in 2006. While partners remain open for further cooperation in the future, Pro Habitat no longer actively participates in the *Agua para Todos* initiative at the moment.

After becoming selected in the SEED (Supporting Entrepreneurs for Environment and Development) Awards as a finalist in 2005, *Agua para Todos* attracted two further partners: UNDP Bolivia joined in 2005 and the municipal government (*Alcaldía*) of Cochabamba in April 2006. As one of the organizers of the SEED Awards, UNDP became interested in the partnership. UNDP's Bolivian country office joined the initiative with the

⁶ Interview with Julio Alem, November 8, 2005.

⁷ Interview with Agua Tuya, November 7-9, 2006.

intention of facilitating meetings with the municipal government in Cochabamba, providing technical assistance and channeling donor funds. UNDP Bolivia did facilitate meetings with the municipal government. However, due to what the responsible UNDP Program Officer, Tatiana Jordan, called “political difficulties” in receiving national and departmental permission from the Bolivian authorities to participate in the partnership, their role as an official partner has been placed on hold. UNDP Bolivia does not anticipate a change in this situation in the near future, although they maintain a strong level of interest in the partnership, which they consider quite promising and successful in achieving a “high social impact.”⁸ Through a future financial arrangement with UNDP Bolivia, procedures for applying for municipal funds could be facilitated and increased transparency could encourage other donors to contribute to *Agua para Todos* projects.

The municipal government had previously worked with SEMAPA in order to assist them in expanding coverage in the pre-privatization period. However, due to internal difficulties within the latter in meeting demand, the cooperation did not reach its intended goal. As the mayor himself served as the President of the Board of Directors of SEMAPA and his Senior Officer for Planning as the Vice-President, the relationship between the two entities was very close. The municipality joined *Agua para Todos* and added significant financial resources:

Under current legislation, municipal authorities receive a share of the total tax revenue as *Participación Popular* funds.⁹ These funds can be used among others to finance water and sanitation projects. With the municipal government joining the *Agua para Todos* partnership, water committees could apply for *Participación Popular* to build secondary water networks and storage systems. Until the end of 2007, *Agua para Todos* received USD 292,695 through the municipality.¹⁰ This arrangement has resulted in substantial savings for the population of Cochabamba who were previously financing the construction of the secondary networks privately.

Partner Involvement and Partnership Type

While the founding partners encompassed local community-based organizations, a commercial partner and the municipal water provider, it expanded to include non-governmental organizations, the local government,

⁸ Interview with Tatiana Jordan, UNDP Bolivia, May 26, 2008.

⁹ Through the *Participación Popular* system, Bolivia allocates 20 percent of the national tax income to municipal authorities based on population size. In 2005, Cochabamba received funds equivalent to around 11.3 million USD and in 2006 13.1 million USD. Around 40 percent of the *Participación Popular* funds can be made available for infrastructure development, including water and sanitation projects.

¹⁰ Heredia 2007:2, Interview with Gustavo Heredia, Director, Agua Tuya.

and an international organization at the national level. The partnership has not defined any formal processes for new partners to join, as the partnership is built on several bilateral contracts (between water committees and micro-credit agencies; water committees and Agua Tuya; Agua Tuya and SEMAPA; Pro Habitat and Agua Tuya; etc.). It can, however, be expanded to include additional partners. Thus, for example, additional water committees can join the partnership by concluding new contracts with Agua Tuya and a financing organization. In order to facilitate the process of including new water committees, the partnership set up a coordination office in the south of Cochabamba.

Both in the actors it involves and the goals it seeks to achieve, *Agua para Todos* reflects a very local, pragmatic focus. It is action-oriented and its primary purpose is to provide a good or service viewed as critical to sustainability and which was previously not sufficiently being provided. However, as a means to fulfill its primary purpose, *Agua para Todos* also demonstrates “a focus on facilitating the process of partnering and the building of communities of practice around issues of sustainability,” as the capacity building of water committees in the management and maintenance of their water system plays a central role in the initiative.

Goals, Objectives, Geographic Scope, and Timeline

From its inception, *Agua para Todos* pursued several goals:

- Expanding the provision of safe potable water at an affordable price to households in Cochabamba that were not linked to the main water distribution network. The partnership planned to connect 17,000 households or around 75,000 people to the main water pipeline within its first five years of operation (2005-2009). For the end users, the partnership intended to achieve increased water quality as well as a significant decrease in the cost of water. More specifically, the partnership planned that the cost per cubic meter of drinking water would be reduced from 2.50 USD to 1.25 USD through the construction of the local distribution network and would further go down to around 60 cents upon the connection of the local network to SEMAPA's main water lines.
- Providing funds for the creation of local water networks. A critical component of the partnership is its financing function. To enable a greater number of communities to participate in the partnership's projects and to speed up the expansion of the water distribution system, several financing mechanisms were included in the partnership's operations. Thus, water committees can apply for micro-credits with Pro Habitat or CIDRE. Since micro-credits have to be paid back, these organizations have revolving funds that can be used on a continuous basis for financing water-related

projects. The second major financing mechanism is through the use of municipal *Participación Popular* funds. The goal of including these tax-based funds into the partnership was to reduce the real financial burden for local communities.

- Training local inhabitants in water management. Partners also sought to ensure that each water committee receives technical training in the maintenance of local distribution systems and the use and storage of water. This was deemed necessary to guarantee the sustainability of the project and to ensure that the full benefits of access to water accrue to the population. Through the training, water committees were in addition to gain the ability to look after the networks in the medium to long term.
- Mitigate conflict. The partnership's origins lie in the water wars of 2000. By facilitating the construction of local water distribution networks and by enabling the provision of high-quality water at affordable cost, the partnership seeks to contribute to the prevention of further conflicts revolving around the issue of access to water.

As a local initiative with a local implementation focus, *Agua para Todos* is limited to the area of Cochabamba for the time being. Should the first project phase prove successful, however, the partnership could be expanded to other Bolivian municipalities.

For the achievement its goals, the partnership does not currently have a firm termination point. It started with a range of pilot projects, implemented by Agua Tuya without the involvement of SEMAPA. The first operational cycle for the full partnership runs for five years, from 2005 to 2009. By this time, 80 percent of the households which do not currently have access to potable water in Cochabamba should be serviced. In years 6 through 10, they expect to service the remaining 20 percent of households, which are often located in more rural areas and are thus more difficult to reach. Therefore, this "filling-the-gaps" work is expected to progress more slowly. After completing the first project cycle, the partnership would like to expand its operations in two directions: including sewage and sanitation projects in its portfolio and replicating the project in other municipalities.

INCENTIVES

The water wars of 1999/2000 showed how important the issue of access to affordable drinking water is to the affected populations, the water provider, the government, and the community at large. The common driving motivation for all partners of *Agua para Todos* is to solve the life-essential problem of insufficient and expensive potable water provision to communities in Cochabamba, especially the poor. Individually, however, each partner had varying incentives to join the partnership.

- The **water committees** became involved for self-help reasons. Cooperating with Agua Tuya enabled them to build their own water networks, with positive effects on water quality and price. The involvement of the micro-finance institutions was necessary to enable most of the poorer communities to pay for this service. Through the inclusion of the municipality, the water committee gained access to additional financial resources on a grant, instead of a credit basis. This makes participation in *Agua para Todos* even more attractive, especially for the poorest communities.

- **Agua Tuya** states their primary incentive rather altruistically, namely the existence of a problem in their community that they were able to solve by providing water to the poor who previously could not afford it. Agua Tuya is, however, also part of a business producing and installing water pipes. In this respect, the partnership operates as a means to expand the corporation's target market and increase its profits. Moreover, Agua Tuya was operating in a highly contentious area where the role of the private sector was strongly disputed. Cooperation with the municipal authorities and affected communities legitimized Agua Tuya/Plastiforte's activities. Incentives for cooperating with the various partners have also changed over time, now including an added benefit of working with the municipality. Working with the municipality now permits the partnership to use a more integrated approach to water and sanitation. Expanding the *Agua para Todos* partnership to include sanitation presents a promising growth opportunity for Agua Tuya.

- **SEMAPA** lacks the necessary investment capacity to expand the previous concession area to the southern, poorer areas of Cochabamba and simultaneously maintain the primary and secondary lines on its own. By working with a commercial partner and with trained water committees, cooperation frees up SEMAPA's capacity to expand and maintain the primary lines while Agua Tuya and the water committees take care of the secondary ones. Moreover, by working closely with them, SEMAPA ensures that the secondary lines will be compatible with the main water pipeline. As more than 100 independent water committees and associations came into their concessionary area prior to the partnership, compatibility presented a very real challenge. Had non-compatible lines been constructed out of short-term necessity, SEMAPA would have had to reconstruct them all in the long term. Finally, finding a way to service previously ignored areas permits SEMAPA to fulfill its contractual obligations and maintain the rights to the water system, avoiding repeated unrest and battles for control of the water in Cochabamba.

- As a non-profit foundation seeking to improve housing and shelter for the poor, **Pro Habitat's** main incentive for joining the partnership lies in the extended capacity it offers to reach inhabitants in Cochabamba. While they previously worked with Agua Tuya to enable similar projects,

they agreed to work within a new framework and with additional partners because it would give them the opportunity to better complete this mission. Although another financing institution (CIDRE) participates in the partnership, Pro Habitat representatives assure that demand is large enough that no competition exists between these two partners.¹¹

- **CIDRE** aims to promote regional development through micro-credits and capacity building. As such, participating in the partnership allows it, just as it does Pro Habitat, to reach more beneficiaries than it could through cooperation with Agua Tuya alone.

- By participating in a partnership that brings arguably the most needed basic public good to its constituency, the **Municipality of Cochabamba** gains a great deal of legitimacy. In fact, promises to improve water provision comprised a central component of the mayor's election campaign in the poor south. Carolina Patino, spokesperson for the Municipality's participation in the *Agua para Todos* partnership, listed the most important incentives for cooperation as "capacity building" benefits and an increased ability to "assist the affected communities."¹²

- **UNDP Bolivia** was pointed to the partnership by UNDP Headquarters, that worked with *Agua para Todos* through its multi-stakeholder partnership program, SEED. It joined the partnership because it matched their mission of alleviating poverty and improving governance and environmental issues in Bolivia, particularly in the area of water and sanitation. They felt they could support the partnership in becoming more effective. Helping the partnership reach its goals would, in turn, help UNDP Bolivia achieve its mission.

IMPLEMENTATION PRACTICES

Planning

In order to plan concrete activities, the partnership follows a case-by-case logic: As new water committees approach the partnership, they draft formal contracts, determine an appropriate financial solution and plan and construct a distribution network for the committee.

A hurdle to planning new projects at the outset was that water committees had several contact partners at the different partner organizations. This process was complicated and time consuming for many. The partnership therefore sought to establish a "one-stop-shop" coordination office and, with the support of international donors, *Agua para Todos* has established such an office in the Comuna de Valle Hermoso.

¹¹ Interview with Antonia Terrazas, September 11, 2005.

¹² Interview with Carolina Patino, May 20, 2008.

TABLE X-1 Implementation as of October 30, 2007

Total investment	569,548 USD
Total investment by the community (users)	276,892 USD
Total investment by the Municipality	292,656 USD
Total number of projects (neighborhoods)	18
Average investment cost per project	31,642
Total number of homes served	2,687
Average investment cost per home	212 USD
Average direct investment paid by household	103 USD
Total people served (average 5.7 inhab/home)	15,318
Average total investment cost per capita	37 USD
Total pipelines installed	60,110 m

SOURCE: Heredia, 2007: 2. Interview with Gustavo Heredia, Director, Agua Tuya.

The partnership has not established any formal review processes for its operations and planning. Any changes to the current system depend on the initiative of the core partner organizations.

Funding

From the onset of the partnership, *Agua para Todos* continued applying funding schemes used in Agua Tuya's activities outside SEMAPA's concessionary area, namely micro-loans from CIDRE and Pro Habitat. However, parties agreed to incorporate additional municipal funds from *Participación Popular* (PP) funding sources as well. They did not indicate the level of funding monetarily, but stated the need for capital funding or a grant to start up a technical office for coordination between partners. After its founding, it anticipated sufficient self-financing of the office through partnership projects. Additionally, the partnership mentioned the necessity of access to long-term, low-interest loans that would enable SEMAPA to extend the main lines to connect with the distribution lines and would also allow Agua Tuya to create a low-interest revolving fund for water committees, as loans at the time (2004) carried with them a 14 percent interest rate. In no specific form, partners also sought "funding" for engineer designing of the systems and training of small enterprise staff they planned to create.¹³

¹³ SEED Award Application, Agua para Todos, 2006.

In practice, Agua Tuya guaranteed 100 percent of the deposit for projects requiring PP funds as of 2005.

Entrance of the municipal government into the partnership in 2006 and its subsequent investment of PP funds in water committee projects have significantly altered the funding make-up. Although in their partnership agreement, the municipality originally committed to covering 20 percent of the investment costs, their contribution so far has reached up to 51 percent. In addition to funding, the municipality provides analysis of project proposals as well as pre-feasibility studies and monitors the construction process through visits to the sites.

Partner Communication

In order to stay abreast of partnership activities, representatives from each organization maintain regular communication with their counterparts on both a formal and informal basis. Communication occurs in the form of a regularly scheduled annual meeting amongst all partners as well progress reports every six months. Whenever necessary, partners also correspond regularly over the phone and exchange letters. Primary responsibility to inform partners of progress or any matters requiring discussion lies primarily with Agua Tuya. Agua Tuya fulfills this task mostly during the annual meeting and progress reports twice per year.

As discussed in the section on incentives, all partners derive direct benefits from participation. Beyond that, however, no mechanisms are in place granting partners additional benefits for active participation.

Leadership or Championship?

Gustavo Heredia, Director of Agua Tuya, initiated the partnership and contributed both the idea and previous partners CIDRE and Pro Habitat to the partnership with SEMAPA. SEMAPA's cooperation largely depended on internal advocacy by CEO Gonzalo Ugalde. Even despite the high turnover rate of SEMAPA leadership, which causes some difficulty in the partnership, other cooperating organizations are convinced that SEMAPA still remains committed to the partnership.¹⁴

Partners were selected according to their function and their potential contribution to the partnership: SEMAPA operates the main lines and the project would thus prove impossible without them. SEMAPA agreed to work with Agua Tuya/Plastiforte because of their reputation for high-quality pipe. Micro-credit firms were included due (1) the continued need for

¹⁴ Interview with Gustavo Heredia, May 17, 2008.

some sort of financing and (2) their already established relationship with Agua Tuya.

The partnership has to date carried out an assessment of the effectiveness of the project itself, but no specific formal evaluation of the leadership. Some leadership changes occurred from the side of SEMAPA, as the CEO left the organization. In total, SEMAPA has changed its general manager five times since the partnership started.

Customer Response and Feedback

Customers of the *Agua para Todos* partnership are the water committees, which bundle together beneficiaries—community members wishing to become connected to water distribution infrastructure. Committees manage their own communal water distribution systems and create small enterprises entrusted with management and maintenance. Agua Tuya/Plastiforte provides technical training to the water committees and trains a local plumber in the management and maintenance of the network.¹⁵ Pro Habitat in the past offered educational training on efficient water use, water quality standards, and hygiene. It is hoped that this knowledge will be passed on within communities, for example, as plumbers train their apprentices.

In 2007, *Agua para Todos* surveyed various stakeholders, including community leaders, water committees, users, municipal utility executives, high-level Municipality representatives and Agua Tuya personnel for their perception of the level of success or failure of the partnership. They received rather positive feedback on both the effectiveness of the project itself as well as on the level of coordination within the partnership. Ninety-three percent of interviewees considered *Agua para Todos* an effective contributor to building water systems in Cochabamba and 96 percent viewed the partnership as “participatory.” Sixty-eight percent said they felt that *Agua para Todos* was reaching its goals, while 21 percent disagreed with this statement.

Concerning the perception of the level of cooperation between the partners, internal surveyors received the following results (see Figure X-2).¹⁶

- Coordination between the Municipality and SEMAPA: 11 percent report “good coordination,” 64 percent “regular coordination,” 21 percent “bad coordination,” and 4 percent said they did not know;
- Coordination between the Municipality and Agua Tuya: 43 percent

¹⁵ The 2007 Update from Agua Tuya states that an average of three to five people in each neighborhood are trained in water management.

¹⁶ Heredia, 2007. Interview 4 with Gustavo Heredia, Director, Agua Tuya.

Stakeholder Perceptions: Partner Coordination

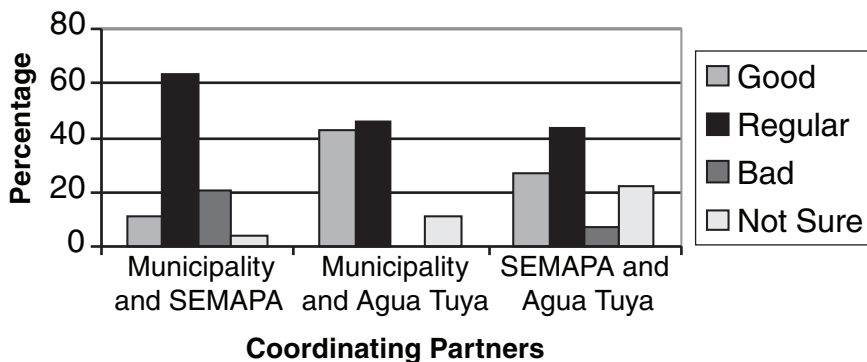


FIGURE X-2 Coordinating Partners.
SOURCE: Heredia, 2007, Interview 5.

rated their coordination efforts as “good,” 46 percent as “regular,” no one viewed their coordination level as “bad,” and 11 percent did not know.

- Coordination between SEMAPA and Agua Tuya: 27 percent rated coordination “good,” 44 percent rated it “regular,” 7 percent “bad,” and 22 percent did not know.

Representatives from different partner organizations attributed the rather effective collaboration and interaction among members to various factors. While most respondents from partner organizations agreed that support from the affected communities and the existing demand for their products played an important role, Agua Tuya representative Gustavo Heredia also attributed effective coordination to individual leadership and commitment while Municipality representative Carolina Patino emphasized the importance of partner organization support and guidance from donors.¹⁷

¹⁷ Interviews with Gustavo Heredia (Agua Tuya) and Carolina Patino (Municipality), May 17, 2008, and May 20, 2008, respectively.

Monitoring and Evaluation

Original metrics for measuring the success or failure of the partnership spanned two phases. The first phase aimed to get a large number of households connected to secondary water distribution networks and the second phase focused on connecting these secondary networks to SEMAPA's water services. Exact figures for these phases are determined on the basis of SEMAPA's business plan: SEMAPA hopes to double the number of houses it currently serves to 120,000 within the next 10 years. The *Agua para Todos* partnership plans to account for over 25 percent of this increase (17,000 households). However, whether they can achieve this goal depends on whether SEMAPA's projections for extensions of its main pipeline are realistic. Furthermore, whether they can actually provide water in the long run depends on the progress made in the Misicuni Dam project. This dependency makes determining the exact figures and benchmarks of "success" difficult. According to Gustavo Heredia, it is probable that phase one will progress more rapidly than phase two.

The *Agua para Todos* partnership does not undergo any formal monitoring and evaluation process. It does, however, assess the progress of its work related to its initial quantified goals. Progress, as well as opportunities for improvement, is discussed at the annual meeting. Around halfway into its first project phase, by October 2007, the partnership had connected 2,687 homes or around 15,318 inhabitants. This amounts to 16 to 20 percent of its overall goal for the first phase. Despite some obstacles to achieving their goals within the intended timeframe, partners agree that the anticipated costs of the initiative have not extended beyond what they had planned and consider their accomplishments to date "worth" their investments of time and money.¹⁸

One of the problems encountered by the partnership that accounts for this slower than expected performance is the difficulty experienced by water committees and getting approvals for micro-credits. Very poor communities lack the guarantees needed to gain approval for credits. The problem is reflected in the fact that the financial contribution by the municipality, which was intended to cover 20 percent of all financial needs, now actually amounts to 51 percent. As a possible solution to this problem, *Agua para Todos* is looking for international donors willing to set up a collateral fund to alleviate the guarantee requirements for loans to water committees.

¹⁸ Interviews with Gustavo Heredia (Agua Tuya) and Carolina Patino (Municipality), May 17, 2008, and May 20, 2008, respectively.

PARTNERSHIP ORGANIZATION AND GOVERNANCE

Organizational Form and Accountability

Formally, *Agua para Todos* is based on a set of agreements and contracts. Agua Tuya Director Gustavo Heredia explained that partners chose the partnership organizational structure they did in order to “effectively contribute to the partners’ goals without creating additional bureaucracies.”¹⁹ Three bilateral contracts exist between Agua Tuya and SEMAPA, Pro Habitat and Agua Tuya, and Pro Habitat and SEMAPA. A multi-lateral agreement between Agua Tuya, SEMAPA, the Municipality of Cochabamba and UNDP Bolivia sanctions cooperation between these partners over a five-year period, beginning in July 2005. Additionally, close contacts between these partners and CIDRE make up a further level of the organization. Finally, the remaining contracts are signed on a project-by-project basis: whenever a water distribution network is built in a community through the *Agua para Todos* framework, the community (represented either by a water association or the water committee) signs an agreement with Agua Tuya and the Municipality as well as a separate agreement with the micro credit provider (Pro Habitat or CIDRE).

These Memoranda of Understanding (MOUs) provide for formal accountability between project partners. For example, the MOU between ASICA-Sur and Pro Habitat spells out that water committees are required to pay back their loans to Pro Habitat. The MOU between SEMAPA and Agua Tuya makes clear that Agua Tuya cannot build water distribution systems before SEMAPA has approved the designs.

Contracts signed between Agua Tuya and individual water committees prior to the construction of water distribution networks create further legal accountability. As the water committees pay for Agua Tuya’s services, Agua Tuya is required to provide users with systems that operate effectively and it offers guarantees on its pipes and other infrastructure.

A limitation exists with respect to SEMAPA’s accountability toward the water committees and associations: Water committees, by cooperating with SEMAPA in the *Agua para Todos* partnership, expect SEMAPA to fulfill its business plan promises of servicing a further 60,000 households in Cochabamba in the next 10 years. However, no contract between SEMAPA and water committees exists that would guarantee the fulfillment of this promise.²⁰ Contracts between SEMAPA and water committees will only be signed once SEMAPA has reached communities with its main pipeline, which is expected well after the construction of the secondary networks.

¹⁹ Interview with Gustavo Heredia, May 17, 2008.

²⁰ Such a generic contract for all cooperation would be very difficult, if not impossible, to effectively create.

Accountability between SEMAPA and the committees therefore exists only informally.

Further internal accountability mechanisms, such as the creation of an elected board to supervise operations, could grow out of the partnership coordination office. This coordination office was created with support from the SEED Initiative as a result of winning an award as a finalist partnership.

Governance

After winning the SEED award in 2005, *Agua para Todos* created a coordination office which more conveniently serves those water committees located a far distance away from the municipal central office or Agua Tuya's headquarters. This Sustainability Support Unit, which lies in the south of the city, in the Comuna de Valle Hermoso, and has three main functions:

- It provides information for small-scale operators,
- It offers training courses for managers and plumbers-operators, and
- It continually makes available technical assistance for operation and maintenance.

The office offers these services not only to the water committees directly working with *Agua para Todos* to build secondary networks, but also many of the other 650 water committees operating in the greater Cochabamba area.²¹ This office, however, serves a strictly operational purpose rather than functioning as a body of oversight and leadership. While partners are currently contemplating expanding its role to include such functions,²² no such body, board, or executive committee exists at the time of writing.

While the partnership agreement clearly defines decision-making procedures for major decisions, such as initiating new projects with water committees, minor operational decisions are usually made by one or two partners on an informal basis. Hiring decisions for the resource center provide one such example. Agua Tuya clearly serves a leadership function within the partnership in terms of oversight and operations, while the municipality measures partnership progress in meeting their goals and objectives. This arrangement appears to provide effective checks and balances in regards to partnership governance although no formal agreement dictates a particular sharing of oversight and evaluation responsibilities.

²¹ Agua Tuya update, 2-4.

²² SEED award application.

Management of Partnership Assets

The partnership itself does not own any assets. Assets relevant to the partnership's operations are owned by individual partners: Pro Habitat, CIDRE, and the Municipality are in charge of certain funds directed to the project. SEMAPA, according to its concessionary contract, owns the right to supply water within Cochabamba. Agua Tuya/Plastiforte owns assets to produce and install local water networks.

There is one point of contention concerning the ownership and management of relevant assets: Water committees officially own the secondary networks for which they receive financing and technical support to build. Once SEMAPA connects these secondary networks to the main line during the second, forthcoming stage of the project, committees will have the option of maintaining control of the network and acquiring water from SEMAPA by the bulk from one water-entry point.²³ Alternatively, committees may pass on ownership, control, and maintenance to SEMAPA.²⁴ Because SEMAPA has not yet reached the secondary networks with its main water line, a practical case is lacking to test the issue of ownership of the infrastructure of systems. Based on initial investigations with partners, the Viceministerio de Servicios Básicos and the Superintendencia de Servicios Básicos, it is apparent that this issue is not clearly defined.

ASSESSMENT OF THE PARTNERSHIP AND CONCLUSIONS

Impact on Sustainability

Agua para Todos is making progress in not only establishing new connections, but also training water committees to take over their operation. This form of capacity-building will help ensure long-term local ownership and the ability to continue a project for which those involved have an incentive to continue. A definition of sustainability, which focuses on building a business model with the potential to achieve long-term self-sufficiency and impact, underlies *Agua para Todos*' activities in the area of capacity-building and partnership cooperation, in particular cooperation with local communities.²⁵

²³ See Figure X-1.

²⁴ Agua Tuya update, 1.

²⁵ For more on the correlation between sustainability and local ownership, see for example Isham J, Narayan D, Pritchett L. 1995. Does Participation Improve Performance? Establishing Causality with Subjective Data. *The World Bank Economic Review* 9:175-200, p. 175; Klugman J. 2002. *A Sourcebook for Poverty Reduction Strategies*. Washington: The World Bank; Mansuri G, Rao V. 2003. *Evaluating Community-Based and Community-Driven Development: A Critical Review of the Evidence*. Washington: The World Bank; Sobhan R. 2002. Aid Effectiveness and Policy Ownership. *Development and Change* 33:539-548; Steets

Success of the partnership's activities can be measured using baseline data known at the onset of the partnership, such as the price of water prior to its initiation as well as the number of households being served at the time. By comparing these numbers to those after three years of operation and keeping in mind that no other major parallel efforts existed beyond *Agua para Todos* that sought to accomplish the same tasks,²⁶ measurement of the initial impact of the partnership can ensue. During the first and current stage of the partnership, the cost of water for beneficiaries indeed decreased on average by 50 percent. Formerly, community members paid 2.50 USD per cubic meter of water provided by tanker trucks; they only pay 1.25 USD per cubic meter to their water committees. During the second and following stage, all members connected to the SEMAPA main water line will pay approximately 0.60 USD per cubic meter. Since the initiation of *Agua para Todos* up until the time of the first stock-taking in 2007, an additional 2,687 homes, or 15,318 people, have received access to potable water.²⁷ These numbers continue to rise as the partnership continues its activities. All members of the partnership agree that the goals of improving access to potable water in Cochabamba could not have been achieved without the activities of the partnership.

Success Factors and Lessons Learned

Both external opportunities and internal strengths contribute to the success of the *Agua para Todos* partnership model. External factors include a very high local demand from the population of Cochabamba for the product that the partnership offered as well as the willingness to pay, strong existing community mobilization and organization structures, and enabling legislation (see Table X-2).

Internal success factors for the *Agua para Todos* partnership included 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 its production of a high-quality product with proven technology (see Table X-3).

In addition to success factors for accomplishing the goals of the project, partners also identified lessons learned that affect the success of partnership cooperation. When evaluating the success or failure of any initiative—whether a partnership or unitary effort—the central question remains the

J. 2006. Partnerships for Sustainable Development: On the Road to Implementation. Berlin: Werkverlag AG.

²⁶ One effort does exist between Aguas del Este in Santa Cruz and others funded through the Swiss Development Cooperation, COSUDE, in El Alto, but these projects do not affect the region of Cochabamba.

²⁷ Heredia, 2007: 2. Interview with Gustavo Heredia, Director, Agua Tuya.

TABLE X-2 Factors Contributing to Success of Partnership Models

External/Environmental Success Factors	
High demand for partnership product	Provision of safe, potable water is a basic need very high in demand , as demonstrated by the water wars.
Customer willingness to pay	Because water committees—which serve as active participants, customers and beneficiaries in the partnership—save significantly on water expenses by becoming connected to water through APT and also see the positive results of the partnership on their neighbors, they are willing to pay . Micro-credits enable those who are willing but previously unable to pay to also become connected.
Strong community mobilization and organization	Organizing customers into water committees was greatly facilitated by the high level of community mobilization and strong community management structures already in place. APT was able to utilize local, existent structures to save on operation and implementation costs.
Enabling legislation	APT likewise benefited from the 1994 <i>Ley de Participación Popular</i> (law of popular participation), which recognized traditional communal practices, protected small, independent water distribution systems, ensured public consultation for rate determination, and prioritized social needs over financial goals. This legislation narrowed the playing field to those actors willing to prioritize social needs. Legislation also enabled and encouraged participation of water committees.

NOTE APT, *Agua para Todos*.

same, namely whether the initiative achieved what it set out to do without creating unintended negative effects. However, partnership initiatives must additionally be evaluated for the success or failure of partner cooperation, as ineffective collaboration could cause an otherwise promising project to fail.

In the case of *Agua para Todos*, communication and coordination between partners works rather well. Nevertheless, partners identified some obstacles in this area and trace the difficulties in realizing their goals within the originally estimated timeframe at least in part to unclear procedures, particularly within the municipality. The relatively frequent turnover of staff at the municipality aggravated the situation, as each new representative could not simply refer to guidelines defining “who does what” at the very beginning. Therefore, partners clarified these details in written guidelines in order to ensure that everyone had the same expectations. Out of this experience, partners learned the importance of clarifying responsibilities in a more detailed fashion, step by step. Furthermore, partners identified regular communication and periodic reporting as key factors attributing to their coordination.

TABLE X-3 Internal Success Factors

Internal Success Factors	
Local initiative	As a very locally owned and run initiative, <i>Agua para Todos</i> has been able to operate without certain conditionalities or administrative demands that might otherwise have been incurred by initial cooperation with a donor agency. Moreover, local ownership has created a great deal of buy-in from the affected community.
Receptiveness of public sector	Both SEMAPA and the municipality of Cochabamba demonstrated a high level of receptiveness to the use of a rather innovative model to solve a traditional public sector problem with active participation from the private sector and affected community.
Dynamic leadership	Strong individual leadership and commitment from Gustavo Heredia, Director of Agua Tuya, was a key factor in both initiating partner contact and overcoming difficulties along the way.
Flexible financing models	A flexible financing model allows local water committees to own their water systems and play an active role in maintaining them. Micro-credit providers take into consideration each individual community's capacity to pay as well as the overall cost of the particular system.
Proven technology	Proven technology for a superiorly performing product (Plastiforte pipe) not only increased the level of sustainability of the water systems, but reassured initially skeptical staff at SEMAPA that the partnership product would be a safe investment.

Appropriateness of the Partnership Approach

Not only does the *Agua para Todo* partnership approach prove appropriate in managing cross-sectoral issues and collaboration, but the cooperation of public, private, and non-profit sectors arguably represents the only constellation capable of turning a very negative situation (water wars) in Cochabamba into a win-win-win opportunity. Frequent bilateral meetings between SEMAPA and Agua Tuya during the period leading up to the partnership initiation ensured that both parties would play important roles in designing objectives, targets, and the overall business plan for their project. Additionally, partners report very frequent bilateral meetings in the beginning stage between Agua Tuya, SEMAPA, CIDRE, Pro Habitat, the Municipality, and UNDP Bolivia as well as one large multi-lateral meeting with all partners except UNDP.

An important reason for the effective collaboration between the different partner organizations is the clear definition of partner interests, stakes, and roles. All partner organizations have a clear and concrete incentive for joining and working in the partnership. The only possible exception to this is UNDP Bolivia, which was initially prompted by UNDP Headquarters to engage with *Agua para Todos*. According to the latest partnership progress report, the UNDP country office has also been slower than expected in implementing its full role. The office was instrumental in facilitating the contact between *Agua para Todos* and the Municipality. It had originally also planned to provide technical assistance to the partnership and its partner organizations and to create a mechanism for channeling donor funds. However, these activities have not been implemented to date.

Another complicating factor for the ongoing collaboration between partner organizations is frequent staff change. Thus, for example, a staff change in UNDP initially delayed UNDP's engagement. Within SEMAPA, the CEO changed five times since the inception of the partnership. Each time, the relationship and trust had to be built anew, often delaying partnership activities.

Replicability

Agua para Todos has been increasingly recognized both globally and locally as an effective and participatory public-private partnership. As a result, many municipalities within and outside the area of Cochabamba have expressed interest in joining the partnership.²⁸ Expansion to other areas, however, would require increased capacity, especially training of more staff. Such replication in other countries with potentially different regulatory, legislative, and social circumstances could present a challenge. While such expansion may take time, both replicability and the will to do so are apparent.

Furthermore, the success of the partnership has also led Agua Tuya to seek partners interested in a new and ecological sanitation pilot project in the region of Cochabamba—a further service high in demand from the local community.

²⁸ Heredia, 2007. Interview 4 with Gustavo Heredia, Director, Agua Tuya.

XI

The Sustainable Forest Products Global Alliance

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THE CONTEXT OF THE PARTNERSHIP

The Sustainable Forest Products Global Alliance (SFPGA) was established, via a Memorandum of Understanding (MOU), in July 2002 as a partnership of the Washington, DC-based U.S. Agency for International Development (USAID), the World Wildlife Fund (WWF), and the Certified Forest Products Council (CFPC) which later changed its name to Metafore.

USAID manages programs in areas ranging from health and family planning, to economic growth, education, agriculture, environment, and disaster assistance. It maintains a worldwide presence through its resident “Missions,” primarily in developing countries of Africa, Asia, and Latin America. The U.S. Foreign Assistance Act directs USAID to place a high priority on conservation and sustainable management of tropical forests. The goals of the SFPGA, in the words of the founding MOU, are consistent with USAID’s goals to protect the world’s environment as well as “increase and improve protection and sustainable use of natural resources, principally forests, biodiversity, freshwater and coastal ecosystems and agricultural lands.”

WWF is a global non-profit organization, headquartered in Switzerland. Committed to the conservation of nature, WWF has national organizations or representatives in 50 countries and conservation projects in approximately 100 countries. WWF and USAID, as the MOU points out, have a long history of collaboration in biodiversity conservation and in efforts specifically aimed forest protection. In 1991 WWF established the Global

Forest and Trade Network (GFTN), the entity of WWF primarily responsible for implementing the SFPGA. The GFTN has had about 800 corporate partners over the years and has aggressively promoted and facilitated the trade in forest products from certified and well-managed forests.

Metafore is a small, Oregon-based non-profit organization, established in 1997 (as the CFPC) and supported by about 200 corporations, foundations, universities, and conservation groups. Metafore promotes purchasing practices in North America that support the conservation, protection, and restoration of forests globally and pursues a wide range of activities with the private sector intended to reduce the environmental footprint of the forest products (especially the pulpwood) industry.

The core substantive goal of the Alliance has been to reduce the scope of destructive and illegal forestry practices worldwide by expanding the proportion of internationally traded forest products that are sourced from forests certified as sustainably managed.

Prior to execution of the MOU all three members of the Alliance were already working on the challenge of illegal and destructive deforestation—USAID, as part of its broader development agenda but also, specifically, as a facet of its conservation program;¹ WWF, as a contributing element to its comprehensive conservation program; Metafore, as a major theme in its private sector oriented environment program. All three viewed the problem in essentially the same light and were committed to engaging the private sector in addressing it.

Simply stated, USAID's role in the SFPGA is that of funder and of promoting the SFPGA with USAID missions and American embassies. WWF/GFTN provides forest managers, suppliers, and buyers with information and training in forest certification and links producers and buyers through structured networks—Forest Trade Networks. Metafore facilitates links between suppliers and buyers of certified forest products, primarily pulp, for the North American market, and partners with large private sector firms to promote other responsible paper industry behaviors beyond certification.

The MOU states that the SFPGA

seeks to encourage responsible forest management and reduce illegal trade in forest products by creating market demand for certified and other responsible forest products, connecting producers who adopt responsible management practices to the market place, and supporting policy reforms in USAID recipient countries. Toward these ends, the Global Alliance seeks to engage leaders within the global forest products industry and will work

¹ It should be noted that the U.S. Forest Service works with USAID on conservation and illegal logging programs, but was not directly involved in the SFPGA.

to facilitate partnerships between communities, land managers and owners, and the forest products industry that support sustainable international development and conservation. It will attempt to bring together a new and unique combination of market intelligence, technical expertise, and country knowledge that will create synergistic benefits.

The logic of the SFPGA is that both market forces and lack of awareness of sustainable forest management techniques exacerbate the problem.

Attempts to reduce or eliminate illegal logging through enforcement simply do not work under the conditions prevalent in most parts of the world, particularly in developing countries. Those directly responsible for protecting forests, for enforcing the law locally, are usually underpaid, lacking in resources, and subject to corruption or intimidation. Senior government officials, whether military or civilian, with responsibility for enforcement of the law are often beneficiaries of illegal practices and either in collusion with, bought off by, or intimidated by powerful economic forces bent on profit maximization in the short term. Well-intentioned efforts by aid agencies to promote law enforcement can exacerbate the problem by pouring more money into a situation where more money breeds more corruption.

If market forces can be brought to bear on the problem, to favor legally harvested forest products from well-managed forests and to reject illegal products, then opportunities for corruption are greatly reduced and sustainability in forest management is promoted and rewarded.

Thus, it is essential that market behaviors and market incentives change to strengthen the demand for legally harvested forest products from sustainably managed forests, that competence in sustainable management practices be expanded, and that these practices become institutionalized as standard operating procedures in the forest products industry. Once aware of the growing market demand for sustainably harvested—or “certified”—forest products, and once schooled in the relevant management practices, developing-country producers will commit to undertaking the changes necessary to achieve certification. Their adoption of these practices and their certification will be rewarded in the global marketplace. With the growing availability of these products corporate buyers will be able to respond to the growing public demand for wood from sustainably managed forests and this will further increase the supply and the demand for these products. This then is the underlying logic of the SFPGA and, essentially, that of its non-governmental organization (NGO) partners’ programs.

Certification

Metafore, in its forest certification tool for buyers,² describes certification as a system for verifying practices that conform to a particular set of standards. Verification can be first party, essentially an internal assessment by an organization to determine that its systems and practices adhere to its own standards; second party, an assessment by another organization with a stake in the outcome; or third party, an independent assessment “by a qualified auditor of an organization’s conformance to an independently established standard.”

The third party type is clearly the most credible and the one most commonly accepted as constituting certification. Generally, certification involves an examination of a system taking into account various environmental, economic, and social criteria determined through an open, transparent, and reasonably unbiased process. After an assessment is completed, corrective action may be required before accreditation, or “certification,” is granted. When corrective action has been taken (or when an agreement on a timetable for taking such action has been established and agreed to), the actual accreditation decision is taken by persons other than those who carried out the evaluation on which accreditation is based. Follow-up reviews of performance are routine to ensure continued practice of the behaviors upon which certification is based.

There are a variety of forest certification schemes in force. The most widely utilized in North America are the Canadian Standards Association (CSA), Forest Stewardship Council (FSC), and the Sustainable Forestry Initiative (SFI). The CSA grew out of a collaborative process involving federal and provincial governments and a coalition of forestry associations. The FSC is an international non-profit organization that offers forest certification services worldwide. The SFI was developed by the American Forest and Paper Association (AF&PA), a trade association; AF&PA companies can employ third-party or second-party audits, although a higher standard label attaches to certification via a third-party audit.

The FSC is generally considered the most stringent certification scheme from an environmental perspective. WWF/GFTN accepts only the FSC certification for membership in Forest and Trade Networks, not surprising given WWF’s conservation mandate and goals. Metafore is open to any legitimate certification option in the context of its broader program aimed at reducing the environmental footprint of the forest products industry.

² Zakreski, Doak, and Evertz, 2004. *Matching Business Values with Forest Certification: A Metafore Publication*.

Memorandum of Understanding and Results Framework

The founding SFPGA MOU laid out an extensive list of “Expected Achievements” which then served as the basis for codifying measures and indicators of success.

A special area of emphasis and concern within USAID at the outset of the SFPGA was that of assisting small producers, particularly community and indigenous groups, to gain access to the international market for certified forest products.

The 2002 SFPGA Results Framework identified six “Expected Achievements” over the life of the Alliance:

- A. Expanded Trade linkages between the suppliers and buyers of legal forest products from well-managed forests to decrease tensions between market supply and demand.
- B. Expand application of high-conservation value concepts.
- C. Increase the number of government agencies and businesses implementing purchasing practices that encourage the production and sale of legal products from well-managed forests.
- D. Communities, businesses and local governments have access to information and resources that allow them to implement forest management approaches that result in social, economic and ecological benefits.
- E. Improved and informed policy environment to facilitate trade in legal products from well-managed forests through the identification of key opportunities and constraints including policy barriers facing the management of the world’s production forests.
- F. Development of a global information base on well-managed forests, certified forest products and their identified markets.

Each Expected Achievement has associated with it a series of “benchmarks” against which progress was intended to be measured. None are quantitative. Breaking with normal USAID practice, the benchmarks were consciously and deliberately designed to be qualitative rather than quantitative. USAID staff felt that without greater experience working with this new mode of operation (i.e. the public private-partnership), as opposed to its traditional contract and grant arrangements, it would be difficult and perhaps not helpful to set quantitative benchmarks at the initiation of the partnership. At the time, USAID envisioned itself as “partnering” directly with the large, private sector firms that were already partnering with WWF/GFTN and Metafore.

In 2006 the SFPGA Results Framework was revised again. In a continuing effort to make the Results Framework more meaningful and concise, the six Expected Achievements of the initial 2002 Results Framework

were reduced to three, focused on demand, supply, and market linkages. This 2006 Results Framework is the one presently in force. As in the 2002 Results Framework, the benchmarks associated with these Expected Achievements are qualitative outcome statements, not the quantitative targets more typical of USAID Results Frameworks. The Expected Achievements and benchmarks in the 2006 Results Framework:

A. Enhanced demand for legally produced products from well-managed forests through implementation of responsible purchasing practices by businesses, government agencies, and other organizations.

1. Increase number of government agencies and businesses that agree to source forest products from legal, well-managed forests.

2. Increase number of businesses and governments implementing purchasing policies that prefer forest products from legal, well-managed forests.

B. Increased supply of products legally produced from well-managed forests that generate social, economic, and ecological benefits through improved forest management.

1. Increase the organizational and technical capacity of producers to manage forests legally and responsibly as evidenced (or measured) by the number of producer FTN applications.

2. Increase the area of forest under improved forest management as evidenced/measured by participation in (or acceptance/qualification to) producer FTNs.

3. Increase the area of forest under effective management as verified by credible certification.

C. More efficient trade of legal forest products from well-managed forests through the development and dissemination of information that enhances decision making of willing buyers and sellers.

1. Expand technical, policy and market information availability via web-based resource and other venues.

2. Increase economic value and the number of market links (or trade relationships) between willing buyers and producers.

Results associated with these Expected Achievements and measured against relevant benchmarks are reported in detailed, written quarterly reports to USAID by WWF and Metafore. Although the benchmarks linked to the Expected Achievements are qualitative, the NGO partners report to USAID on quantitative accomplishments (e.g., the specific number of “hectares under improved management”) associated with each Expected Achievement and benchmark, as well as on qualitative, anecdotal evidence of progress as measured against these indicators of success.

USAID is not required to report to the NGO partners and does not do so. Reporting is all one-way.

No final end date for the Alliance was set at the outset and none has been established subsequently although the formal, documented agreement that launched the partnership cited an initial six-year time horizon. Informally, estimates of the life of the Alliance at its launch ranged from three to nine years. Decisions on its continuation, from a funding perspective, are made by USAID on a year-to-year basis although, at present, the formal documentation anticipates termination in 2011. Availability of funds, on the part of USAID, and continued recognition of the value of the partnership to all members are the factors that determine the future of the partnership at each decision point.

Geographic Focus

No explicit focus on any particular geographic areas was codified in the original documentation. No global “needs analysis” was carried out with the intention of identifying an area of geographic focus. However, given USAID’s mandate, it was understood that USAID funding would be directed to developing countries, implying a general, though not exclusive, emphasis on tropical forests. WWF had ongoing programs, particularly in Indonesia, which meshed with the aims of the SFPGA and IKEA (a significant private sector partner of WWF) had a specific interest in Asia where its networks were already well established. Additionally, there was a shared eagerness among the partners to initiate activities under the new alliance. So, there was ample reason to focus on Asia. USAID and the GFTN in particular, however, were also eager to ensure that the SFPGA have a significant impact in Africa and the USAID Africa Bureau committed funds to the partnership to ensure that outcome. The Latin American region had long been a USAID focus area for forestry activities and became so as well under the SFPGA. Finally, Russian forestry was an area of interest to both USAID and WWF. So, SFPGA’s geographic focus (if “focus” is the right word), driven by opportunity, interest, and need, came to include Asia, Meso-America and South America, central and west Africa, and Russia.

Partners and Partnerships

From the beginning, in fact by design and intention, potential partners in the private sector (e.g., IKEA, Home Depot, Time-Warner, Staples, and Anderson Windows) were identified and consulted. The SFGPA after all, was envisioned as a public-private partnership, involving the government, non-profits, and major private sector firms including producers and exporters of forest products and consumers of forest products as well. The core intent was to influence the behavior of major private sector actors by partnering with them.

Not all the major firms initially targeted as potential partners during the startup phase actually joined the SFGPA in any formal or meaningful way. Home Depot, for example, regularly expressed interest in the Alliance, provided significant financial support, was represented at meetings, expressed at least a soft commitment to sourcing all—or at least a significant portion—of its forest products, mostly lumber, from certified forests. But this did not come to full fruition. The sense among some founding members was that Home Depot saw value in being associated with the intentions of the SFGPA, in particular to the GFTN, but was not ready to limit its freedom as a market actor to the restrictions full partnership would require. Once it was made clear to Home Depot that GFTN membership actually entailed changes in corporate behavior consistent with FSC certification, Home Depot ended its membership in the Forest Trade Network. It has, however, maintained a very positive relationship with Metafore and conducts itself in ways consistent with Metafore's more comprehensive view of what constitutes a responsible corporate citizen. (More on private sector relationships below.)

Aspects of SFGPA display elements of the type of partnership that focuses “on facilitating the process of partnering and the building of communities of practice around issues of sustainability.” But this is true only if the well-established and ongoing private sector relationships of WWF/GFTN and Metafore are viewed as SFGPA partnerships. This would be a bit of a stretch although it is a prominent feature of USAID's commentary on the SFGPA.

Benefits

The principal benefits the partnership was expected to generate were several. Globally paramount was the environmental benefit of reduced deforestation, particularly reduction in destructive mining of forests with all its associated negative environmental impacts—biodiversity loss, watershed degradation, loss of pollinators, increased emissions of greenhouse gases, and so forth.

Partners of various types would benefit in diverse but related ways. Local forest-dependent communities would not only learn to manage their resources sustainably, thus enjoying the stream of non-market benefits from intact forests, but also would benefit economically through certification and associated linkages to the global market for certified forest products.

Other, private sector forest managers and producers of forest products would be trained in sustainable management of forests and be linked to those exporters seeking to feed the growing international demand for certified forest products. Major importers and consumers of forest products (lumber, paper pulp, etc.) would be connected to sources of supply, thus

facilitating their ability to meet this same demand. They could wear the “green label,” of increasing importance itself in today’s market.

In short, all along the supply chain partners of all types would benefit. Those intent on meeting the green market in the United States, Europe, and elsewhere would be connected to those exporters now able, through awareness, competence, and connections, to help respond to the green market, and forest managers and producers would have the technical knowledge and market acumen to manage their resources certifiably.

The service, or “good,” the Alliance provides is this technical knowledge married to market awareness and market linkages, meeting a need critically important to the sustainability of forest resources and habitat protection, globally.

The principle benefit to the partners was, simply put, greater success in attainment of their forest management and conservation objectives.

INCENTIVES

The shared or generic incentives that led to the establishment of the partnership are not easily isolated from those that applied to individual members, or partners. Certainly all partners shared a desire to reduce widespread illegal and destructive forest product extraction practices, although not all for the same reasons. All sought to employ market forces, at least in part, to accomplish this broad objective. And, as each recognized, no one partner combined the technical knowledge, networks, outreach ability, and the political stature to effect change at a scale that would be in any way commensurate with the problem addressed by the SFPGA. The prospect of sharing resources, human and financial, was thus attractive.

USAID

As Nancy Diamond points out in her 2007 SFPGA evaluation,³ USAID has been active in the forestry sector since at least the 1970s. Its emphasis has evolved over time, beginning with forestry research, later emphasizing forestry’s importance to biodiversity conservation, and by the 1990s USAID became more involved in promoting policy reform in the forestry sector. “Getting the policy framework right” was considered a prerequisite to success overall in the development community. It was in this context that USAID began to see forest certification, especially in the Latin American and Asia regions, as a key element of a successful policy framework for the forestry sector. Certification was not invented by USAID but was

³ See *Sustainable Forest Products Global Alliance: Program Evaluation FY 2002-2007* by Nancy Diamond—Diamond Consulting (2007).

recognized by it as a valuable tool to achieving the agency's environmental objectives.

To a certain extent in the late 1990s and especially in the early 2000s the development community began to promote the idea of public-private partnerships as a way to extend the reach of development assistance dollars and, from the development community's perspective, to harness the energy and power of the marketplace to achieve development objectives.

An explicit incentive to aggressively pursue these partnerships was created in USAID during the Bush II administration in the form of a Global Development Alliance (GDA) under the leadership of a GDA Secretariat (later the Global Development Office), launched in 2001. The GDA Secretariat was empowered to provide matching funds to successful USAID technical staff proposals in which public-private partnerships were integral to the proposed programmatic initiative. Although NGOs, universities, and other not-for-profit entities could be proposed as "partners," the real goal of the GDA was to establish linkages with the for-profit private sector.

The prospect of obtaining additional funds for an expanded forestry program prompted the Forestry Team in USAID to seek likely partners for a new market-oriented initiative. The Team was also strongly encouraged and supported in this effort by more senior USAID leadership, particularly by those directly overseeing the work of the Forestry Team. Finally, USAID was under pressure from the State Department to undertake an aggressive program to combat illegal logging through law enforcement. Arguing that this objective would be better served via market forces (for reasons noted above), the Forestry Team saw the GDA as an opportunity to demonstrate the wisdom of this approach and, at the same time, to fend off State Department "meddling" on USAID's turf.

The timing and competitive nature of the GDA matching grants program created pressure to develop a credible proposal quickly. The GFTN of WWF in particular seemed a group that the Forestry Team could work with, given USAID's long history of collaboration with WWF. Through its developing relationship with WWF/GFTN, USAID become part of the ongoing dialogue with the CFPC, and with Home Depot, IKEA, and other private sector actors. Additionally, a contractual mechanism (technically, a grant agreement) already in force between WWF and USAID would only need to be amended—a routine procedure—to formalize a GFTN-USAID relationship consistent with the goals of this new initiative and to provide a channel through which USAID funds could be disbursed.

Thus, the incentives for USAID, specifically for the responsible technical staff (the USAID Forestry Team), to undertake the SFPGA partnership were programmatic—expansion of the reach of their program; philosophical—the development mindset of the time promoted public-private partnership; financial—additional resources would be made available if a program

like the SFPGA were to be undertaken; professional—senior leadership was encouraging, supporting and expecting a competitive proposal; and pragmatic—the Forestry Team would be partnering with groups already conversant with the issues, experienced in the area to be addressed, committed to the same general set of objectives, and with (in the case of the WWF) a bureaucratic mechanism already in place to effect the partnership quickly—relatively quickly at any rate.

WWF/GFTN

The incentives for the WWF/GFTN to enter into the SFPGA were various. Certainly, the promise of additional financial resources flowing from USAID was very attractive. Additionally, WWF/GFTN believed, having in place a global partnership with USAID's Washington headquarters would legitimize the GFTN program in the eyes of USAID field missions and American embassies and would help WWF field staff gain access to contacts, support, and perhaps additional resources from missions and embassies. It was expected that a partnership with the U.S. government might also further legitimize, or increase the stature of the WWF/GFTN program in the perception of the large private sector firms whose cooperation WWF needed in order to achieve the goals of its sustainable forest management initiative and, more broadly, its global biodiversity conservation mandate. Finally, WWF recognized that USAID had a vast amount of experience, in-house expertise, and additional resources that could be invaluable in addressing the social and cultural issues and challenges to be encountered in pursuing the objectives of an aggressive, far-flung certified forest management program.

Metafore

The attraction of SFPGA membership for Metafore was largely the same as for WWF/GFTN. The prospect of additional resources was especially appealing, and over the course of its six year relationship with USAID SFPGA has provided about half of Metafore's budget. But the increased stature that an association with the government would provide Metafore in its approach to big businesses was also a significant consideration—not just the partnership itself but the funds that would flow from it which could be used to leverage private sector funds. U.S.-based, Metafore was less concerned about gaining access to overseas USAID missions and embassies. The incentives were all around the USAID relationship. Metafore already had a working relationship with WWF/GFTN through its position as the North American node of the GFTN.

Private Sector, For-Profit Partners

The large private sector firms that expressed interest in partnering with the SFPGA were of course in part motivated by the desire to be good corporate citizens. Additionally, they wanted access to lessons learned in the overall movement toward sustainability in management of the forest resources upon which their own future depended. Kudos from the environmental community would help in green branding and general corporate visibility, putting firms in a good light, as well as providing greater access to U.S. embassies and to USAID missions where firms' goals and needs might receive a more favorable hearing coming from a "partner" of the U.S. government or, at least (and more accurately), a partner of a partner of the U.S. government, one sharing environmental objectives consistent with U.S. foreign policy objectives. ("Partner of a partner" because it became increasingly clear that the relationships would not be directly with USAID but with WWF/GFTN and/or Metafore.)

Based on its experience with the private sector, Metafore (in its publication *Matching Business Values with Forest Certification Systems*⁴) lists four general "objectives," which may also be read as incentives, for businesses pursuing and promoting forest certification: enhancing corporate reputation; improving supply chain efficiency; advancing forest ecosystem conditions; and promoting improved social conditions.

It is perhaps appropriate to reiterate here that although the private sector firms are referred to here as SFPGA "partners," they have never been members of the SFPGA public-private partnership (i.e., signatories to the MOU). Nevertheless, to ignore the association of the SFPGA with major private sector actors would be as misleading as is the ambiguous use (and overuse) of the word "partner" in SFPGA documentation and communications (more on this below).

With one exception, the SFPGA began as and has remained a formal partnership of USAID, WWF, and Metafore. Forest Trends, a small NGO, became a SFPGA "partner" for the second and third years of the SFPGA but dropped out, explaining that it found the reporting requirements and other responsibilities associated with USAID too onerous. Although referred to informally in USAID documentation as a "partner," Forest Trends was never a signatory to the SFPGA MOU.

⁴ Zakreski, Doak, and Evertz, 2004. *Matching Business Values with Forest Certification: A Metafore Publication*.

IMPLEMENTATION PRACTICES/FUNCTIONAL ANALYSIS

Planning

Planning of the SFPGA was inspired by a USAID policy initiative (GDA) and was then actually carried out through a very pragmatic process of partners finding each other, rather than through any broad gauged, ambitious analysis of options.

This process did not involve broad investigation of the sector, the commissioning of research or design studies, but was more akin to brain-storming within USAID itself. This was followed by discussions with WWF, and through WWF/GFTN's networks and assistance USAID, still feeling its way, initiated contact with a few of the major forest product companies.

In 2002 USAID Forestry Team members attended the Forest Leadership Forum, a large gathering in Atlanta of NGOs and forestry industry companies from 50 countries concerned with sustainability issues.

Previously, the Forestry Team's main focus, its major role in USAID, had been on technical support in program design and implementation for overseas USAID missions. This Forest Leadership Forum experience alerted USAID Forestry Team staff to the magnitude of the international trade in forest products, introduced Team members to some of the major actors, and familiarized them with some of the NGO-private sector partnerships related to sustainable forest products that were already in effect. Of particular interest were those in force or being promoted by the CFPC (later to become Metafore) and WWF's GFTN, especially their dialogue with large private firms.

Following up with ideas and contacts generated by the Forest Leadership Forum the USAID Forestry Team, the CFPC, WWF/GFTN, and Forest Trends staff continued discussions of opportunities for joint collaboration with each other and with private sector actors committed to or willing to engage in exploration of efforts directed toward sustainability in the production and marketing of forest products. Finally, with an agreement on the form, purposes, and structure of a partnership to pursue common objectives in this area, the USAID Forestry Team was able to request and secure \$1.5 million in funding from its home USAID bureau (Economic Growth, Agriculture, and Trade—EGAT) and matching funds in the same amount from the new GDA.

The private sector partnerships which formed the backbone of the CFPC and GFTN were already well established before the USAID Forestry Team became engaged. The SFPGA resulted most directly from the creation of USAID's Global Development Alliance and from the Forestry Team's experience and contacts growing out of the Forest Leadership Forum. USAID basically followed its nose into the SFPGA and then advertised itself, and

its new partnership, as associated with the attractive NGO-private sector partnerships already in force, and the ones yet to emerge.

Funding

At its launch, USAID agreed to fund the SFPGA at \$3 million per year for the foreseeable future. The first year costs were split between the Forestry Team and the GDA Secretariat. Half of these funds flowed directly to WWF, and half to CFPC through an Inter-Agency Agreement (IAA) that USAID maintains with the U.S. Forest Service. The Africa Bureau of USAID provided some additional financial support as well. WWF's and Metafore's contribution has been both in-kind and in funds leveraged from other donors and from private sector partners.

Overall, USAID invested about \$10.7 million in the SFPGA through the end of Fiscal Year (FY) 2007 (September 30, 2007). WWF contributed about \$34.2 million in leveraged funds during that same period of which 58 percent came from other governments (mostly European, though including the World Bank), 25 percent came from corporate sources, 15 percent from private foundations and NGOs, and 2 percent from WWF's own core funds. Virtually this entire amount (99 percent) was in cash contributions, only 1 percent was in-kind.

Metafore raised about \$1.6 million in leveraged funds through FY 2007 of which about 70 percent were corporate, 30 percent from foundations and NGOs. About 55 percent of Metafore's leveraged funds were in-kind, 45 percent in cash.

USAID's annual financial support has declined over the years, in FY 2008 reaching \$1.1 million for WWF/GFTN and \$300,000 for Metafore. Funding has declined for essentially two reasons.

First, the Forestry Team, and other recipients of Global Development Secretariat matching funds, were led to believe, or at least *did* believe in 2003, that Secretariat funding would continue for the life of any partnerships entered into under the auspices of the Secretariat. This turned out to be a false understanding. GDA funding was for one year only so the Team found itself burdened with a commitment to support the SFPGA out of its own limited resources in future years. Although some relief was sought and received from USAID leadership over the next few years, this could not be maintained, for the second reason.

Overall budgetary pressure on the Forestry Team and its host bureau caused, as in most bureaucracies, a continuous reevaluation of priorities. And in the case of the SFPGA the political and policy point about public-private partnerships had been made, the SFPGA had been celebrated as a success, its initial founders (within USAID) had moved on, as had the USAID Administrator who had pushed for and launched the GDA. The

newness wore off and in the annual hunt for dollars it became increasingly inaccurate to assert that the SFPGA was an Agency priority. Other, newer demands on USAID resources have emerged, although the subsequent USAID Administrator continued to speak positively about the GDA approach to development.

The importance, or relevance, of the Metafore relationship has changed over the years as well. Metafore was initially the important SFPGA link to the North American market for forest products, and closely related to WWF/GFTN for that purpose. This role has since been taken over by WWF/GFTN utilizing in-house staff and resources.

Additionally, Metafore tends to focus on pulpwood for the North American market that is normally sourced in temperate forests, thus reducing its relevancy and value to the predominantly tropical forest-focused SFPGA program. Such is a finding of the 2007 evaluation at any rate, disputed by Metafore but seemingly accepted by USAID.

The emphasis placed on certification in the SFPGA also puts pressure on the USAID-Metafore relationship. Metafore has broadened its program in an effort to respond to the interests of the private sector, embracing and promoting a range of 22 practices its private sector partners are encouraged to adopt in order to reduce their environmental footprint. Certification is one of this number; others focusing on air and water pollution, landfills, recycled versus virgin inputs, and by making it possible for buyers to go online and identify the environmental footprint of the specific mill from which a potential purchase has originated.

Eliminating Metafore from the SFPGA, as seems likely to occur in 2009, would probably further reduce overall SFPGA funding rather than add to the WWF/GFTN allowance. Presently, and informally, conversations in USAID concern the added value of USAID (and to USAID) to continue funding what are obviously long-term, apparently sustainable partnerships among WWF, Metafore, and their private sector associates in SFPGA's area of attention.

Leadership

The leadership, the champions of the SFPGA at its inception, clearly were USAID Forestry Team leaders and members. This is not to diminish the contributions and initiative of WWF or Metafore but simply to acknowledge that the SFPGA would not have come into being were the Forestry Team not actively pursuing the partnership, along with the program expansion and additional funding that came with it.

USAID brought strengths to the expanded (SFPGA) partnership and the NGO partners obviously recognized this and responded to it but their own partnerships, which by extension became part of SFPGA (or at least

were associated with it by USAID), preceded, have co-existed with, and undoubtedly will succeed the SFPGA because they represent and epitomize the very nature of the organizations themselves.

USAID's leadership role is further underscored by virtue of the fact that the other two partners literally report to it—quarterly—while USAID does not report back to them. USAID was not selected as the leader; its role is an artifact of the way the partnership is structured, not so much by the founding MOU but by the funding documents that formalize the financial and reporting relationship among the three “partners.”

Charting Progress

In addition to the quarterly reports which chart progress against the Expected Achievements and benchmarks in USAID's Results Framework, the SFPGA partners coordinate via conference call bi-weekly and (more or less consistently) meet in person semi-annually, normally for two days. Earlier in the history of the SFPGA the conference calls were held weekly and the in-person meetings were held quarterly. Typically, conference calls revolve around issues of implementation, new partners acquired by the non-profit members, USAID reporting requirements, USAID's need for additional information to feed into briefings of congressional staff or other U.S. government figures, and other routine matters. The semi-annual meetings cover these topics as well as more long-term issues such as progress against Expected Achievements, budgetary issues, and so forth. USAID managers report that the agendas are largely driven by USAID, as the funding agency.

There is no formal, regularly employed mechanism for gathering or assessing feedback from people who are not members of SFPGA but who are, or who feel themselves to be, affected by partnership activity. Nevertheless, partner representatives are alert to feedback, generally picked up in the field, and have made some adjustments accordingly. For example, a former USAID manager reports hearing, when on a field trip, very serious concerns expressed by stakeholders in the forestry sector who felt that GFTN was exercising favoritism in its private sector relationships, colluding with some companies and leaving others to fend for themselves. This information was shared with GFTN. GFTN itself has been alert and sensitive to how it has been perceived and has grown and evolved, in part, as a response.

Early in the SFPGA history GFTN thought of itself as a service organization, providing services to private sector firms. But, in light of the “collusion” issue, feedback from partner forest industry firms, and other concerns it had to modify its role and became a networking and market knowledge provider. GFTN was further encouraged by member firms to become an advocate for changing market behavior but, as a partner with

USAID (i.e., using U.S. government funds), it has been limited in its freedom to do so by prohibitions against using tax dollars for lobbying purposes. The AF&PA, a trade group, complained vigorously that the GFTN, supported by U.S. tax dollars, was advocating one model of certification to the detriment of its own preferred model, until learning that several of AF&PA's most prominent corporate members were GFTN partners.

So, although not an institutionalized function or facet of the SFPGA, the partnership has shown itself attuned to criticism and suggestion and, where it felt appropriate, has modified its behavior in response to non-member commentary.

Monitoring and Evaluation

Monitoring and evaluation is routinely carried out via the quarterly and additionally, one external evaluation⁵ was carried out in 2007.

The three main objectives of the evaluation were the following:

Assess the SFPGA results against its expected achievements related to moving markets towards more responsible, legal and sustainable practices.

Identify lessons learned among the partners from the SFPGA experience and if necessary, recommend changes that should be made to maximize effectiveness.

Recommend areas of improvements for the SFPGA with respect to constraints, challenges, and opportunities

Among its findings, the evaluation found that the SFPGA was generally having the intended impact on the international trade in forest products and that the three members of the partnership were playing the roles laid out for them in the MOU. Somewhat at variance with the conclusions of this paper, the evaluation expressed the view that the anticipated relationships between USAID and the large private sector firms in the forestry sector were coming to fruition. Based on the large number of partnerships between the NGO members and private firms (300 in the case of WWF, 50 in the case of Metafore) and the estimated market share of these firms, the evaluation predicted that the SFPGA "could potentially have a very significant impact on the demand for sustainable forest products, if all or most of the SFPGA partner companies . . . proceed with their plans to adopt and implement responsible purchasing practices."

The evaluation observed very little joint activity involving WWF/GFTN and Metafore. "While each partner has achieved some useful results . . .

⁵ See *Sustainable Forest Products Global Alliance: Program Evaluation FY 2002-2007* by Nancy Diamond—Diamond Consulting (2007).

their work has largely been completely separate. This independent arrangement has not maximized potential synergies between these two core members of the SFPGA,” the evaluation notes. This trend toward GFTN and Metafore going their separate ways was particularly pronounced since 2005 when Metafore’s institutional relationship with WWF changed.

Further, as noted above, the evaluation points out Metafore’s focus on North American companies sourcing pulp for paper from temperate forest and predicts that this may be viewed as a departure from USAID’s primary attention to tropical forests. The implication is that Metafore’s membership in the SFPGA may no longer be contributing significantly to the accomplishment of SFPGA’s goals.

Agreeing that its focus is on North American firms, Metafore asserts that by influencing the behavior of these firms it is having an important and growing impact on forest management worldwide. The evaluation takes account of the fact that Home Depot, an important Metafore partner, sources only about 10 percent of its lumber overseas. This might seem insignificant, Metafore points out, but since Home Depot is the largest company of its type this 10 percent has a huge impact in foreign markets. Furthermore, investment in paper making is in decline in the United States but booming in China and elsewhere and that by influencing the market behavior of companies now that will be expanding their purchasing of paper in China in the future, sustainable practices will be institutionalized early enough to grow with the trade.

The evaluation finds fault with the lack of quantitative benchmarks for the SFPGA and argues that this practice limits the ability of SFPGA managers to tell the SFPGA story in a compelling way to senior USAID leaders and other decision makers such as congressional staffers.

The evaluation finds that far less work has been carried out focused on influencing the purchasing practices of governments than seemed indicated by the Expected Results identified at the launch of the SFPGA and that much less attention is paid to community forestry than anticipated. This is important, the evaluation asserts, “because it is estimated that 80 percent of the world’s poorest people depend upon forest resources” and that in developing countries about 22 percent of forest lands are owned and/or managed by communities both indigenous and otherwise. “Of these lands, only 2 percent . . . is certified compared to 5 percent certification for all forest lands.”

The evaluation, and comments elicited from SFPGA managers, points out how difficult it can be to work with local communities on certification and on forestry market linkages in general. Nevertheless, community forestry and work with indigenous groups in resource management are areas in which USAID has considerable experience. This experience does not seem to be feeding into the SFPGA experience, thus potentially reducing equity-

based accomplishments and contributing to the impression that USAID's role is fundamentally that of a donor.

In general, the SFPGA operates as a results-oriented program with all members pursuing the same fundamental objective but linked together by little more than this and by the basic funding arrangements that ultimately define the partnership.

PARTNERSHIP ORGANIZATION AND GOVERNANCE

Partnership Structure

Although the SFPGA presents itself as a partnership of government, NGO, and for-profit entities, some partners are more equal than others. Close cooperation by the large firms with WWF and Metafore, or at least adherence to the values and practices they espouse, are essential to the on-the-ground success of the SFPGA yet from a strictly management perspective—ignoring the real-world goals of the SFPGA—the for-profit firms are not really actors, not active partners, in the SFPGA.

The reasons for this statement have nothing to do with the intentions of the founders of the SFPGA. The reasons that this did not work out as hoped or anticipated were largely cultural and bureaucratic.

Although the Global Development Secretariat was introduced with great fanfare and enthusiasm as representing and heralding a new way to do business, there was no simultaneous launch of any new tools or arrangements for carrying out this new policy initiative. The fact was that USAID had no new mechanism, no new contracting or grant making or “partnering” financial tool to put this new concept into practice.

Money cannot move from USAID to another entity, at least not to a non-governmental entity, without a contract or some form of grant agreement having been executed first. USAID generally buys goods and services from the private sector, and grants money to non-profit organizations to advance its policy goals. And U.S. government laws as well as USAID regulations place heavy emphasis on the need for competition in the award of contracts and grant agreements. No new GDA mechanism was launched that changed any of this, to facilitate public private partnerships along the philosophical lines envisioned and promoted by the Global Development Secretariat. It was a (sort of) new vision of how USAID would pursue its mandate but, in a very practical, nuts and bolts sense, there was no new way to do business.

The private sector expressed enthusiasm about partnering with USAID and early on seemed ready to do so. However as it became increasingly clear from conversations with USAID managers that that this was going to take time, quite a bit of time, in fact an uncertain amount of time, the

private sector's interest and enthusiasm began to waver, then wane. Finally Home Depot made clear to USAID that this was not what it had had in mind for a fast-moving, flexible partnership pursuing shared goals. This was not how the private sector operated. (Although Home Depot later dropped out of the broader partnership, specifically the GFTN, for other reasons, it has maintained a close working relationship with Metafore. In the words of the Metafore manager, from an environmental perspective, "Home Depot gets it.")

The problem, to be clear, was not that USAID technical staff and Global Development Secretariat staff were not committed to and enthusiastic about launching the new partnership. Rather, the obstacle was that USAID was not ready bureaucratically to do what it wanted to do, what it had publicly announced it was now doing.

Culturally, the private sector actors could not get comfortable with this situation, with waiting on USAID to figure itself out. For bureaucratic and procedural reasons (and in recognition of declining private sector interest) the USAID Forestry Team had to back away from its vision of the ideal public-private partnership and instead find an arrangement that would involve private sector actors in what could pass for a partnership while adhering to law and applicable regulations, and while utilizing existing contractual mechanisms.

The MOU that established the SFPGA was neither a legally binding nor a financial document. Under the heading "Relationship of the Parties" the MOU states:

The parties are not engaged in an employee-employer, joint venture, or agency relationship of any kind, nor do they purport to establish a legal entity. No party has authority, express or implied, to create any financial or other obligations, on behalf of any other party. No party shall make any commitments or take any positions on behalf of any of the others without that organization's specific, written consent. No party shall make use of the marks of another party, including the name or logo of that party, without that party's specific, advance, written consent.

As noted earlier, USAID already had in place a grant-based "Cooperative Agreement" with WWF for global biodiversity activities. USAID utilizes several types of grant agreements having varying degrees of flexibility. The biodiversity grant agreement in question was a "Leader with Associates" cooperative agreement. This highly flexible arrangement provided for joint USAID/WWF funding for a core set of activities (the "leader") and allowed for amendments (the "associates") funded by the Biodiversity Team or by any other USAID entities, that would expand the reach of the grant agreement, adding activities and money, so long as these new activities were

consistent with the core biodiversity conservation objectives of the original cooperative agreement itself.

Although it was a bit of a stretch to describe the SFPGA as essentially a biodiversity conservation program, the fact that illegal logging and destructive forest management practices did threaten habitat, and taking into account that WWF was a global leader in biodiversity conservation, together served to justify utilization of the biodiversity Leader with Associate for the purposes of the SFPGA. Further, USAID had decided that all Forestry Team expenditures could be coded as “biodiversity conservation” for purposes of reporting USAID expenditures to Congress so this Leader with Associate Cooperative Agreement with WWF proved a convenient and legitimate mechanism for moving ahead. It was not, however, the ideal legal or financial basis for a partnership, public-private or otherwise. The private sector “partners” of the SFPGA would not be party to the Leader with Associate grant agreement.

Nevertheless, in the absence of a better mechanism, the USAID Forestry Team executed an “associate” amendment to the Biodiversity grant agreement with WWF providing USAID matching funding for WWF.

Separately, through a long-standing IAA with the U.S. Forest Service, USAID established a funding channel to Metafore (and later, briefly, for Forest Trends). The reason for the separate arrangement with Metafore was simply bureaucratic convenience; there was no grant agreement or contract in place between USAID and Metafore. A routine amendment to the IAA could establish a functional arrangement between Metafore and USAID, by way of the Forest Service.

This is important because it was this grant agreement and IAA amendment, these USAID bureaucratic requirements and arrangements, which drove the creation of the SFPGA management structure. The management structure, obviously, was not determined by any objective discussion or creative effort to determine what would work best for all concerned. Rather, it emerged as the only way, at least the only convenient way, to link at least three of the interested parties (none of them for-profit) in a meaningful arrangement with shared resources and shared goals. And to do it quickly enough to secure GDA matching funds, which were awarded competitively. (The SFPGA became the second “partnership” awarded matching funds under the GDA.)

Roles, Responsibilities, and Governance

None of this is to say that the MOU lost its validity as the founding document, the one that laid out the intentions of the partnership, its parameters, and the roles and responsibilities of its signatories. These remained valid and are clearly defined in organizational terms.

The MOU lists the following “roles and activities”; the “activities” can be read as responsibilities.

USAID’s roles:

- Represent U.S. government’s interests.
- Manage host country government relationships.
- Coordinate communication between the global alliance and regional alliances.
- Coordinate other U.S. government assistance, i.e. U.S. Forest Service, U.S. embassies overseas.
- Provide policy guidance and program monitoring.
- Provide grant assistance through central core funds and parallel (USAID) mission programs.

USAID “activities” (read, responsibilities):

- Undertake proactive dialogue with national and local governments (overseas) to promote responsible forestry and certification.
- Integrate sustainable forestry in development programs.
- Encourage public private partnerships for responsible forestry and certification.
- Engage expertise from U.S. Forest Service and other U.S. agencies to provide technical and management support for SFPGA activities.
- Provide incentives through matching funds.
- Provide means for project brokering and facilitation.
- Provide knowledge of local conditions and host country partners.

Metafore’s roles:

- Develop and apply a comprehensive framework for assessing certification schemes.
- Broaden pathways for use of lesser-known species.
- Expand markets for responsible forest products.
- Assist communities and artisans with skills and micro-enterprise development.
- Provide grant assistance by leveraging foundation and corporate support.

Metafore’s responsibilities:

- Track implementation policies of organizations that support responsible forest products.
- Promote greater understanding and knowledge of lesser-known species uses.
- Improve company purchasing policies and practices.
- Train communities and artisans for better forest use and production skills.
- Promote certified wood within the green building movement.
- Conduct marketing surveys and program effectiveness research.

- Expand forest certification database and improve knowledge management.
- Organize workshops, meetings and related outreach on illegal harvesting of forest products and other aspects of responsible forest products trade.

WWF's roles:

- Support local and indigenous forest communities by linking their forest products with markets.
- Promote NGO and company partnerships to improve quality of forest management.
- Through GFTN, engage companies in producing, trading, purchasing certified products in key markets.
- Provide grant assistance by leveraging existing corporate donor relations and forming new partnerships.
- Promote consumer demand.

WWF's responsibilities:

- Carry out multi-stakeholder processes to harmonize forest certification schemes.
- Identify and manage high conservation value forest.
- Influence demand for certified products in key markets by creating public awareness and influencing public and private procurement policies.
- Increase supply of certified wood products in key producing regions through producer-focused groups to train and support forest managers in responsible forestry and certification.
- Monitor and report on progress in expanding hectares of certified forests in a balanced manner among regions, forest types and land tenure regimes.
- Increase public demand for certified products through public awareness.

The MOU expresses the intention of the parties (USAID, WWF, Metafore) to share information and coordinate their activities around the common goals of the SFPGA and establishes a Working Group for management of the processes and progress of the Alliance. The Working Group, under the MOU, is composed of representatives from USAID, WWF, and Metafore—and “others as determined by the parties.” In practice, the Working Group has not expanded its membership. Any party may terminate its membership in the tri-partite partnership on 30 days written notice to the other two partners. Obviously, that right has not been exercised either.

The Working Group is charged with serving as a “catalyst to mobilize ideas, efforts, and resources in support of the shared purpose” of the three member organizations. Members consult regularly on progress, problems,

and management issues. USAID was initially represented on the Working Group by the Forestry Team Leader, a mid-level management position in its EGAT Bureau, then by a Team member assigned full-time to the SFPGA. But USAID has, for several years now, been represented by a Team member with many other responsibilities while WWF is represented by the Managing Director of its Global Forest Program, and Metafore by its president and CEO.

There is no formal body such as a Board or Executive Committee above the Working Group providing oversight or leadership, although more senior managers in USAID and WWF, and the Board of Metafore, would be expected to pass routine judgment on the continuing value of the Alliance to their own organizations, at times and in ways consistent with their own management cultures.

ASSESSMENT OF PARTNERSHIP

Impact and Sustainability

There is no doubt that the SFPGA partnership has had a significant impact of the practice of improved management of forests. This, ultimately, was the core, real-world objective of the partnership, coupled with the goal that such changes be market-driven. More forests are under sustainable and certified management as a direct result of the SFPGA than was the case prior to the 2002 launch of the Alliance.

Directly attributable to the SFPGA is the fact that the value of forest product sales from well-managed forests associated with the GFTN rose from \$5.9 billion in September 2003 to \$42 billion in September 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. The number of “trade” participants (companies that are processors, manufacturers, traders, or end users of wood or paper products) reached 287 by September 2007 as well. These companies trade 193 million cubic meters of round wood equivalent per year, over 10 percent of the global harvest of industrial round wood, and employ nearly 1.3 million people around the world.

However, two considerations with regard to sustainability merit some attention: the sustainability of the market dynamics advocated and promoted by the SFPGA that have led to the on-the-ground achievements to date, and the institutional sustainability of the partnership itself.

With some reservations, all three MOU signatories agree that market forces are now much more positive, supportive, and encouraging of legal, sustainable, and certified forestry than was the case pre-SFPGA. Both on the

demand and supply ends of the continuum, there is much broader awareness of the meaning of well-managed or certified forests, sensitivity to the issues surrounding illegality in the sector, and greater interconnectedness among forest managers, exporters, importers, and consumers of forest products attuned to the issues surrounding sustainability. There is a larger market for products from sustainably managed forests. Thus, market forces are driving sustainability in forest management and supporting the trend toward a self-supporting market for certified forest products. This is hugely important from an environmental perspective and reflects exceedingly well on the three SFPGA members.

The situation in the words of the Metafore manager “is light years beyond where it was ten years ago. Virtually every major company in the U.S. is now concerned with chain of custody issues and illegal logging. ”

These market forces are not, however, sustainable in the sense that the processes are genuinely self-supporting. It takes nothing away from the effort and accomplishments of the SFPGA members to note this. The technical problems are very complex and the market does not yet fully reimburse the costs of seeking, or even accomplishing biological sustainability. What sustainability really is in the forest industry, how to do it, and how to make the market reward it continues to be the goal of an ongoing learning process.

The Metafore manager disputes this, but mildly: “Are we at the tipping point yet? Maybe not, but we’re getting very close.”

There remain serious questions about the economic viability of sustainable forest management, setting aside the value to the planet (economically and environmentally) of managing natural resources wisely and with a long-term vision. There are also technical biological questions about what constitutes sustainable management of a given natural forest area. There is no premium price for wood from sustainably managed or certified forest products. Producers with market access thus have no problem selling their products; the conventional understanding is that the market will buy all certified products but the price won’t reflect the much greater cost of producing certified wood. And the costs of meeting necessary health and safety, and environmental standards as well as capital investments can be huge. Given these social and environmental costs it appears unlikely that certified forest management can be fully sustainable by market forces in the near term.

Recognizing these complexities and challenges, GFTN, reflecting WWF’s commitment to conservation, has instituted a step-wise approach to achieving full FTN membership and certification, starting with no trafficking in illegally harvest products, moving to no negative impacts, and so forth. In its efforts to help promote sustainability GFTN sees its role, in part, as helping companies manage risk in the market place. Responsible companies

do not want to deal in or be seen as dealing in illegally harvested products. In the process of accepting help in avoiding this risk companies become enlightened and try to do the right thing while, of necessity, acknowledging and responding to market forces. One WWF/GFTN staff member sees equal parts “fear and the quest for sustainability” as being in force in helping the market along in the direction SFPGA is intended to pursue.

The other question of sustainability, the sustainability of the SFPGA partnership itself, is a different issue.

The SFPGA, as an entity, does not appear to be financially sustainable. It depends on annual appropriations to USAID by the U.S. Congress to continue. 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 by managers increasingly removed in time from the sense of innovation and experimentation that prevailed when the MOU was signed. The political leadership initially promoting GDA-style partnerships is long gone, and the SFPGA mechanisms through which USAID funds flow are increasingly being seen, correctly, as normal, routine financial arrangements for USAID when working with NGOs—in other words, nothing particularly innovative, and no inherent special status. The value added to USAID, or to the WWF and Metafore programs (except money), by USAID’s continuing participation is being questioned.

It is true that WWF/GFTN is exploring options for a fee-based approach to its work with the private sector in the future. In the past, private sector support has been largely philanthropic; the next generation of private sector relationships may involve fees geared toward sustaining the services the GFTN provides. But this, if it comes to fruition, will be a WWF/GFTN enterprise, not an activity of the SFPGA.

The SFPGA itself seems to have moved into its final stage. This is not surprising and seems to be unlamented. A USAID manager points out that the partnership should have been viewed, and will be viewed, as a temporary arrangement to test a few ideas. It has done that, roles have evolved, and now interest is starting to wane.

Beyond this, it seems clear that, despite undeniable gains made possible through USAID financial support to WWF and Metafore, SFPGA is not really a true partnership,⁶ at least not a balanced partnership of USAID, WWF, and Metafore, let alone one that partners the public and for-profit private sectors. It is not really even a partnership of WWF and Metafore. Since WWF essentially took over the SFPGA role formerly played by Metafore the two organizations have had virtually no relationship whatsoever, except that of sharing a funding source—USAID.

Policy and public relations rhetoric aside, USAID’s relationship with

⁶ See Chapter I for working definition of “partnership.”

WWF is no different under the SFPGA from what it has been under the hundreds of grant agreements and, in fact, no different than the Leader with Associate Grant Agreement already in effect with WWF before the SFPGA was launched.

USAID managers (past and present) of the SFPGA set of activities agree that the use of the word “partnership” to describe the relationship with WWF and Metafore was and is essentially for policy reasons. An accurate description of the relationship would be that of a donor and grantee. They confirm as well that there has been no partnership between USAID and any of the private sector firms associated with the SFPGA. NGO partners confirm as well that the relationship has been a routine donor-grantee arrangement and that USAID has not been a member of their private sector partnerships nor even, funding aside, actively associated with them.

“The USAID Forestry Team simply didn’t know how to play a different way,” the Metafore manager asserts with reference to USAID’s relationship with the NGOs. He goes on to say that “USAID just hitched itself to existing partnerships” with regard to the large private sector companies.

The reasons for the absence of any real partnerships between USAID and the private sector are essentially three. First, as indicated above, USAID was unable at the launch of the GDA to identify a funding mechanism that was appropriate for a true partnership even with a longtime “partner” such as WWF, let alone with a for-profit firm.

Second, and partly for this reason, but also because of the slowness of the bureaucracy in even coming to this conclusion, potential private sector “partners” began to lose interest in partnering with USAID, while maintaining an awareness of some of the perceived benefits of being associated with USAID via environmental organizations. One firm, when told by a USAID manager in early discussions of SFPGA that a partnership with USAID would require submission of quarterly reports, responded that his firm would expect quarterly reports from the government to make sure it kept up its part of the bargain. Another told the USAID manager that he felt USAID’s decision-making process was incompatible with the way the private sector operated.

USAID managers sensed that the private sector wanted to know that USAID (i.e., the government) “was there” but didn’t want to get caught up in governmental red tape.

Third, former USAID managers reported the sense that WWF and Metafore tried consciously to keep some distance between USAID and their private sector partners and beneficiaries. Despite numerous attempts to get closer to the private sector “partners” USAID felt that their advances have been consistently blocked or discouraged as if WWF and Metafore saw these as very separate sets of relationships rather than a broad partnership of public and private sectors.

USAID managers cited several factors they sensed were behind this. One possible explanation proposed was simply that SFPGA was a fiction and WWF and Metafore were acting rationally; since there was no partnership between USAID and the private sector, life would be simpler if no effort were made to pretend that there was such a broad partnership. USAID is a donor to the NGOs and should be treated as one. The private sector included donors and partners who supported the NGOs and whose behavior WWF and Metafore hoped to influence in environmentally positive ways. These really are different sets of relationships united under SFPGA by little more than USAID policy rhetoric.

Utterly beyond the scope of this paper to assess is the suggestion by one former USAID manager that the NGOs keep USAID at a distance from the private sector actors so that the NGOs would be the only real conduits of information about the activities of the private sector partners, about their true commitment to the goals of the SFPGA, and that USAID would need to accept at face value the NGOs' claims about cooperation and resources leveraged from the private sector.

A WWF/GFTN manager agrees that USAID is kept somewhat at arm's length and explains the phenomenon as resulting from two dynamics. First, confidentiality is extremely important in WWF's discussions with potential private sector partners. Many of these are companies of substantial size with much at risk and with significant proprietary information on the table when engaged with WWF in discussions about GFTN membership. WWF is formally, legally, and ethically bound to protect this information and to maintain the confidentiality of the discussions. Since the partnerships under discussion are between WWF and the firm in question there would be no need to involve USAID and some risk in doing so. The WWF manager shared an example to illustrate his point.

Recently, during long, drawn-out negotiations between WWF and a very large and well-known firm with which USAID was also exploring a relationship, a Freedom of Information Act request was filed with the government for release of all communications and discussions between USAID and that firm. This may well put USAID's relationship with the firm in serious jeopardy; it would have been disastrous for WWF if USAID had been a party to its negotiations with this same firm, thereby forcing the release of privileged information acquired by WWF in confidential discussions and destroying any chance of helping steer the company toward greater considerations of sustainability in its purchasing practices.

Second, what specific value added would derive from bringing another actor (i.e., USAID) to the table in discussions with potential private sector partners? The WWF manager points out that initial discussions with firms are always very pragmatic and specific. Conversations run along the lines of, "What do I get out of this? What do you bring to the table? What

concrete results are we talking about here?” And so forth. Unless they see answers they like to those questions discussions may not go far. Later, when relationships built on trust are established firms will normally be open to broader discussions in which USAID may have a useful role to play.

A senior manager in one of the large, private sector partners of an NGO SFPGA member corroborates this assessment. “We have no sense of partnership with USAID,” he observes. “Useful partnerships are strategic and pragmatic if they can provide real help, such as identifying high conservation target areas or important social factors. This is what we want and need and there is no sense that USAID fits this role.”

Interestingly, a search of the web turns up SFPGA on a USAID page or two. One searches GFTN’s web site in vain for a mention of SFPGA (except in reference to quarterly reports) but finds USAID listed as a GFTN “donor.” Metafore’s web site cites the SFPGA in little more than a phrase and provides links to USAID and to WWF.

Benefits and Satisfaction

Despite all indications that SFPGA is not the partnership it (actually USAID) has claimed it to be, all three MOU signatories respond with a resounding “yes” to the question, Has SFPGA been worth it? “Absolutely worth it,” states the Metafore manager. A significant expansion of forested area now under sustainable management is an undeniable consequence of USAID’s funding of WWF and Metafore activities. The expansion of WWF/GFTN’s and Metafore’s work with the private sector is in part a product of SFPGA-related funding channeled from USAID to the two NGO signatories to the founding SFPGA MOU.

The changes in behavior in the forest trade industry associated with the efforts of the GFTN and Metafore before, during, and presumably after the close of SFPGA may eventually be sustainable in the sense that market forces have been unleashed which reward good behavior in the sector. As noted above, outside support will continue to be required but the green market seems likely to grow and to be with us for the foreseeable future. Though certainly not exclusively the products of SFPGA’s interventions, it is fair to associate and even to credit SFPGA with some expansion of the greening of the industry that, though well under way before the MOU was signed, nevertheless benefited significantly from additional resources flowing from USAID in support of these changes.

The three SFPGA “partners” agree that goals that have been achieved under this program could not have been accomplished without the SFPGA. This is not true in the same way for each partner however. USAID depends on grantees and contractors to carry out virtually all of its implementation (and much of its design) work. It has become largely a funding agency,

though not yet exclusively so. Thus, USAID would have been institutionally incapable itself of carrying out any set of activities approximating the work that WWF/GFTN and Metafore accomplished with SFPGA financial support from USAID. It needed to rely on “partners” not just because the GDA required a partnership in order to release matching funds, but because that is how USAID does its work.

For WWF/GFTN and Metafore the story is different. The SFPGA has made it possible for the two NGOs to do more of what they were already doing, to expand their programs to an extent they would not have been capable of doing without SFPGA financial support.

The Metafore manager for the program points out that its association with USAID lent credibility to Metafore and helped it gain access to businesses that might not have been so ready to open their doors “to an organization with only a \$2.5 million annual budget.” The private sector is more willing to play, he argues, if its money is leveraged, as it is perceived it to be under the SFPGA.

Additionally, because USAID funds under the SFPGA are intended to extend the reach of their own programs the NGOs have greater freedom in how these funds are used than is the case with most funding sources. A GFTN manager sees SFPGA funds as “strategic,” as providing “glue and flexibility” to the GFTN program of activities because they can be used in ways that WWF/GFTN itself sees as priority areas for study, experimentation, or exploration of new opportunities, new ways to achieve programmatic objectives. Almost all other sources of funds are provided for very specific purposes. They are “restricted and project-based.” The GFTN manager makes clear that it is not the SFPGA itself that is the “glue” providing cohesion to the partnership; rather, it is the flexibility in the use of USAID funds that helps GFTN maintain strategic direction and cohesion in its own program.

The GFTN program manager in underscoring his impression that the relationship with USAID has been one of donor-grantee rather than partnership points again to the way the relationship was structured from the start. It always felt like the standard way USAID does business, he says, the same familiar grant mechanism, the same reporting requirement of USAID, etc. “Very one way, very one sided.” Had the GDA actually represented a new way of doing business—at least in the case of the SFPGA—had it created a new mechanism to reflect this new way “things might have been different.”

To sum up, as an effort to have a significant, positive environmental impact on the global trade in forest products by employing market forces, the SFPGA has been a major success. As a public-private partnership, in the view of those managing the involvement of all three signatories to the partnership’s founding document, it has left much to be desired. In their

unanimous view it has not been a partnership at all. To them, it never felt like a partnership. 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)

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THE CONTEXT OF THE PARTNERSHIP

The Common Code for the Coffee Community Association (4C) is an international strategic alliance in the coffee sector which developed out of a cross-sector partnership between three stakeholder groups—Coffee Trade and Industry, Coffee Producer Organizations and International Civil Society Organizations—supported by German and Swiss development cooperation. In the beginning, the partnership’s aim was to work together towards more sustainability in the mainstream green coffee production. Later the focus became the enhancement of sustainability in the entire mainstream coffee sector through developing a voluntary code of conduct. The partnership is understood as “the first step towards more sustainability in the entire coffee value chain,”¹ and introduces an approach which seeks to mainstream sustainability in the sector.

This global community has joined forces to continuously improve the social, environmental and economic conditions for the people making their living with coffee. The main pillars of 4C are a code of conduct, support mechanisms and a verification system. More than 100 representatives over 25 coffee-producing countries have participated in the development process.²

¹ Speech of Joaquim Leite, President of the 4C Association at the “Official launching of the 4C Association,” September 21, 2007, Haus der Bundespressekonferenz, Berlin, Germany.

² 4C Official press conference, April 23, 2007.

The Beginning of the 4C Initiative

The idea originated from within the German development aid: there had been deliberations to test the possibility of strategic cooperation with private companies in the coffee commodity sector.³ The idea of initiating a broader partnership emerged as a result of experiences from different public-private partnership projects in the commodity sector between large multinational corporations (MNCs) and the German Development Cooperation (implemented through the implementing agency Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ)). Although a number of projects had been carried out in the area of green coffee production in a number of countries,⁴ only moderate effects could be measured beyond the project area. The projects as such yielded good results within the particular project region, but were often counteracted by market developments.

Within the framework of the discussions around sustainability, the topic of social and environmental standards came up repeatedly: they existed for speciality coffee, but had little impact on the mainstream coffee production. It seemed that real change would require a learning network of activities in order to facilitate the broader impact they desired. During the same time period, some of the big European roasters and traders had familiarized themselves with the idea to invest more actively in sustainability in coffee production.

The 4C initiative was launched as a partnership project in 2003 between the German Development Cooperation and the German Coffee Association. More than a year of formal and informal strategic conversations and small meetings conducted across private, public, and social sectors led up to the launch.

Managers from development cooperation and the participating companies realized that dealing with the destructive effects of the arising coffee crisis (see Box XII-1) and ensuring long-term sustainability in green coffee production would require a more strategic and long-term approach⁵ as inefficiency in the organization of production would have threatened the long-term interest of the entire coffee sector.⁶

It became obvious that what was needed in order to develop a baseline standard for coffee “on its way to sustainability” (the official 4C terminol-

³ According to information from GTZ project leaders.

⁴ According to information from GTZ project leaders.

⁵ A number of voluntary regulatory initiatives emerged during the coffee crisis. Today the coffee sector is marked by the existence of various sustainability systems, including company codes, trade and industry initiatives, cooperative working platforms, as well as many global certification systems. The leading and most important of the latter are Rainforest Alliance, Fair Trade, and Utz Certified.

⁶ According to interview partners from trade and industry.

BOX XII-1
Coffee Crisis

Until 1989 the coffee market was regulated by the International Coffee Organisation (ICO) through export quotas. After the quota system was discontinued in that year and the regime of the International Coffee Agreements (ICA) broke down, the supply of coffee has not been subject to any restrictions. The liberalization of global coffee trade and the increased competition between producing countries—Brazil, Vietnam, and Colombia being the major producers, accounting in 2005 for more than 60 percent of the world coffee production (SOMO, 2006)—for a share of the coffee import market resulted in overproduction. The three countries—Brazil, Vietnam, and Colombia—dominate the market not only in terms of volume, but also in terms of pricing. The erratic increase in the efficiency of these countries' production processes after the liberalization of the coffee market in 1989 has altered substantially the global coffee supply structure and is often regarded as one of the causes for the steep decline of price levels. Because of exceeding availability in the period 2000-2003 (ECF, 2006), coffee prices dropped to very low levels, the lowest since the last 30 years, resulting in what is known as "the coffee crisis." The annual earnings of producing countries (in terms of export free on board (FOB)) halved in the period from the 1980s until 2004 (ICO, 2005). This was the worst coffee crisis in terms of growers' incomes (Cholakov, 2008).

ogy) was a joint understanding about existing problems and possible solutions in the sector. By mid 2002 the GTZ together with the German Coffee Association (DKV) had gathered a broad group of potential stakeholders, including leading corporations like Nestle and Kraft Foods, as well as large producer organizations from some of the most important coffee-producing countries.⁷ Civil society organizations were also invited from the very beginning in order to integrate their critical point of view, their expertise, as well as implementation potential. Many of the future participants had already expressed their support for the project before it was officially started. In September 2002 the project of developing a mainstream standard was presented to the International Coffee Organization (ICO) with the initial intention to place it under the ICO umbrella. However, vigorous protests of some producing countries against discussions over social and ecological aspects in relation to trade issues excluded this idea as an option.

The project was finally launched in January 2003 as a business-to-business initiative in the form of a public-private partnership project between DKV and the public sector—the German Federal Government. The latter

⁷ Lang, 2006.

was represented by the Federal Ministry of Economic Cooperation and Development (BMZ) and its technical implementing agency GTZ.

The project brought together complementary perspectives, competencies, and also diverse interests. To achieve durable results, the broadest possible ownership was needed. Only a tri-partite participation process could provide that. The concept of tri-partite participation was presented to a first round of stakeholders, improved and revisited on the basis of their feedback and their inputs, and adjusted accordingly.⁸

Initial Goals, Objectives, and Motivations

The devastating features of the coffee crisis, along with the structural deficits in the coffee value chain, made it necessary to seek a broader approach in order to take essential steps towards a “mainstreaming” of sustainability in the sector. Producers were unable to reinvest in the production process and to maintain the quality of green coffee, which threatened the long-term interest of the whole sector. The original goal of the initiative was ambitious—all stakeholders involved knew the development of a code of conduct would not solve the then-occurring coffee crisis with very low prices. However, they all agreed that a voluntary code would begin to address some of the underlying structural deficits in the green coffee production and processing.

The most important concrete objective in the beginning stage of the partnership was to develop a “Common Code for the Coffee Community,” that is, a code of conduct for green coffee production in collaboration between the different stakeholders. The code was seen as a potentially important step to address imbalances and improve production conditions substantially, to address the economic insecurity of suppliers and improve operations along the entire coffee supply chain.⁹ Long-term solutions were to be identified to cut out asymmetries within the coffee value chain which caused destructive effects for the entire sector (see Box XII-2).

On the part of larger corporations (mainly European coffee roasters, but also traders), there was a long-term concern for ensuring quality of green coffee through improving the structure of the coffee sector and making trade along the supply chain more efficient. Improvements of quality, supply security, as well as clear risk management were driving factors for corporations. Some of the larger European roasters were aware of the rising consumer pressure towards social and environmental aspects in value chains, and thus also in green coffee production. Some had already begun

⁸ Kuenkel, 2006.

⁹ 4C Press Release, April 23, 2007.

BOX XII-2 **Asymmetries within the Coffee Sector**

The coffee sector is characterized by great asymmetry in the redistribution of outcomes between producing and buying countries. This trend is due to the existence of a specific organization of market supply chains which Kaplinsky (2000) describes as “value-chain governance.” Value-chain governance implies the ability of (a small number of) large business actors to dominate supplier relations by setting requirements in terms of time, volume, and prices to a very large number of small-scale producers who compete for a share in the international market. This trend has diminishing economic and threatening environmental and social effects for producers (BMZ, 2003, 2007). In particular, small-scale producers often remain outside the international market flow, receiving ever-diminishing returns for their produce (Cholakova, 2008).

to experiment with niche market coffee or had plans to do so (such as Fair Trade, Rain Forest Alliance, UTZ Certified, etc.).

As roasters needed a steady and reliable supply from various regions in order to maintain their “brand coffee,” niche market coffee was not seen as a long-term option since it would divide their own marketing and production lines into “more sustainable” and “less sustainable.” Hence, they began to become interested in a long-term solution that would, rather than labeling certain niche market products as sustainable, ensure that their entire supply was coming from sustainable sources. Although there was, at the beginning, a certain degree of disbelief as to how and if this was possible to achieve, the long-term sustainability issues became a motivating factor for trade and industry to take part in the partnership.¹⁰

The partners developed a list of main objectives they hoped to achieve, which were to

- Expand the share of sustainable coffee in the mainstream,
 - Define quality referring to production conditions and the product
- as such,
- Exclude worst social and environmental practices,
 - Create conditions to transfer value,
 - Encourage continuous improvement in an inclusive system,
 - Reach high credibility through verification, and
 - Strengthen cooperation along the chain.

¹⁰ Interviews with T&I in 2005.

Endangered economic viability, volatility in prices, low productivity, no access to credit, lack of tools to deal with market volatility, and the wish for improved markets were some of the main concerns expressed by producers.¹¹ This broad alliance between representatives of the three sectors presented a good opportunity to generate beneficial outcomes—economic, social, and ecological—for the widest possible range of producers.¹² Their interest to join the partnership was essentially based on securing and improving markets, however, one of their main hopes clearly articulated in the beginning of the partnership was the expectation for higher prices for green coffee.

Civil society organizations joined the partnership for different reasons specific to their themes and constituencies. All non-governmental organizations (NGOs) and trade unions participating were concerned with the living and working conditions of coffee workers and small-scale coffee farmers. Their motivation to join was based on raising the chance for dialogue with business actors regarding more responsible supply chain management.

Measures of Success Identified at the Outset

The most important milestone of the partnership to be achieved in the first phase was the development of a code matrix: the “Common Code for the Coffee Community.” This was outlined in the internal project document of the public private partnership project. Similar to other existing codes of conduct for economic, environmental, and social sustainability, the code matrix was expected to show principles, criteria, and indicators in the three pillars of sustainability: social, environmental, and economic.

The indicator of success for the partnership itself was the finalization of the code matrix in a multi-stakeholder process with expert input within the first project phase of two years. The internal roadmap was designed to ensure a process-architecture for developing the code of conduct in a participatory, but also comprehensive way. The challenge was to take existing Codes of Conduct into account that had been developed already for specialty coffee (e.g., Organic, Fair Trade, Utz Kapeh, etc.) and develop a baseline standard that would be applicable to the mainstream coffee market—approximately 98 percent of the world market of coffee which is currently produced without any codes of conduct. It was clear that a mainstream approach would require a broad consensus among all relevant actors. Different from specialty coffee standards one could not simply agree on forms of production between selected producers and coffee traders or roasters. The involvement of the entire coffee chain worldwide in a process

¹¹ According to an interviewee from the producer group.

¹² Lang, 2006.

of consensus building around basic production standards had to take place. Only such an approach had a chance to achieve the goal of gradual integration of green coffee production in a more sustainable way.

The definition of sustainability was explicit and broadly inspired by the three pillars of sustainability. However, how this was meant to be put in practice in green coffee production had to be defined as part of developing the code matrix.

In the first two years of the process, an implicit indicator of success was the achievement that the initial public private partnership project became the service provider for the 4C initiative as a larger alliance of all participating stakeholder groups. The actual process of developing the code matrix turned out to be a learning process containing several aspects:

- The possibility to have conversations on sustainable coffee productions and the conditions under which it can take place, in a pre-competitive environment between larger roasters/traders and producers;
- A growing understanding of sustainability aspects and the many facets that needed to be taken into consideration among all stakeholder groups.

Principal Benefits That the Partnership was Expected to Generate

The 4C Association aims to create a beneficial situation for coffee producers, workers engaged in the coffee sector, rural communities, trade and industry, consumers, and the environment. The partnership can be described as inclusive and action-oriented with the aim to implement sustainability along the entire coffee value chain. It is designed to provide a service viewed as critical to sustainability and which is not being sufficiently provided at the present time.

The 4C Initiative and its Partners

The initial partnership was limited to a funding period of two years. However, it sought to create structures within this period that could ensure to evolve the work beyond. During the development of the code matrix, many other aspects that had not necessarily been part of the initial project planning turned up and needed to be dealt with by the partnership, respectively the stakeholder system. This referred, for example, to the role trade and industry would play in the implementation of the standard and also in capacity building, but also to more operational questions such as what kind of control system should be implemented.

The project period was therefore extended and funded for another two years. The partners changed: indicating the importance of the partnership

the European Coffee Federation took over from the German Coffee Association and channeled the funding from the private sector. Additionally the Swiss State Secretariat for Foreign Affairs (SECO) joined the BMZ in the funding of the partnership. The main objective of the second phase was to make the “Common Code for the Coffee Community” operational. The aim was to form some kind of institution that would enable the partnership to continue and implement its goals. The form of institution was to be developed in the multi-stakeholder dialogue between all partners.

Regarding the stakeholder alliance that created the base for the partnership the driving forces behind 4C were next to the GTZ the large European coffee roasters. The 4C project developed quickly as a broad alliance between the European coffee trade and industry—Kraft Foods, Nestle, Sara Lee DE, Tchibo, Neumann Kaffeegruppe (NKG), Volcafe—some of the world’s most relevant producer organizations in exporting countries (accountable for about 80 percent of coffee production worldwide),¹³ as well as important civil society groups—Oxfam, Greenpeace, Rainforest Alliance, Christliche Initiative Romero (CIR), FIAN (Food First Informations- und Aktions-Netzwerk) International Union of Workers (IUF). Some of them had increased the urgency for action by creating public awareness of the deteriorating conditions in the coffee sector through active campaigning. On the side of producing countries, important producer organizations joined from Latin America, Africa, and Asia.

The project also attracted the attention of other international organizations such as the UN-affiliated International Coffee Organization (ICO), World Bank, the International Labour Organization (ILO), the coffee standard Utz Kapeh, ministries, and other labeling research and action groups plus several regional development banks which observed the process carefully. Legal advice was also sought in order to ensure that competition rules would not be infringed.¹⁴

Geographic Focus

The geographical focus of the partnership is worldwide, in terms of impact and implementation of the mainstream standard. In terms of stakeholder participation, all main and some of the small coffee-producing countries are part of the initiative, while the private sector is still dominated by European Roasters and trades. However, in 2005 the Brazilian coffee industry joined as member of the Steering Committee. Today members of the association come from 20 producer and producer organizations from various countries in Latin America, Asia, and since February 2008 Africa as well (see Annex 2—Membership List).

¹³ Interviews with T&I.

¹⁴ Muradian and Pelupessy, 2005.

INCENTIVES AND MOTIVATIONS

As mentioned above, many favoring factors catalyzed the formation of the 4C initiative and finally the 4C Association. Underlying was probably a certain degree of unrest about the deficient structures in the coffee value chain that led to exploitation of human capital and the environment as well as economic instability on the side of producers. Apart from economic incentives like improved performances and better market access through better quality management, cost saving, and risk management, the standard was intended to improve the environmental situation on the farms (e.g., soil and ground water quality, and less use of pesticides, better health conditions, etc.). On the side of coffee trade and industry the need not only for stable supply, but also maintaining company reputation, was a motivating factor for engagement.

Through its multi-stakeholder approach 4C created a higher acceptance of both standard development and implementation at the producer level. Many standards so far have been developed by experts with little or no input from those who are intended to comply with the standards. The credibility of the 4C standard development was also enhanced by the participation of civil society. This played an enormously important role for trade and industry as civil society participation would also give legitimacy of both standard and process towards the consumers. Furthermore, working with different stakeholders enabled the participants to better understand the point of view of other participants and created a holistic understanding of sustainability issues in the sector. For example producers understood better the challenges of trade and industry and, vice versa, civil society understood the need to develop a concept for the mainstream market (beyond specialty coffee).¹⁵ Thus the incentive and motivations to join that may have been more crude at the beginning (and very different), also changed over time. It also became an incentive to be part of a larger story that had the potential to move one value chain a few steps closer towards sustainability.

Motivations for Different Stakeholder Groups

Producers

In the beginning the incentive for producers (usually representatives of producer organizations) was to be in a close dialogue with coffee trade and industry, secure markets, and create a better understanding of trade and industry for the situation of producers. The one common interest of producers clearly related to the economic improvement of coffee producers—this

¹⁵ According to interview partners from all three stakeholder groups.

they shared across countries, organizations, and competitors. In interviews carried out by an internal research team in February 2006, producers highlighted the following added value¹⁶ in joining 4C.

As many farmers have become aware of sustainability issues, 4C (similar to other standards) is seen as an opportunity to become sustainable. However, farmers expected to get a better portion of prices reflecting their investments in sustainability. The main incentive was an increase of income, however, the planned services and support system 4C envisaged were seen as attractive (although other ideas also offered this). As a result of the participatory approach to standard development, producers realized the added value of shared responsibility along the coffee value chain, if this resulted in clear rules and guidelines to prove and show that trade and industry also shared responsibility for what was happening at the lower end of the value chain.

In the beginning of the partnership process producers had difficulties with the fact that the 4C standard (unlike UTZ Kapeh, Fair Trade, or other specialty standards) would not automatically result in a price increase for 4C verified coffee. Producers are supposed to benefit from the 4C system, in particular the standard implementation, through becoming more efficient in the organization of the production process and through improving the quality of their products. Through the participation in 4C producers were also supposed to benefit from an open and sustained access to the mainstream world coffee market. But it was not intended to integrate a price premium into 4C. As it was supposed to be a mainstream standard, 4C verified coffee was intended to follow market dynamics. Although the motivation for the continuous improvement of the quality was seen as important by producers, price was therefore a contentious issue all along the partnership implementation (particularly as it was not supposed to be discussed at all in the Steering Committee meetings due to Anti-Trust regulation).¹⁷

However, producers also realized that smallholder coffee farmers could benefit from a mainstream standard like 4C as opportunities arose to get closer to roasters/consumers. They also saw that farmers would be supported to get more organized and empowered in order to comply with the code and that access to market and price information and negotiation for competitive better prices would possibly be improved.

¹⁶ Results are taken from an internal research paper: summary of interview results.

¹⁷ According to interview partners, members of the Steering Committee sometimes referred to the "P-word" stating the non-discussable.

Trade and Industry

As trade and industry could not afford to go through another coffee crisis, risk management clearly gave no other opportunity than to join the partnership.¹⁸ Otherwise they would have risked losing part of their supply base. Furthermore companies wanted to show that they take care environmentally and socially in all their brands, not only highlighting special products from their range. 4C is designed to work with the broad mass of the coffee market, providing the mechanisms to secure long-term supply for the market demanding high quantities and qualities of coffee. 4C offers a differentiation in the supply chain, contributing to the overall sustainable development of the sector.

The motivation of trade and industry to engage in the partnership—being a heterogeneous group in itself—was based on the following aspects¹⁹:

- **Optimize the value chain in order to secure a high quality supply base:** Roasters and traders realized that low prices lead to investment problems on the producer side, starting a spiral with downwards trend and endangering their supply base. Consistency in quality and production was seen as essential to be able to purchase a certain type, quality, and amount at a certain time. An integrated supply chain management approach was seen by one trading company as essential to secure the long term market. Trade and industry expected that in the mid-term 4C would become the one and only standard with a relatively low claim, but raising the tide for sustainability in the mainstream. In that way, a reason to engage was also securing future markets. 4C was expected to provide the tools to meet basic standards in producing countries, a role that national governments often did not provide.

- **Risk management:** It was becoming clear to companies that responsible supply chain management was something consumers would demand more and more in the long term. The participation in 4C was a pro-active move in light of the pressure arising from strong NGOs which had run campaigns for other commodities and inflicted serious damage on corporate reputation. An important reason to join was thus the fact that industry could speak with the Civil Society organizations (Oxfam) in a structured setting. This gave 4C a high credibility for trade and industry. 4C defined a commonly agreed baseline standard and thus helped to fulfil the commitment the Civil Society and consumers were asking from the entire sector. The tripartite approach to defining a reliable system to implement minimum

¹⁸ Interview T&I.

¹⁹ Based on interviews with members from trade and industry in February 2006 and December 2007.

standards in the mainstream coffee sector was seen as the most credible approach to take.

These opportunities of the partnership seem to be well recognized by the interviewed corporations²⁰ which give high importance to employ resources and engage with different stakeholders. According to the interviewees, 4C has contributed a lot to that development: “4C is based on complementary involvement and completes the views of everybody. . . . I would say: engaging as many stakeholders as possible is the best we can do, as long as it is possible to organize the process in an efficient way” (informant from the Trade and Industry group, Cholakova, 2008). The participation in 4C has contributed a lot to the improvement of relationships between trade and industry and Civil Society organizations. In different projects companies seek to organize a “participatory learning process and work with NGOs, experts, specialists . . . universities and local governments, try to link to public institutions so that when you withdraw the group will be able to continue working.”²¹

Civil Society

Civil society sees itself as advocacy organizations speaking on behalf of their constituency groups. Depending on their themes of advocacy, the motivation to engage in 4C was very different for each participating civil society organization. Across all participants from Civil Society, an important motivation to join was the possibility to influence trade and industry towards more sustainability engagement. Participation was also seen as a possibility to create a standard that was not industry dominated, but composed of a number of aspects particularly important for civil society, such as statements on working conditions, a system that would ensure the inclusion of small-scale farmers, and the credibility of controlling mechanisms. Over time the access to capacity building and support systems for farmers who decided to join 4C and move towards sustainable production became an important motivating factor for civil society organizations.

In the course of the partnership, civil society organizations always made sure that trade and industry would add another piece to their taking over of responsibility. Civil society’s relationship with a mainstream standard remained ambivalent throughout: on the one hand this would mean that a broad target group would have access to the standard and the support system; on the other hand a baseline standard could mean to water down the requirements for other existing coffee specialty standards. In addition to that, some civil society organizations, particularly campaigning

²⁰ According to five companies interviewed during the internal research.

²¹ Interview with one European roaster.

organizations like OXFAM remained, despite their important role, skeptical throughout, as their participation in a process with industry that could be and had been a target for their campaigning, could have been seen critical by their constituency. The threat of exit (e.g., of OXFAM), was therefore a constant reminder of the fragility of the alliance.

Changing Motivations

Despite many arduous meetings interview partners²² remember, stakeholders always came back to the recognition that they had to cooperate in order to achieve results. This was the most important driver to overcome political battles and prejudices. The discussion moved permanently between political negotiation processes and practice-oriented and pragmatic communication on issues related to the code and its implementation.²³ All informants maintained that, as time passed, participants acquired a deeper understanding about the situation of the other stakeholder groups. A constructive attitude emerged and trust was established. The recognition that nobody had to lose and that the entire coffee sector could potentially benefit from the initiative created a spirit of cooperation. According to one respondent, a very important contributing factor was “time.” Each stakeholder group had to go through a genuine learning curve about central elements of the implementation of a mainstream standard. Trade and industry had to learn that there were important discussion points for the civil society. On the other hand, the civil society group realized that in order to approach the business side successfully they had to do it in an economically viable way and stay within mainstream market systems. Getting to better understand concerns of producers as well as how trade and industry operate in a consuming market were further insights for the respective stakeholder groups that helped the process move on.

Two stakeholders left the initiative after the first phase: Greenpeace and the Food First Informations- und Aktions-Netzwerk (FIAN). The reasons for leaving the process were not made entirely explicit. Greenpeace left because a statement in the introduction to the code with reference to the decline of use of genetically manipulated coffee was not far reaching enough for its constituencies.²⁴ FIAN left because they doubted the positive effect of the code on small producers.²⁵ According to interview partners who are

²² All stakeholder groups.

²³ Oliver von Hagen (2006).

²⁴ According to one informant, Greenpeace representatives seemed to have clear instructions about insisting on certain aspects and were not willing to make any compromises with their position.

²⁵ Interview with civil society.

still part of the partnership,²⁶ it was also assumed that both organizations left because they had reached what they wanted and were in no need to further support the process. The exit of the two organizations did not affect the partnership much, as the remaining system of partners had grown more stable by the end of the first phase. Even if the slowness of the process was unfamiliar for the private sector, it was broadly accepted as the only path to take: “The participation of so many different parties helps to find the right way. It is a longsome process that serves as insurance to all stakeholders and provides security. Critical attendance is necessary as the final acceptance is broader and the process advances in itself.”²⁷

A member of the trade and industry chamber explained that another important factor for staying in the partnership was that the more efforts and resources the participants invested in the project, the more difficult it became to quit without seeing it completed: “When you invest in trying to come to an understanding and later on to an agreement—on partial issues, not on the total package—you are building a puzzle. You are building it not in one go, you are creating it by starting from the left corner, then going to the right corner, then putting a little in the middle and the more effort you put into it, the more you put those elements from the puzzle together, the more difficult it becomes to say: ‘I will now stop it, I cannot proceed any-more,’ because you have invested so much and you want to see the finished picture. And the finished picture becomes a driver in itself.”²⁸

IMPLEMENTATION PRACTICES/FUNCTIONAL ANALYSIS

Different Development Stages

The development of 4C partnership can be divided into different stages.

INFORMAL PREPARATION PHASE

The preparation phase of the 4C partnership was very important²⁹ as it is the phase in which to explore the possibilities of creating a community of people who are willing to take a sometimes difficult road together in order to achieve what could not have been achieved individually. This included a more detailed context and actor analysis (including conflict mapping)

²⁶ Interviews with two founding members.

²⁷ Manager from a large coffee trading company.

²⁸ Interview taken from Cholakova, 2008.

²⁹ The Partnering Initiative, 2005; CLI, 2006.

through informal dialogue in order to find the right number of potentially interested stakeholders that could support the initiative.

It was critical to develop a good understanding of how to gain the support of important participants. Various consultations with relevant stakeholders helped identify major issues and establish a clearer understanding of what the challenges in the sector were.³⁰ The emphasis in the beginning was on building relationships and testing existing and possible future co-operations which usually derive from past common experience. It was also crucial that the nascent initiative did not move into the creation of a formal structure too early, as this would have absorbed much of the energy and intensified conflicts. It was also important to not make too-early claims about what 4C could achieve as this would have been unrealistic and evoked criticism. Main strategy in the first phase was the creation ownership for both process and content for as many participants as possible.³¹

Interviewees explained that the official launching of the 4C project was preceded by more than a year of work across the private, public, and social sectors. As was mentioned above, initiator of the process was the BMZ who started informal meeting in the years 2001 to 2002 to address strategies to introduce sustainable practices within the coffee sector. "Several meetings between a number of potential stakeholders in Germany at the BMZ where held which served as the kick-off exploratory session between a number of potentially interested stakeholders, which included the German Ministry and the German Industry and a number of NGOs."³²

From the challenging learning experiences of other standard initiatives, particularly regarding ownership, inclusion, and mainstream applicability, the initiative extracted important insights that shaped the profile of the approach and became cornerstones of the process design.³³ One major insight was that a standard with such potentially international impact would only make sense if it brought together economic, social, and environmental aspects in one code of conduct. Another insight was that a real sense of ownership called for a continuous commitment to tri-partite participation. Coffee trade and industry, producer associations, and representatives from civil society organizations had to jointly develop the standard for it to have broadest possible ownership. This, however, required people who would facilitate the process of dialogue, joint decision making, and balancing interests, as well as the logistical coordination of stakeholder involvement. For this to work, the initiative needed a formal "home," a structure clear enough for all to engage on a regular basis. Most important for the

³⁰ See also Tennyson, 2005; Hemmati, 2002.

³¹ Kuenkel, 2006.

³² Member of the European Coffee Federation.

³³ Interview partner who initiated the partnership.

developing concept and structure was the design of a strictly service-oriented project secretariat. Both the public and the industry formed jointly a small management team, the project secretariat, which took the function of a facilitator in the consensus-building process. The growing complexity and diversity of participants and interests called for professional facilitation of the process by a moderator in order to foster a context of constructive dialogue and collaboration.

The secretariat had a brokering role in facilitating communication, consensus building, and effective decision making. Even if the original project concept had to be changed over time as a result of learning and feedback the jointly agreed version functioned as healthy base for all planned activities and adjustments. Thus formalized and agreed upon the project supporting the initiative could be officially presented to the ICO in September 2002 by the German Secretary of State of the respective Ministry. This was a decisive milestone to get the initiative off the ground. The official private partnership project was subsequently launched in January 2003. The concept of tri-partite participation was presented to a first round of stakeholders, improved, and revisited on the basis of their feedback and their inputs and adjusted accordingly.³⁴

DEVELOPMENT OF THE CODE OF CONDUCT (2003–2004)

After a preparatory stakeholder workshop in February 2003, about 35 of the stakeholders, representing a microcosm of the entire coffee world, convened in May 2003 in London for the kick-off meeting.³⁵ The ownership of the initiative was expected to be with the multi-stakeholder forum, and the public-private partnership project as such would be in service of the consensus-building process by financing a secretariat and all expenses related to Steering Committee meetings and the involvement of experts.

Almost all participants during the launching meeting in May 2003 explicitly committed to participate in the initiative and contribute in the best possible way to its success. After the official launching of 4C, the multi-stakeholder process needed a clearer structure. The first step was their agreement to become members of the Steering Committee of the initiative and, as such, be responsible for the decision-making process regarding content and procedures of developing the Common Code. The project staff enacted the role of a neutral partnership broker. The external facilitation provided space for people to air their views, communicate informally, and positively encounter diversity in worldviews and political positions. At the

³⁴ Kuenkel, 2006.

³⁵ Internal document: minutes of meeting.

end of the meeting which lasted one and a half days, the ice was broken and participants committed to active participation.

In September 2003 at the second meeting, the members of the Steering Committee had found their role. Emphasis now was on all relevant aspects for the content of the common code. The Steering Committee agreed to hold various tri-partite expert working groups 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. According to all informants, the development of the Code Matrix was a challenging phase in the partnership process. The results from the working groups were formulated as recommendations to the Steering Committee and as such decided upon during the regular Steering Committee meetings which took place three times per year.

In May 2004 the Steering Committee readjusted the process architecture in a way that cross-dimensional and cross-sector expert working groups would now begin to tackle other aspects of the code such as guidance for participation, introductory frameworks and verification, etc. After these groups had successfully completed their work the most important elements were combined in the draft version and the Steering Committee finally agreed on a version of the code that would be the basis for the next two years of testing.

In September 2004 an agreement on the draft of the 4C Code of Conduct was reached. A finalized document was presented at an international press conference. The project moved towards implementation. On the surface this was a straightforward process with clear structure. But with a closer look the success required a very subtle, sensitive, patient, and persistent service-oriented approach both for the project staff as well as the process facilitator. Respondents explain that the negotiation process was marked by many conflicts, blockages, building of coalitions as well as threats to leave the initiative.

Almost every stakeholder group arrived at a point when they were almost prepared to leave the initiative (see Box XII-3). However, over time the stakeholders not only appreciated the service they received from the secretariat, but they began to show the same commitment. Despite many difficult situations most of them connected with the fascinating larger possibility of being able to make a difference in the world of coffee. The different stakeholders began to be patient, more tolerant, more understanding of difference, and throughout constructive.

NEGOTIATING PROCESS WITHIN THE STAKEHOLDER GROUPS

The process of negotiating a common code between three stakeholder groups proved to be a very ambitious task. One of the challenges named

BOX XII-3
Example for a Crisis Point

A crisis point occurred when the code was presented at the ICO: it created a dividing line among producers as the political acceptance of the code document was extremely bad. Some producer countries, after an ICO meeting in 2005 came up with an official declaration critiquing the initiative as, for example, imposing yet another round of trade barriers. Since it was very difficult to establish if participating producer organizations had also supported this declaration, a new level of mistrust evolved and trade and industry could only gradually be persuaded by the then secretariat to not drop out of the partnership. In a series of telephone conferences the major stakeholders discussed how and if to proceed. One participant at that time explains it this way: "We could have dropped the project at that stage to see 2 years of work go down the drain, or we had the possibility to take it, we persevered, we recognised that we had a challenge, we recognised that we have to explain the partnership better to the public as some of the criticism was based on wrong assumption" (reference person from T&I).

As the political criticism was based on wrong information the partnership decided to continue taking the political reaction into account and concentrating on the responsibility of the partnership recognising plenty of opportunity to change the created political perception. The crisis also led to an important improvement: the secretariat spent much more time than before traveling to producing countries to establish a structured dialogue on 4C. This had the effect that Brazil, one of the countries that had signed the declaration, started to become a more active member of the Steering Committee (Kuenkel, 2006).

by informants was the fact that not all groups were equally represented. Although 4C is a global initiative, the input from the trade and industry group was dominated by European roasters and traders. These corporations had the opportunity of discussing various issues within an existing platform (e.g., the European Coffee Federation) as well as within other global sustainability schemes and platforms.³⁶ Neither the Producers' nor the Civil Society group was organized in this way. According to interview partners³⁷ the input of these two stakeholder groups was much more on an individual basis and not as coordinated as that of trade and industry. It took a long time to articulate the interest of producers, not only because of the huge geographical distances and market competition, but also due to enormous differences in culture, experiences, and producing structures.³⁸

³⁶ For example within the SAI platform where corporations work together on sustainable agricultural practices.

³⁷ From producers and civil society.

³⁸ Informant: member producers.

It was hard to organize them in a common position and it took two years to form a representative group. The initiative had learned that it supported decision making enormously if stakeholder groups had had the chance to form a group opinion before decision-making processes in the Steering Committee. Hence, stakeholder pre-meetings were introduced before Steering Committee meetings in 2005. There was a concern that the code did not represent the producers. A member of trade and industry also observed that producers became decisively pro-active as the concept gradually moved to something they could apply in their day-to-day operations.

CONSOLIDATION AND IMPLEMENTATION STAGE (2004-2006)

The main features of the this phase were result orientation and implementation of the code, building of more formal structures for defining roles and responsibilities, integrating new participants in the network (CLI, 2007), finalizing the “Rules of Participation” for trade and industry, and developing a system of verification and capacity building that would suit the mainstream approach. However the “The Rules of Participation” that laid down the rules for trade and industry to participate in the implementation of the code also changed the attitude of producers towards corporations and persuaded them that companies were concerned and willing to cooperate.³⁹ This agreement was a major factor for the success of the initiative, because it ensured that the interests of producers would be taken into consideration through a sustained market access process and industry contribution to capacity building. Reaching this agreement was a difficult task, and had been interrupted by several rounds of consultations with lawyers on anti-trust regulations. “Any suspicion that the initiative would intervene into the free market laws or distort open competition would have caused an intervention.”⁴⁰

The final goal of the phase was to make the initiative sustainable, and create a self-financing system. Therefore the phase between 2004 and 2006 concentrated on “how to make to code work,” the process of setting up, preparing the system of verification in consensus with all stakeholders, and the support platform to enable the Code of Conduct to be implemented. Until that stage the code was a mere piece of paper which had high potential to stimulate sustainability in the coffee sector.

³⁹ Interview partner from producers stakeholder group.

⁴⁰ Kuenkel, 2006.

INSTITUTIONALIZATION

Not every multi-stakeholder initiative grows into an institution. Initiatives emerge in relation to a certain goal or problem and many may as well dissolve after fulfilling their purpose. Others, like 4C, develop into an institution with a formal governance system (CLI, 2007). With the Code of Conduct the 4C initiative had created an instrument to enhance sustainability practices in the mainstream green coffee production. With the “Rules of Participation,” a regulatory mechanism for the participation of trade and industry had been agreed upon. But so far, no formal organization existed beyond the partnership agreement between the funding partners. In the year 2006 several Steering Committees discussed various proposals for a more formal structure that could ensure the implementation of the Code. The challenge was to find a structure that would

- ensure the continuation of the tripartite governance,
- be largely self-financing,
- guarantee broad membership,
- ensure the implementation of the code through credible verification, and
- allow a decentralized further development.

The structure and implementation system as well as the support system was developed in dialogue with experts and all stakeholders involved. The planning process was lengthy and turned out to be another steep learning curve for all stakeholders involved. Informants⁴¹ said that the final structure could have been developed in many different ways and in a much shorter period of time. However the time factor was important to create an organization with sufficient level of mutual understanding and trust.

After a Steering Committee Meeting in October 2006, all participants committed to become members of the new organization. In December 2006 the existing partnership established as an independent non-profit membership association called the Common Code of the Coffee Community Association (4C). The former Steering Committee developed into a much more formalized structure with elected membership (see Governance section). Since then the partnership has transformed into an institution: the 4C Association.

Since then the partnership focused on setting up the 4C Association as a membership association, and on making 4C verified coffee available in the market. This has been implemented in October 2007. The aim is that by 2015, 50 percent of the world coffee production should comply with the

⁴¹ From trade and industry stakeholder group.

criteria of the Code Matrix.⁴² For implementing this goal the 4C Association needs to broaden the membership base and make the potential of the association known to as many actors as possible in the value chain.

Milestones achieved by the partnership are shown in the figures on the following pages.

Funding

Initiated as a public private partnership project between the Deutscher Kaffeeverband (DKV) and the GTZ/BMZ, the partnership was funded jointly in the period 2002-2004 with each providing €500,000 for elaborating a baseline standard within the coffee sector. During the following two years 2005-2006 the partnership was brought onto the European level. The European Coffee Federation (ECF) and the GTZ supported the process with each €500,000.⁴³ SECO (also providing €500,000) joined the BMZ as a public partner in financing the project.

At present public institutions provide financial support to the 4C Association with the plan to withdraw once the membership fees have increased substantially. The “business plan”—the initiative developed in the planning stage of the 4C Association—was designed in a way that the association would be self-financing after two years. The plan is to finance all operational costs and partly support the system through membership fees. Membership fees are calculated according to coffee turnover of the members; hence, the majority of income comes from trade and industry members. Public contributions were seen as seed funding (BMZ, SECO, and FICA).⁴⁴

Although in future the 4C Association is supposed to become self-sustaining and the involvement of the public side is planned to change, they will to a certain degree stay involved in the implementation of the 4C standard through capacity building by its various bi- and multi-lateral donors.⁴⁵

Leadership or Championship

A number of factors determined the initiation of the partnership: GTZ, the implementing agency of the BMZ, is implementing part of a public-private partnership facility financed by the BMZ. In 2002 there was the attempt to create more strategic partnerships in the commodity sector between German Development Aid and German industry. The intention

⁴² 4C Press release, 2007.

⁴³ GTZ, program information.

⁴⁴ 4C Press Release, 2007. FICA (Flemish International Cooperation Agency).

⁴⁵ Member from Secretariat.



Common Code for the Coffee Community

Milestones of the initiative from 2002 up to now

October 2006	8th Steering Committee Meeting
May 2006	Expert Working Group meeting on Communication
April 2006	Dissemination workshops and information activities in Peru, Vietnam and Bolivia
March 2006	7th Steering Committee Meeting, Egmond aan Zee, The Netherlands Decision upon the future operational and governance system, membership and fee structure, verification structure and future role of the 4C Support Component. Way forward for operationalization of 4C still in 2006.
March 2006	2nd Meeting of the Support Platform, Amsterdam, The Netherlands. Discussion on integration, application and delivery of 4C Support Services in practice.
January 2006	Expert working group meeting, Geneva, Switzerland. Discussion on the governance and operational system, institutional set-up with the Management Unit.
November 2005	Dissemination and consultative workshops in Kenya, Ecuador, India, Costa Rica, Indonesia.
October 2005	1st Meeting of the Support Platform, Bonn, Germany Focus on the analysis of existing knowledge and tools and facilitation of the exchange of lessons learnt.
September 2005	6th Steering Committee Meeting, Salvador de Bahía, Brazil Discussion on verification system, benchmarking, membership structure, terms and guidelines for the different 4C components. Decision to create the 4C Support Platform , offering a learning network and promoting sustainable practices and relevant tools. The role of producers is emphasized. Agreement on the Rules of Participation , the 4C Code of Conduct for Trade and Industry.
August 2005	Workshop and dissemination activity at Cenicafé, Colombia
July 2005	Meeting with key stakeholders of Brazilian coffee sector, Sao Paulo, Brazil.
April 2005	5th Steering Committee Meeting, Arusha, Tanzania Discussion on the Rules of Participation, the Support Component, the approach to Antitrust authorities and the operational and governance structure.
February 2005	Dissemination workshop in Livingstone, Zambia Presentation and discussion of the concept with local stakeholders and members of the Management Unit.



Common Code for the Coffee Community

January 2005	<p>Start of the 2nd project phase Objectives: finalization of the concept and testing of the code on field level. Partners of the 2nd phase: European Coffee Federation 4C group, funded by ECF, and GTZ commissioned by BMZ and SECO.</p>
September 2004	<p>4th meeting of the Steering Committee in Hamburg, Germany. Agreement on a draft of the 4C Code Matrix. Discussion on the Rules of Participation, with which Trade and Industry commit themselves to support the 4C concept. Agreement upon the list of Unacceptable Practices as basis of the Code. Decision to test Code in pilot projects. Presentation of the finalized document at an international press conference.</p>
June/August 2004	<p>Third series of Expert Working Group Meetings on the Social, Environmental and Economic Dimension</p>
May 2004	<p>3rd meeting of the Steering Committee, Bad Soden, Germany. Continuation of the formulation of the 4C Code and the setup of the project. Implementation of the concept of continuous improvement and the focus on mainstream applicability.</p>
November/December 2003	<p>Second series of Expert Working Group Meetings on the Social, Environmental and Economic Dimension.</p>
September 2003	<p>2nd meeting of the Steering Committee, Cartagena de Indias, Colombia Mandate to the three Expert Working Groups to elaborate a code with suitable criteria for mainstream sustainability. Decision to implement pilot projects with support of individual partners, combined with capacity building activities.</p>
May 2003	<p>1st series of Expert Working Group Meetings on the Social, Environmental and Economic Dimension</p> <p>Constituent meeting of the 4C Steering Committee, London, UK.</p>
January 2003	<p>Start of the 1st project phase Project partners in the first phase: the German Coffee Association (DKV) and the German Technical Cooperation (GTZ) on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ).</p>
September 2002	<p>Presentation of the initiative to the International Coffee Organization (ICO) in London by Dr. Uschi Eid (German Parliamentary Secretary of State).</p>

was to enhance the impact of development aid through closer collaboration with the private sector in value chain development. As a result of the new approach a number of one-to-one company/GTZ public-private partnership projects developed with, for example, Kraft Foods, and the Neumann-Group. As standards was a recurrent theme, it spurred further conversations between project managers from GTZ and managers from private companies about the possibility to take the experiences from individual projects to a broader level and begin to develop a standard for mainstream green coffee production. The fact that the initiative came into existence is clearly a result of individual inspired actors in both public and private sectors who pushed the idea, furthered dialogue, and began to draw more and more people into a conversation about the possibility of a mainstream standard. Some had had experiences in standard development that lacked stakeholder participation and clearly advocated for a process which would ensure the best possible integration and participation of stakeholders.

Service Provided by the 4C Association

The first area is the operational system that provides a procedure and regulatory mechanism to ensure increasing amounts of 4C verified coffee in the market. In a second area the 4C Association supports actors of the coffee sector to continuously improve their performance looking at the environmental, social, and economic conditions. With the help of a support system which builds on a physical 4C Support Platform, access to good agricultural and management practices is provided. As the partnership works on the principles of a learning system the 4C Support Platform seeks to establish an open and globally acting learning network to exchange expertise and knowledge within the coffee sector. The main focus is the gathering, elaboration, and circulation of good agricultural and management practices to coffee producers. The Support Platform is a multi-stakeholder group of coffee experts, producers, trade representatives, researchers, and other supporting organizations. The purpose is to use synergies within the partnership and to offer support especially for the growing number of producers with the main attention on small farmers.

Under the umbrella of 4C, platform members also meet on a regional level to collaborate, exchange experiences from the field, and analyze the needs of farmers to comply with the 4C Matrix. In close collaboration with organizations in coffee-producing countries, platform members work on mechanisms to gather and provide useful information, existing tools, as well as better access to training for farmers.

Additionally, there are so-called 4C pilot projects or 4C-associated pilot projects. These projects are usually smaller public-private partnerships-projects with individual companies that seek to improve certain farms,

schemes of small farmers, certain production systems, etc. The experiences of these projects are gathered in the 4C Virtual Project Network on the Internet, making the information public and sharing the knowledge. These projects provide valuable information, tools, and lessons learned for the project partners and further organizations in the respective countries.

Monitoring and Evaluation

The partnership did not set up an explicit monitoring and evaluation system for the partnership itself, however, the governance structure with the Steering Committee being in charge of all relevant strategic decisions, served as a monitoring and evaluation as it regularly reviewed process, achievements and milestones, and agreed upon new roadmaps and targets. In 2006 the partnership began to develop a monitoring system in cooperation with a Swiss research institution that would allow monitoring of the achievement and impact of the implementation of the common code. Additionally 4C has been part of an internal evaluation of the BMZ about German Development Cooperation interventions in the area of voluntary standards.

PARTNERSHIP ORGANIZATION AND GOVERNANCE

Governance Structure

Driving forces of the 4C partnership were initially the German federal government through BMZ and the implementing organization GTZ. As the partnership was based on a multi-stakeholder involvement, a tri-partite governmental structure was adopted. The core element of the partnership was the structure consisting of the following stakeholder groups:

- Producers, including coffee producers from three continents,
- Trade and Industry, represented by the European coffee roasting industry, and
- Civil Society, represented by some of the major international NGOs.

Its official decision-making body was called the Steering Committee.

From May 2003 onwards the multi-stakeholder Steering Committee composed of representatives from producers, trade and industry and civil society groups as well as extraordinary members (funders, researchers, other initiatives, ICO) steered the process for developing the 4C Code of Conduct, the Rules of Participation for Trade and Industry, the Support Component, as well as the future Governance Structure.

The initiative was supported by a project secretariat staffed and funded 50 percent by private and 50 percent by public sector. The secretariat organized the process, prepared the Steering Committee meetings, and facilitated expert input when needed. The secretariat was supported by a process consultant and partnership facilitator.

Each tri-partite stakeholder group selected one rapporteur that would coordinate opinion formation within the respective stakeholder group and stay in communication with the secretariat. According to many 4C members the role and functioning of the project secretariat was a major success factor for the initiative. On the one hand, it provided active support in the facilitation process by document dissemination and preparation of strategic decisions, through the organization of the meetings and by bringing in additional expertise whenever needed. On the other hand, the management unit consciously remained outside the decision-making process acting as service provider.

An important element of the 4C initiative was its political component. Ministries, the ICO, and international research institutions took part in the meetings of the Steering Committee as “extraordinary members.” Many informants report that public representatives deliberately stayed away from having a direct input into stakeholder issues. They were interested in the process itself, making sure that it functioned as a tri-partite process and provided expertise drawn from past experience with many public-private initiatives. The presence of public institutions in the process also provided the necessary external legitimacy of the initiative and attracted other participants (Kuenkel, 2006). The right balance between people who “drive” the process and people who represent it to the broader public was seen as a success factor for multi-stakeholder initiative. Through the initiative producers have “1/3 voice more than before.”⁴⁶

The new governance structure of the 4C Association follows the principles of the multi-stakeholder approach as the tri-partite structure is represented on all levels; consensus-building, participation and transparency are built into the organizational structure. It follows the system of checks and balances. The supreme authority of the Association is the General Assembly which is formed by all members and holds a chamber for each of the three stakeholder groups. Out of the General Assembly the main decision-making body, the Council, is elected. It can be seen as equivalent to the former Steering Committee. It consists of 17 ordinary members in the three chambers, with the strongest representation for the producers’ group. The Council elects five members for the Executive Board, one out of each chamber plus the Chairperson of the Technical Committee and the President of the Mediation Board. They guide the implementation of the

⁴⁶ Interviewed producer.

agenda set by the Council and the General Assembly. Responsible for the further development and modification of the Code Matrix as well as assessing the conceptual quality and impact of 4C services such as tools, technical documents and capacity development activities is the Technical Committee which is mandated by the Council. Arising conflicts from the abuse of the 4C statutes, Rules of Participation or the Code of Conduct are brought into the Mediation Board seeking for a resolution.⁴⁷ Outside the membership system the Secretariat administers the cooperation, works to intensify the partnership, coordinates supporting activities, prepares the consensus making process, and enables transparency.

As an ongoing process 4C Forums are established as an active platform for stakeholders of coffee-producing countries to disseminate information, best-practice examples of implementation processes. The 4C Forums are developed in close cooperation with local institutions and stakeholders. They are established on a local level and actively aim at offering benefits to farmers through access to information, access to a discussion platform, and access to services.⁴⁸

Partnership Assets

The partnership as such did not have any assets other than the resources provided by the public and private partners. However, since the formation of the 4C Association, assets (capital and their resources) belong to it as an intuition. The major non-physical asset is the worldwide support and membership system and the network of research and capacity-building experts that are associated with the 4C Association.

Challenges Evolving out of the Partnership

A constant challenge to the process was who would or would not be part of the process. In the beginning of the partnership, the alliance was mainly composed of interested stakeholders without elected mandate. They had gathered out of interest and only after the first workshop, in May 2003, began to constitute the initial Steering Committee with tripartite stakeholder representation and extraordinary members (see governance). As the Steering Committee took over its role gradually, more formal mechanisms of inclusion were developed. Each stakeholder group would internally consult about external applications to join the process and to become a

⁴⁷ Refer to <http://www.sustainable-coffee.net/en/structure.htm> (last accessed September 18, 2008)

⁴⁸ www.sustainable-coffee.net.

member of the Steering Committee. New members were partly suggested by the secretariat, partly pro-actively approached the 4C initiative.

But the issue of inclusion and exclusion remained difficult: on the one hand, the initiators sought to include as many as possible to give the initiative a broader base; on the other hand, not everybody could be accommodated and the Steering Committee grew inconceivably large within the first two years (up to 45 people were present during Steering Committee meetings).

The partnership process represents a constant logistical challenge. One of the challenges named by informants was the fact that not all groups were equally represented. Although 4C is a global initiative, the initial input from the trade and industry group was European. Corporations had the opportunity of discussing various issues within an existing platform (the European Coffee Federation) as well as within other global sustainability schemes and platforms.⁴⁹ Neither the Producers, nor the Civil Society group was organized in this way. According to many participants the input of these two stakeholder groups was much more on an individual basis and not as coordinated as that of trade and industry. The biggest challenge, however, was to ensure adequate representation of the producers. The features of the coffee value chain differ from country to country (both in the level of organization of coffee producers as in the structure of coffee production—large-scale farms or small-scale farmers), and in addition all coffee-producing countries operate in competition. It was therefore a difficult task to ensure the right level and representation of producer stakeholder attendance.

ASSESSMENT OF PARTNERSHIP

As mentioned above 4C has been part of an evaluation of development cooperation interventions in the area of voluntary standards. The assessment sought to measure impact of a number of support activities of German development cooperation for voluntary standard initiatives. Hence, 4C was only one aspect that was looked at. However, as 4C verified green coffee is only traded since autumn 2007, impacts are not measurable yet. The following assessment therefore refers to the development of the partnership itself.

Impact on Sustainability

The goal of the 4C initiative was and is to introduce sustainable practices along the coffee value chain in the mainstream market. In September 2007 the Association stated that producers in key producing countries like Brazil, Vietnam, Uganda, Guatemala, Mexico, Costa Rica, Kenya, and

⁴⁹ For example, within the SAI platform where corporations work together on sustainable agricultural practices.

Colombia are being verified under the 4C conditions. According to the 4C Secretariat the produced green coffee amounts to 4.4 million bags, representing 3.5 percent of the world's coffee production. Within 10 months, membership in the 4C Association has increased by more than 70 percent, following the assembly of the 37 founding members of the most important coffee producers and organizations, companies, and NGOs. Currently, the 4C Association represents 54 percent of the global coffee production as well as the largest trading houses, roasters, and soluble manufacturers worldwide.⁵⁰

As 4C understands itself as an entry level to sustainable practices, it enables producers to approach higher environmental and social standards, and improve their economic efficiency. Intended impacts can be found at the micro level regarding the producers, their livelihoods, and communities. On the mid-level 4C aims to improve the training and consultancy institutions to verify the producers. Until now, efficient brokers seem to be missing. On the macro level the inclusiveness and the focus on the mainstream coffee sector is crucial for contributing to sustainable development. Thus the concept to reduce poverty in the rural areas and to protect the environment is included in the approach.

Managing Cross-Sectoral Issues

4C is developed in a multi-stakeholder dialogue (MSD) that fostered cross-sector communication and collaboration especially through its tripartite governance structure taking all the aspects of the different stakeholders into account. This multi-stakeholder structure, with all the struggles the partnership had to go through, strengthened the partnership itself. The time the partnership needed to develop was crucial for enabling the stakeholders to commit to the process even in critical situations. The content of the Code of Conduct could have been written by a group of experts in a separated room. However, the identification with the partnership and the Code of Conduct and thus the necessity to stick with the process (with all ups and downs) is a result of the MSD structure and its continuous learning process.

Benefits/Costs to Members

As has been outlined above the initiative was financed by both public and private partners. The 4C Association is still partly funded by public and private seed money, however with increasing number if members work towards a self-financing system through membership fees. For trade and

⁵⁰ 4C Press Release, September 21, 2007.

industry the 4C partnership has created a pathway to stimulate a continuous quality improvement of green coffee, improve the risk management, and integrate sustainability aspects into the core business practices. All these facts help the corporation to position well on the market or to maintain their reputation.

Through capacity-building projects 4C intends to support growers to produce coffee according to the 4C verification system. In the medium and long run the implementation of 4C practices is supposed to lead to an improvement of environmental, social, and economic aspects at the farm-level with spreading effects to the surrounding communities. Conclusions to this major intended impact cannot be stated yet as the first green coffee was only produced under 4C conditions in 2007. Costs emerged from the verification process which is preferably conducted by third-party verifiers who are covered by 4C. Therefore producers do not have to cover the only burden to produce under the given standards.

As 4C is a learning partnership civil society organizations have the possibility to accompany and shape the globally acting initiative with their specific issues to make a difference in the mainstream market. However, civil society also underwent a learning process within 4C as they had to redefine their role over time: at the beginning of the process they advocated for the producers interests whereas the producers became more “independent” over time and formulated their own interests which sometimes differed from civil society.

Replicability

For establishing a partnership like 4C in a multi-stakeholder process an extended timeframe is needed, as trust is the basis for its cohesion and its ability to move towards the implementation of a sustainability standard. 4C seems to be a good example for investing a lot of time in preparation, participation, and learning processes. In terms of results the initiative could probably have been faster, however, the time was needed to gradually involve more and more participants, attract the interest of a wider circle of relevant actors, and create trust and sufficient result-oriented collaboration experience within the multi-stakeholder partnership system. The case study can conclude that reliable and sustainable solutions to the challenges of globalization need to be approached in cooperation and accomplished through the complementary action of different actors in the global society. As a result lessons learned from the 4C process are taken into account in other sectors (e.g., textile) and stimulate processes to integrate sustainability into other value chains as no single group of actors can solve global problems on its own.

Typical for the common code initiative was—and this might have been

a success factor—that the first phase did not overemphasize structure (a tendency happening in many similar initiatives). Rather, the emphasis was on building relationships, on testing existing and possible future cooperation, and building on past positive and negative experiences to implement sustainable production in the coffee sector. At this point there was no overall strategy but different circles of cooperation and exchange of ideas. But because similar people met repeatedly on similar issues and specific topics around coffee and sustainability, the idea of developing a mainstream standard slowly began to take root. A field of resonance was created: not knowing what this would mean in detail and how this could be done, the idea of a mainstream standard for green coffee production came alive.

With an increasingly clearer concept about what the impact of the initiative could be, the “talks behind the scene” turned out to be an important strategy for the emerging process. The informal collective thinking process had been a melting pot for the screening of possibilities. This was the basis for the initiators to know who could become actively involved in the initiative. At that point it was of crucial importance to develop clear structure for the initiative and the process. It helped to build confidence: contribution, roles and allocation of work were transparently clear, and agreement about the way forward offered enough in a predictably complex and conflict ridden process.

The role of the project secretariat as energetic nucleus of the entire process cannot be underestimated. The conscious service approach enabled the team to prepare consensus-building meetings in a neutral way, ensuring the integration of multiple perspectives. Key was that the core team delivered optimal information input, but did not propose any action with biased interest.

What kept this very diverse international group together was in fact the very concrete work of developing a code of conduct. Many conflicts arose, some turning into political battles, but every time the insight that there was a very practical aim to reach, the process moved forward. In the end it was more important to find an agreement than extend the politically contradicting worldviews. With more understanding for the complexity of the goal it was easier to suspend hardened positions. A pragmatic consensus was easier to reach.

During the development of the Common Code for the Coffee Community this building of trust between formerly very skeptical and judgmental stakeholders was central to the success. While at the beginning every potential conflict was bound to deepen the trenches between different and mutually distrustful stakeholders, people gained the faculty to react to some of the more obvious conflicts with humor—not that conflicting issues could be entirely removed, but they could be dealt with in a more rational and respectful way. With the network of committed people the potential

to move into a successful implementation grew. Because of the transparent and respectful network strategy the project could build on many already involved actors who were interested to contribute their share in making the implementation work.

ANNEX

Annex 1: Code of Conduct/Verification System

Compliance with ILO regulations and good environmental practices—It promotes respect for social and environmental conditions in producing areas as well as increased efficiency of production and processing of coffee. Apart from the Code of Conduct as guidance towards sustainability, the 4C Association offers support services through trainings and workshops to the producers.

In the highly competitive coffee market, 4C provides a framework for good agricultural practices, services, and capacity-building support. Possible benefits for producers are reduced costs, improved market access and marketing conditions, better access to credits, enhanced market transparency, participation in the decision making of the Association, and better margins for their products in the global coffee market. Transparency along the chain improves the transfer of value to the producers (4C press release, 2007).

Verification System

The implementation of the scheme is based on a verification system which ensures the required compliance level with the code and the traceability of green coffee production. The verification process starts with a self-assessment on the part of producing units, which is interpreted as “a declaration of having received, read, understood and accepted the relevant documents as well as having excluded all unacceptable practices” (4C, 2004) and includes as well their own assessment of their adherence to the 30 4C principles. After the producer unit enters the 4C system through filling in the self-assessment document, external random verification of producers’ farms is conducted by independent auditors. Independent third-party verification is seen as a very important element for the credibility of the scheme. The free and open access to the sustainability practices and criteria accompanied by free support services and free verification offered by the initiative to all producer organizations guarantees a high level of inclusiveness. The permanent self-monitoring (validated by random external verification) and the continuous improvement and capacity development process is based on self-organization of supplier units and assigns to them a large amount of responsibility for complying with the standard. This is

where one of the challenges for the initiative lies—it relies on the motivation of producers to engage in a continuous improvement process which 4C can support and co-ordinate.

Annex 2: Membership List

List of members of the Common Code for the Coffee Community Association Membership (March 19, 2008)

Total number of members: 78

Founding members: 37

Producers

Adecoagro, Brazil², Peru Conselho Nacional do Café, Brazil⁴, El Salvador⁵, Brazil⁶, Brazil⁷, Brazil, Cooperativa Regional dos Cafeicultores de São Sebastião do Paraíso Ltda. (COOPARAISO), Brazil⁹, Vietnam¹⁰, Brazil¹¹, Kenya¹², Guatemala¹³, Colombia¹⁴, Colombia¹⁵, Ethiopia¹⁶, El Salvador¹⁷, Cameroon¹⁸, Ivory Coast¹⁹, Zambia Coffee Growers' Association, Zambia

Trade and Industry

Alois Dallmayr Kaffee OHG (including Azul Kaffee GmbH&Co.KG, Heimbs Kaffee GmbH&Co.KG), Germany²¹, United Kingdom²², Germany²³, United Kingdom²⁴, USA²⁵, Switzerland²⁶, Switzerland²⁷, Belgium²⁸, Costa Rica²⁹, United Kingdom³⁰, Spain³¹, The Netherlands³², The Netherlands³³, USA³⁴, Primas, Portugal³⁵, Sweden³⁶, Germany³⁷ poration, USA³⁸, Switzerland³⁹, Singapore⁴⁰, The Netherlands⁴¹, Switzerland⁴², Switzerland⁴³, Germany⁴⁴

1. VOLCAFE International Ltd., Switzerland

Civil Society

Christliche Initiative Romero e.V. (CIR), Germany⁴⁶, Mexico⁴⁷, Switzerland⁴⁸, Netherlands⁴⁹, United Kingdom⁵⁰

2. Rainforest Alliance, USA

Individual Members

David Eugenio Cantú Cantú, Mexico⁵², India⁵³, Switzerland⁵⁴, South Africa⁵⁵, Switzerland⁵⁶, Ivory Coast⁵⁷, Kenya⁵⁸, Colombia⁵⁹, Switzerland⁶⁰, Brazil⁶¹, Indonesia⁶², Germany⁶³, The Netherlands⁶⁴, The Netherlands⁶⁵

3. Annemieke Wijn, Germany

Associate Members

Asociación Nacional de Café (Anacafe), Guatemala⁶⁷, Brazil⁶⁸ del Café A.C. (AMECAFÉ), Mexico⁶⁹, United Kingdom⁷⁰, Switzerland⁷¹, The Netherlands⁷², Germany⁷³, Belgium⁷⁴, Germany⁷⁵

Millennium Management Consultants (MMCAFRICA), Kenya⁷⁶, Norway⁷⁷, Switzerland⁷⁸

4. Vietnamese Coffee and Cocoa Association (VICOFA), Vietnam

Of the above listed members, the following are founding members:

Asociación Nacional de Café (Anacafe), Associação Brasileira da Industria de Café, Bernhard Rothfos GmbH for and on behalf of Neumann Kaffe Gruppe, Café Africa, David Eugenio Cantú Cantú, Christliche Initiative Romero CIR, Complete Coffee Limited, Conselho Nacional do Café, Coop, Cooperativa Cuzcachapa de R.L., Cooperativa de Cafeicultores e Agropecuaristas (COCAPEC), Ecom Agroindustrial Corp Ltd, EFICO S.A., Federación de Cooperativas Agrícolas de Productores de Café de Guatemala (Fedecocagua), Federación Nacional de Cafeteros de Colombia (FNC), Flanders International Cooperation Agency (FICA), Hein Jan van Hilten, Koffiebranderij en Theehandel "Drie Mollen sinds 1818" B.V., Kraft Foods Global Inc., Löfbergs Lila AB, Millennium Management Consultants (MMCAFRICA), Nestlé SA, Norwegian Coffee Association, Olam International Limited, Simeon Onchere, Pesticide Action Network UK, Diego Pizano-Salazar, Bernardo van Raij, Sara Lee International, Sri Saroso, Albrecht Schwarzkopf, Tchibo GmbH, J.A.J.R. Vaessen, Joppe Vanhorick, Vietnamese Coffee and Cocoa Association (VICOFA), VOLCAFE International Ltd., Zambia Coffee Growers' Association

Source: *www.sustainable-coffee.net* (last accessed: September 17, 2008)

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XIII

Sustainable Silicon Valley: A Model Regional Partnership

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INTRODUCTION

Sustainable Silicon Valley (SSV) is a voluntary partnership comprised of representatives from the public, private, and non-profit sectors, which is designed to promote a healthy environment, a vibrant economy, and a socially equitable community. SSV is based in the San Francisco Bay Area in 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 burst 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, an economic slowdown, and the environmental performance of the region. From its start in 2001, the SSV collaborative brought together a very diverse group of individuals from government, industry, academia, and the environmental non-profit sector. An initial trust-building exercise facilitated by the California Environmental Protection Agency (Cal-EPA) provided a critical foundation of trust among partners, which allowed participants to candidly exchange experiences and perspectives on the best ways to tackle energy and environmental challenges in Silicon Valley.

For many in the SSV founding group, this was the first opportunity to network across sectors and work with unlikely partners. In fact, during ini-

tial SSV discussions, some the participants 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 a tightening economy, increasing regulatory demands, and pressure from local and international communities to go beyond meeting minimum environmental standards, SSV partners were able to reach a voluntary agreement to establish an energy efficiency and carbon dioxide emission reduction goal for the region. Today, SSV partners and supporters take pride in how SSV has created a collaborative environmental institution that has been able to achieve significant results. SSV's success is evidence that partnerships, even between traditional "adversaries," are not only possible but powerful mechanisms for positive change. The SSV experience also demonstrates that there is a role for government in fostering voluntary collaborative action among the private and non-profit sectors to help the environment during even the most difficult economic times.

SSV partners have applied the concept of environmental management systems (EMS), traditionally used to structure individual firm decisions, to the entire Silicon Valley region. Derived from an international voluntary standard (i.e., ISO 14001), EMS is a systematic approach to environmental management based on the idea of a "plan-do-check-adjust" loop, which provided the SSV founding group with a road map for structured action. EMS first evaluates environmental impacts, then establishes and prioritizes specific environmental objectives and timelines. 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 manage environmental compliance. For academics and environmental groups, EMS represented a more integrated and holistic approach to addressing how businesses affected Silicon Valley's environment. The scope of the SSV's EMS strategy deals with the environmental and resource pressures, as well as the related economic and social issues within San Mateo, Santa Clara, southern Alameda, and northern Santa Cruz counties (Silicon Valley).

While the catalyst for voluntary collaboration among SSV founding partners was the 2000-2001 California energy crisis and the "dot-com bubble burst," the founding group's decision to use EMS as a strategic tool to manage their joint efforts led them to a specific carbon dioxide (CO₂) emission reduction goal for Silicon Valley. SSV partners pledged to reduce emissions in the region by 20 percent below 1990 levels by the year 2010.

Since the majority of California's electricity is produced from burning natural gas, and since energy prices in the region were going up and affecting the local economy, energy reduction was emphasized as the main strategy to reduce CO₂ emissions. The SSV partnership mission effectively

articulates the concept of energy conservation in a way that “that makes business sense” to the Silicon Valley community, which is always striving to sustain economic growth in the region. The goal was summarized by the local *Business Journal* in a quote from a representative of the Santa Clara County Green Business Program: “We’re looking for ways to help businesses save money and stay here and keep people employed here.”¹

The SSV voluntary targets for carbon emissions reductions encompass both energy use and its environmental consequences in a single measure of environmental performance. Margaret Bruce, the environmental director of the Silicon Valley Manufacturing Group at the time, stated what was clear to the business community in the region, “at some point (CO₂ emissions) are going to be regulated in California.” SSV partners expected that voluntary and collaborative efforts between Cal-EPA and Silicon Valley businesses would eventually achieve some level of official recognition in case future state or federal emission reduction standards were ever enacted.²

In 2004, because of political cycles and cuts in the state budget, the SSV partnership evolved from a government-led public/private project into an independent non-profit collaborative institution. A year 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 to address this issue “even faster than the statewide goals.”

SSV is on track to meet its regional CO₂ emissions reductions goal. SSV partners reduced aggregate CO₂ emissions by 517,000 tons by the end of 2006. In 2007, SSV was awarded the Governor’s Environmental and Economic Leadership Award for its “innovative and forward thinking approaches that reduce greenhouse gas emissions and mitigate the adverse effects of climate change.”³

The following section of the case study describes the theoretical framework used to conduct the evolutionary institutional analysis of the SSV partnership. It also presents the context in which SSV was launched and how it emerged as an environmental collaborative institution that added value to its partners and the community. The second section of the case study analyzes the collaboration incentives and how the SSV founding group addressed issues presented by the desirability and limits of voluntary collective action. Section three describes the internal challenges that SSV partners faced as the collaborative was put into operation and its action plan was implemented. Finally, the case study presents a positive assessment of the SSV partnership and concludes with some remarks about the evolu-

¹ Hamm, Andrew F. *Silicon Valley/San Jose Business Journal*, Friday, January 23, 2004.

² *Ibid.*

³ SSV. News Release. November 20, 2007.

tionary dynamics of building a strong voluntary collaborative partnership for the public good.

ANALYZING COLLABORATIVE PARTNERSHIPS' INSTITUTIONAL DEVELOPMENT AND DYNAMICS: ADVANCING THE PUBLIC GOOD

Collaborative partnerships are now a common approach to deal with contentious policy issues at both the federal and state level (Bardach, 1998). Collaborative environmental institutions emerged in the early 1980s in response to the adversarial nature of conventional command-and-control environmental regulation. Command-and-control offers environmental results at the risk of also incurring high transaction costs through expensive litigation and administrative monitoring and enforcement (Kagan and Axelrad, 2000). Concepts such as negotiated rulemaking (Coglianese, 1997) and ecosystem management (Yaffee et al., 1996) offered alternative approaches based on consensus building and cooperation among multi-stakeholder groups that emphasize environmental quality.

Critics argue that while social interactions between stakeholders improve by working collaboratively to set environmental performance goals, behavioral changes to achieve the vision do not necessarily follow the stated virtuous intentions. Incentives for real change may be limited. While companies may see a benefit in collaborative participation to improve their public image, they may find the overall economic incentives for corporate responsibility are weak (Vogel, 2005). Skeptics argue that ultimately businesses leaders may be forced to choose between doing what seems environmentally ethical and what is most profitable.

In fact, critics believe that the collaborative partnership approach could actually create more harm than good since it creates an illusion of progress that diminishes the incentives for citizens to demand change and environmental improvement (Kenney, 2000). Collaborative partnerships should not judge success based only on reports of positive changes in stakeholders' attitudes and relationships; the litmus test is whether the actual behavior of the partners towards achieving environmental goals has changed.⁴ Moreover, partnerships must incorporate a series of key design and organizational elements that will support the endurance of such collaborative institutions over time (Lubell, 2007).

SSV fosters environmental performance improvements within private and public Silicon Valley institutions. Moreover, it generates a collaborative space for local and state governments to improve the sustainability of the region in a multi-stakeholder context.

⁴ Summary based on Lubell, 2004.

THE CASE: SUSTAINABLE SILICON VALLEY

The SSV partnership mission is to promote a healthy environment, a vibrant economy, and a socially equitable community within Silicon Valley. Based on a problem/solution framework of analysis, this case study presents how the SSV partners confronted the challenges of building a regional collaborative environmental institution based on voluntary actions for the public good. The evolutionary history of the SSV partnership is important because it defined the organizational culture, governance structure, and institutional capacity, as well as individual capabilities needed to realize its mission “to work with the Silicon Valley community to create a more sustainable future using an Environmental Management System.”

The process of how and at what pace SSV evolved is related to how decisions were made to overcome implementation hurdles. The nature of the collaborative partnership that actually emerged was determined by the tasks outlined, technical and financial resources contributed, and the level of communication and exchange of ideas achieved among partners and the community. But the SSV success story also depended on the sequence and speed of how problem-solving strategies and actual organizational tasks fell into place as the institution matured.

While solving initial hurdles may have helped achieve the collaborative aspect of the effort, working together may have complicated other aspects or goals the partnership aspired to accomplish. The following sections present a series of key problems confronted by the SSV founders and the practices and strategies implemented to overcome them. Such experiences offer some valuable lessons for those interested in replicating collaborative partnership efforts to enhance regional sustainability.

LAUNCHING AN INNOVATIVE APPROACH FOR REGIONAL ENVIRONMENTAL MANAGEMENT

Winston Hickox, appointed the Secretary of the Cal-EPA by Governor Gray Davis in January 1999, supported veteran environmental administrator Robert Stephens' idea of fostering a series of collaborative efforts throughout the state to improve environmental performance. After more than two decades of service at Cal-EPA, Stephens was appointed the Assistant Secretary for Environmental Management and Sustainability. In this position, Stephens was responsible for the development and implementation of programs to develop innovative environmental policies, foster public-private partnerships, and promote environmental and economic sustainability in California.

By the end of the 1990s, collaborative environmental institutions had emerged as *the* key policy innovation to marshal voluntary action to

improve environmental performance. Cal-EPA launched under Hickox a campaign to foster voluntary efforts between interested parties in order to work together and develop innovative ways to go beyond the environmental protections that would result from command-and-control regulations. At the same time, this new partnership would reduce transaction costs by avoiding intricate and expensive enforcement administrative units that would need to acquire specific technical knowledge of different production processes within Silicon Valley. In addition, stakeholders would be less inclined to litigate to ensure regulatory compliance.

In January 2000, Stephens gave a presentation to the Silicon Valley business and non-profit communities on sustainability leadership that planted the seed for creating a partnership to proactively address the region's environmental concerns and pressures. From the start, many business, government, and non-governmental organizations within Silicon Valley were open to the idea of moving beyond command-and-control regulation through a collaborative approach to enhance environmental performance.

Silicon Valley is an entrepreneurial environment where new ideas are frequently tested. Many corporations based in the region have a global presence and are aware of the environmental concerns within the local and international community. This awareness often makes them willing to invest in activities that demonstrate responsible action. The broader San Francisco Bay Area is also home to some of the most active and sophisticated environmental groups in the nation. While corporate and non-profit interests may have had different expectations for environmental performance, the initiative was well received.

INCENTIVES TO PARTNER: THE DESIRABILITY AND LIMITS OF VOLUNTARY COLLECTIVE ACTION

Benefits from Collective Action

Silicon Valley is not unfamiliar with the concept of partnerships and alliances. Its own model for regional economic development is based on a unique partnership of industry, academia, and government that fosters an entrepreneurial culture of innovation and productivity. Business alliances and joint ventures are also a common approach in the corporate world to share risk as rewards for collective action.⁵ Collaboration and creative approaches to problem solving have allowed Silicon Valley to remain innovative and competitive despite political and economic uncertainties for decades.

⁵ Bamford, James et al., *Mastering Alliance Strategy: A Comprehensive Guide to Design Management, and Organizations*. Jossey Bass Business and Management Series (2003).

For instance, the Joint Venture Silicon Valley Network, which was founded in 1993 and preceded SSV collaborative efforts, focused on similar goals: to provide analysis and action on issues affecting the region's economy and quality of life. On its website, Joint Venture states its commitment to convening and catalyzing the visionary leadership needed to cultivate and maintain Silicon Valley's "unique habitat of innovation" and enhance regional competitiveness.⁶ Seven years later, SSV emerged as a new regional collaborative effort to improve Silicon Valley's quality of life by achieving economic and environmental sustainability by focusing on energy savings and CO₂ emissions reductions.

Joint Venture recently launched a climate protection plan that is based on the idea of a large purchasing consortium of local cities and counties to encourage the growth of the clean technology industry in Silicon Valley. Many local non-profit groups are now focusing on the climate change issue; this will in turn require developing more partnerships throughout Silicon Valley and beyond to coordinate action plans and work together towards common goals.

When confronted with the soaring prices of electricity that temporarily resulted from the 2000-2001 state electricity crisis, energy efficiency measures became the most obvious action to protect the private sector against future price spikes. Moreover, as state and local governments confronted the potential losses in revenue and employment dislocations from negative market adjustments in the valuation of Internet-based firms and the so-called "dot-com bubble" burst in March of 2000, Silicon Valley governments also needed to implement strategies to minimize the effects of these developments which could severely impact regional competitiveness. In this complex context, the idea to initiate a collective voluntary effort to improve environmental performance in the region emerged.

Today, SSV showcases the idea that partners save money while they save energy and help the environment. In April 2008, SSV reported the following sustainable practices that represented verifiable cost savings to its advisory council:

- Adobe Systems Incorporated saves \$1.2 million annually from energy conservation projects.
- The City of San Jose saves \$1.67 million annually from replacing incandescent traffic signals with LED signals.
- Hewlett Packard Company saves nearly \$700,000 annually from energy efficiency improvements at its Cupertino facility.
- Northrop Grumman Marine Systems has saved more than \$550,000 in energy costs since 2005.

⁶ See <http://www.jointventure.org/>.

- Santa Clara Valley Water District saved more than \$940,000 in 2006 from using electricity generated from renewable energy sources.

As stated previously, critics have questioned the value of voluntary business programs trumpeting environmentally friendly practices. Nevertheless, SSV business partners seem to value the regional model to enhance sustainability. As Bruce S. Klafter, Sr. Director of Corporate Responsibility & Sustainability Environmental, Health & Safety at Applied Materials described as the key value added of partnering at SSV, "I appreciate the collaborative model." Even if some energy conservation actions would have been done anyway, Klafter feels it is motivating to "contribute to a regional emissions reduction effort." Regular SSV partner meetings create effective opportunities to share best practices on how to address environmental issues. SSV carefully selects pertinent topics and presents excellent case studies for discussion. Information exchanges are between peers, not vendors offering services. The process brings together the perspectives of private businesses, local governments, non-profits and academic institutions.

SSV partners in the period 2000-2006 have outperformed the region by a three-to-one margin in their CO₂ emissions reduction effort. SSV partners reduced the emissions 24 percent compared to a 7 percent reduction for the Silicon Valley region.

Challenges of Voluntary Actions

The SSV partnership created opportunities for voluntary action and Cal-EPA strategically positioned itself as the entity to launch a regional dialogue on sustainability. From the private sector perspective, voluntary environmental efforts today may represent stringent regulation tomorrow. This was a risk that SSV founding business partners considered. Other participants were concerned about sharing sensitive information with competitors. Stephens remembers that it was "not easy getting Advance Micro Devices (AMD) to talk to Intel" initially. Yet the candor of the dialogue sessions and the fact that most industry representatives shared similar concerns helped begin dialogues.

Despite initial trust-building exercises, some SSV participants were hesitant to work with groups that had traditionally been adversaries. For instance, while all environmental groups were invited to participate in the dialogue and most remained to contribute around the table, "we did lose some others such as The Sierra Club," which ultimately decided not to participate in the effort at the time SSV was forming. The role of some non-profit groups is to push for further verifiable improvements in environmental management. From their perspective, regulation is the only tool that could provide predictable environmental protection. Collaborative environ-

mental efforts with the business community might have also been perceived by some environmental groups as political activity that the private sector could use to lobby for compliance concessions. Nevertheless, after a strong outreach effort, The Sierra Club joined SSV in 2006.

Other environmental groups supported the SSV regional environmental collaborative from the start. For instance, Silicon Valley Environmental Partnership (SVEP), a non-profit organization established in 1993 to promote environmentally sound business and community practices through collaboration and education. Every four years SVEP publishes a regional report examining environmental indicators to gauge the overall environmental health of Silicon Valley. The SVEP focuses on implementing “actions to bridge the traditional ‘tension’ between the environment and the economy, demonstrating that both goals can be achieved in a mutually supportive fashion in order to move our community toward sustainable development.”⁷ Instead of antagonizing the idea of a regional partnership for economic and environmental sustainability in Silicon Valley, some key members of the SVEP leadership joined in support of the SSV partnership project. This alignment of interests allowed the SSV founding group to quickly advance the discussion from skepticism about the collaborative nature of the initiative toward finding common ways of “how to get there.”

INTERNAL CHALLENGES OF A COLLABORATIVE ORGANIZATION: IMPLEMENTING THE SSV PARTNERSHIP

Stephens recalls that one of SSV’s first challenges was overcoming the sheer scope of the initiative: “we started with lots of motivated people” but also a “big task at hand” to achieve economic and environmental sustainability. The initial problem became “how to get our arms around such an ambitious goal” in challenging economic conditions. In addition, “sustainability” was an emerging concept still debated in academic circles and used loosely by the media.⁸ Stephens was an expert on sustainability as well as environmental management systems. This technical capacity would play a key role in the institutional development of SSV. During the first rounds of informal discussions, some participants expressed frustration that the group sounded “like a bunch of academics.” In his account of the initial stages, Stephens stated that the project “almost dissolved” because “it was difficult figuring out what the action plan would be.”⁹

⁷ See <http://www.svep.org/>.

⁸ Leal Filho, Walter. “Dealing with misconceptions on the concept of sustainability,” *International Journal of Sustainability in Higher Education*. Vol. 1, No. 1 (2000), 9-19.

⁹ Robert Stephens, interview, May 2008.

Reaching Consensus: Voluntary Actions That Make Business Sense

The collaborative nature of the SSV initiative required reaching consensus on the mission of the partnership and defining the organizational tasks to achieve its goals. The first actions would determine the strength of the alliance and prevent early doubters from leaving the project.

After a series of informal meetings to assess the feasibility of pursuing a collaborative partnership, Cal-EPA supported the emerging group's goal-setting process by appointing Keith Smith as SSV's first Project Director. Smith, who is described by his former supervisor Assistant Secretary Stephens as someone very "enthusiastic" about the SSV project and a very "energetic and organized manager," developed a web-based survey and, with the help of a volunteer committee, identified the priorities and issues the collaborative should address.

Almost 600 people brainstormed about their impact on the environment in Silicon Valley by using a web-based survey. The issues and ideas were prioritized with the following color-coded ranking system: Green (understood, under control), Yellow (we know about it, but not know the regulatory impact, and the effectiveness of the controls), and Red (we know this is a problem, we don't know the impact, and it is a serious concern).

Out of 35 key environmental pressures identified by the survey, the top six concerns that emerged were:

- Use of energy from non-renewable sources
- Use of fresh water
- Urban sprawl
- Habitat development and fragmentation
- Use of non-renewable raw materials
- Discharges of toxic chemicals to the air

SSV founding partners then met with experts from SVEP to translate these perceptions to actual technical knowledge and capacity that would help achieve a measurable and verifiable goal. The participation of SVEP technical experts played a crucial role in determining the first objectives of the nascent partnership since they possessed the capabilities to estimate CO₂ emissions for the region.

Peter Melhus, the now Chair Emeritus of SVEP and past director of the Bay Area Alliance for Sustainable Development, is currently a member of SSV's Board of Directors. Representing SVEP as one of the founding partners of the SSV project, Melhus used his experience working at Pacific Gas & Electric Company (PG&E) to calculate CO₂ emissions in Santa Clara as a first step toward assessing the carbon footprint of the region. By using several data and conversion factor sources from the California Energy

Commission, the California Department of Transportation, and the U.S. Department of Energy, SVEP concluded in 2003 that Santa Clara County had increased its usage of gasoline, natural gas, and electricity to a degree that had raised CO₂ emissions 41 percent since 1986.¹⁰ This technical information allowed SSV to center its attention on the use of energy from non-renewable sources as the most salient environmental pressure.

SSV's goals were initially conceptualized to reduce dependence on fossil fuel energy sources. Energy-saving strategies were an obvious approach that would have been supported by industry alone, but the collaborative nature of the SSV allowed local governments, non-profits, and academics to refine the SSV mission and eventually adopt the goal to reduce CO₂ emissions as well.

SSV chose CO₂ emissions as a benchmark because they encompass both energy use and its environmental consequences in a single measure. Today, we know that CO₂ is unequivocally the largest contributor to human-generated climate change.¹¹ The decision to establish CO₂ emissions reduction goals through energy efficiency and increasing the use of cleaner sources of energy as the main SSV task was ahead of its time. To reduce CO₂ emissions, SSV partners were allowed to individualize strategies, which included installing energy-saving fixtures, conserving energy through behavioral changes, increasing the use of electricity from renewable sources by installing solar panels, and promoting employee commute policies that reduced the number of vehicles on the road and supported the purchase of low-emission vehicles. SSV has become the forum to exchange perspectives and managerial strategies among its partners for these strategies. Today, the Santa Clara Valley Water District hosts the emissions reporting tool web site.

EMS: A Structured Approach to Achieve Regional Voluntary Environmental Goals

Cal-EPA suggested using EMS to identify creative ways to change and improve operations within the Silicon Valley community. SSV founding partners used EMS to catalogue all environmental and resource pressures in the area and prioritize action. The structured process also helped to build trust among participants. While some companies had hoped to adapt their individual EMS as voluntary efforts to reduce regulatory burdens,

¹⁰ This average carbon emissions indicator did not include emissions from aviation, diesel sources, self-generated industrial sources, and sources not derived from fossil fuels.

¹¹ Intergovernmental Panel on Climate Change (IPCC). *Climate Change Report*. United Nations, 2007.

this was immediately rejected by Cal-EPA and was not accepted as an SSV proposition.

The specific requirements to meet a certified EMS program are set forth in ISO 14001: 2004. ISO stands for the International Organization for Standardization, located in Geneva, Switzerland, and primarily develops voluntary technical standards that make the development, manufacturing process, and resulting supply of goods and services more efficient, safe, and clean.¹² ISO is an international partnership and each member country develops its position on the standards and negotiates with other countries to resolve differences. Within each country, various types of organizations participate in a collaborative process. These organizations include industry, government (federal and state), and other interested parties including non-profits.

ISO 14000 refers to a family of voluntary standards and guidance documents to help organizations address environmental issues. Included in the family are standards for EMS, environmental and EMS auditing, environmental labeling, performance evaluation, and life-cycle assessment. In September 1996, the ISO published the first edition of ISO 14001, the Environmental Management Systems standard. ISO 14001 is a specification standard for which an organization may receive certification or registration. ISO 14001 is considered the foundation document of the entire series. A second edition of ISO 14001 was published in 2004, updating the standard.¹³

ISO formed Technical Committee #207 (TC-207) in 1992 for EMS. Currently, nearly 50 countries have signed on to TC-207. The U.S. body that provides input into the standard's development is the U.S. Technical Advisory Group (TAG) to the TC 207. TAG established a formal process to respond to questions that may arise regarding clarification of the ISO 14001 ("the standard"). Responses reflect the interpretation of the standard as intended during the drafting of the Standard and may be found in the "Clarification of Intent of ISO 14001."

Before becoming Assistant Secretary, Stephens was a member of the U.S. TAG in his capacity as Deputy Director for Science, Pollution Prevention, and Technology Program in the Department of Toxic Substances Control at Cal-EPA. He was also very active in several of the U.S. TAG subcommittees and working groups. Stephens chaired the Cal-EPA task force responsible for developing the policies and programs on how the ISO 14000 standards

¹² Berry, James F. and Mark S. Dennison. *The Environmental Law and Compliance Handbook*. McGraw-Hill Professional. New York. (2000) Pp. 704.

¹³ Federal Facilities Council, National Research Council. *Environmental Management Systems and ISO 14001*. Federal Facilities Council Report No. 138, National Academy Press (1999).

relate to regulatory and other public policies. In addition, Stephens founded and served as President of the Multi-State Working Group on Environmental Performance (MSWG), a national coalition of representatives from government, business, non-governmental organizations, and academic institutions in the United States working on transformative policies related to the environment and sustainable development.

MSWG advocated education that promoted “increased and creative use of EMS in achieving and going beyond compliance.” Moreover, it promoted the idea that EMS can achieve compliance with the law and increases public access to information about the environmental performance of a business as well as build “public confidence” in the business community. Public reporting of the private sector’s environmental performance also tends to produce a better working relationship between the business and regulator.¹⁴

As Assistant Secretary, Stephens maintained his involvement in these organizations; his personal leadership and technical knowledge about using EMS for the Silicon Valley region was essential to the success of using EMS within the SSV partnership. His very specific technical knowledge and capacity developed through working on these issues for years enabled the SSV group to experiment with a more complex scenario for EMS: a regional scope. Today, the SSV collaborative effort represents the world’s first regional application of the EMS concept to address climate change.

Institutionalizing SSV in Difficult Times

In 2003, Keith Smith retired as SSV’s Director and Jennifer Smith Grubb, also from Cal-EPA, took his place. Smith Grubb further refined SSV’s emission reduction goals to a specific reduction of 20 percent below the region’s 1990 CO₂ levels by 2010. This reduction target was publicly announced in April 2003; in March 2004 the first group of organizations and companies (SSV Partners) officially joined the collaborative and pledged to help reach this ambitious regional goal. However, unexpected changes in the state’s leadership and a huge budgetary crisis created additional challenges for SSV.

The electricity crisis of 2000-2001 and the burst of the “dot-com bubble” produced a huge fiscal deficit that created a political crisis in Sacramento. Governor Gray Davis was ultimately recalled in October of 2003 and replaced by Republican Arnold Schwarzenegger later that year. On November 12, 2003, Terry Tamminen was appointed as the new head of the Cal-EPA.

¹⁴ Center for Energy and Environmental Management. *International Environmental Systems Update*. “MSWG Releases New Consensus Statement on ISO 14001, Fair Warning Issued Concerning Legal Requirements, Certification” July 2000.

Secretary Tamminen had more than 10 years of experience in environmental advocacy in the non-profit world. Climate change action was a priority for both Governor Schwarzenegger and Secretary Tamminen. SSV would have expected full support based on these priorities, however there was a philosophical difference of opinion between Tamminen and Stephens. Stephens believed government should play a role in fostering collaborative efforts to voluntarily enhance environmental performance. Secretary Tamminen, in contrast, was not willing to financially support the business community's effort to introduce more sustainable practices by funding staff participation in SSV.

As the new SSV Director, Smith Grubb anticipated the reduction of state funds and negotiated a part-time position that allowed her to explore the possibility of transforming SSV from a state government-led project into an independent non-profit organization (i.e., 501(c)(3) tax-exempt institution). Secretary Tamminen supported the idea with a few extra months of funding for the SSV Director. Smith Grubb decided in October 2004 to take an unpaid leave and fully invest in making SSV an independent non-profit organization. SSV's non-profit status was obtained that same month and a small executive board was formed. A program of activities that included educational forums and an annual networking event were developed during the 2004-2006 period. A group of 10 initial pledging partners played a key leadership role in financially supporting the organization, including a major gift from PG&E. More importantly, this group of early adopters of the SSV CO₂ emission reductions pledge became a source of demonstration projects that gave credibility to the organization's activities in the region.

In the process, Smith Grubb took a maternity leave and left the position of SSV Executive Director to Sally Tomlinson. Tomlinson strengthened the fundraising capacity of the SSV partnership and established new alliances with other similarly oriented organizations. A new governance structure was developed and Jennifer Smith Grubb became the Chair of the Board of Directors. On May 2007, Tomlinson became the Executive Vice President of SSV and Rick Row took over as the new Executive Director. The personal investment of staff member time and effort to champion the SSV project and financial support from founding partners played a key role in creating SSV as an independent and self-sustaining non-profit organization.

Today, SSV has one full-time staff member and one half-time staff member to maintain operations and relies on the support of contracted service providers, a strong team of volunteers, and pro-bono support from the Silicon Valley community. More than 15 volunteers help with the organizational and administrative needs of the organization. A major legal firm, DLA Piper, is SSV's legal counsel. A diverse and well-represented Advisory Council with members from the government, academia, business, and non-profits has begun to contribute to the institutional strengthening of SSV.

Alliances and cooperative agreements with other organizations further enhance SSV's ability to contribute to the public good by improving the environmental performance of Silicon Valley.

Enabling Partner Interaction for Voluntary Environmental Action

SSV has provided partners with unprecedented access to technical knowledge on energy saving and CO₂ emission reduction strategies otherwise unavailable in a competitive environment. So far, building trust among partners has been essential to the success of the SSV and partners have been able to align their organizations' interests for the common good of the Silicon Valley region.

The current SSV Executive Director, Rick Row, recently reported to the SSV Advisory Council some of the key services and benefits that SSV offers to SSV pledging partners:

- Quarterly educational forums on topics of concern to organizations working to reduce energy use and CO₂ emissions.
- Access to energy efficiency incentive funds through an agreement with PG&E that makes energy efficiency incentive funds available to qualifying SSV partners and Silicon Valley Leadership Group (SVLG) members.
- The ongoing exchange of energy and CO₂ reduction best practices at monthly meetings through direct contacts with SSV.
- Public recognition, as bestowed on SSV and SSV partners by the U.S. EPA and by the California Climate Action Team in its 2007 report to the governor.
- Inclusion in the SSV annual CO₂ report, which highlights SSV partner achievements in the context of Silicon Valley trends.
- Media attention, including front page Business section coverage in the *San Jose Mercury News*, KGO/ABC 7 Television, radio, etc.
- Nomination by SSV for honors and recognition.
- Affiliation with other prominent Silicon Valley organizations in an internationally recognized, regional effort to address the environmental concerns of SSV partner organizations and the community.

Taking the Next Steps for the SSV Partnership

SSV Executive Director Row brings his experience in managing Global Care, an environmental, health and safety initiative in the Environment, Health and Safety Division at Semiconductor Equipment and Materials International to SSV. Row decided to join SSV in June 2007 because of his interest in taking action to address climate change.

After a year in his position, he is now confronted with the reality that

running a non-profit organization requires a lot of time administrating and raising funds. “It is difficult to actually do the work of the organization” Row states. “Where to put my time” is an issue. There are now so many organizations and individuals contributing to the climate change issue that it “is difficult to know with whom and on what to invest your time to really make a change.”

Row believes that SSV is “not here to proselytize and publicize the issue” of climate change in the fashion that Al Gore did with his book and movies. But SSV must “work with organizations and cities to change their behavior and take action on what’s a practical way to move forward.” Industry would introduce energy savings measures in the face of high cost anyway, “we [SSV] try to accelerate that.”

Technical solutions to climate change mitigation are necessary, but management strategies are also needed. SSV has been able to implement smart managerial practices to improve environmental performance. Perhaps the most value added by the SSV venture in the last few years has been the implementation of the SSV Regional EMS approach, which helped focus “systematic attention from top management in companies and city governments to the issue of carbon emissions” and that really “makes a difference” according to Row.¹⁵

SSV’s future challenges are to carve its own niche in the climate change debate and remain a relevant and valuable resource for the business and non-profit communities. Row believes that since one of the major outcomes of global warming will be droughts in this region, water will be the next focusing issue for the SSV partnership. SSV will once again have to harness resources and focus the attention of the Silicon Valley community to sustainable water management practices. SSV will perhaps focus on metrics such as water use by different organizations and cities, and their water recycling practices. For now, SSV continues to expand the partnership and focus on reducing CO₂ emissions in the region while simultaneously increasing its level of collaboration with other community members working towards similar goals.

SSV TODAY: ASSESSING THE PARTNERSHIP’S PERFORMANCE

SSV Partners

Currently, there are 82 SSV partners. A list of pledging partners in SSV as of April 2008 is included in Appendix 1. A diverse group of business, local governments, and non-profits continue to join and pledge to make voluntary CO₂ emissions reductions. SSV partners identify the facilities

¹⁵ Rick Row, interview, June 2008.

TABLE XIII-1 SSV Partners by Sector

Type of Organization	Partners
Companies	52
Local governments/governmental agencies	22
Non-profits	6
Academic institutions	2
TOTAL	82

that they themselves will monitor based on the goals established by each partner. Partners are required to annually report progress to SSV. Each partner chooses its own baseline year, target year and percent reduction, and normalizing factor if desired. Annual reporting is made easy by SSV’s reporting tools and the availability of the technical and professional experience of other partners facing similar challenges. Reporting to SSV becomes a tool to assess environmental performance and progress. More importantly, it becomes a means to focus management on the goal of reducing CO₂ emissions.

Table XIII-1 shows the type of organizations that constitute the SSV partnership.

Program Participation Rate and Emission Reductions

Pledging partners have substantially increased their participation since they joined. Increased monitoring on added partner facilities has produced a rapid reduction in CO₂ emissions in the region. During the April 2008 SSV Advisory Council meeting it was reported that SSV partners reduced their emissions 24 percent compared to a 7 percent reduction for the Silicon Valley region. Ralph Cavanagh, the Energy Program Co-Director for the Natural Resources Defense Council and an SSV advisory council member, emphasized the significance of SSV’s position on track to meet its regional CO₂ emissions reductions goal. Aggregate CO₂ emissions were reduced by SSV partners by 517,000 tons through the year 2006. Figures XIII-1 and XIII-2 summarize these results.

SSV Governance Issues

SSV has maintained an Executive Director and an Executive Vice President to run the organization. The Board of Directors is mostly comprised of founding partners who provided technical capacity, political support, and created key momentum for SSV to consolidate during the early years

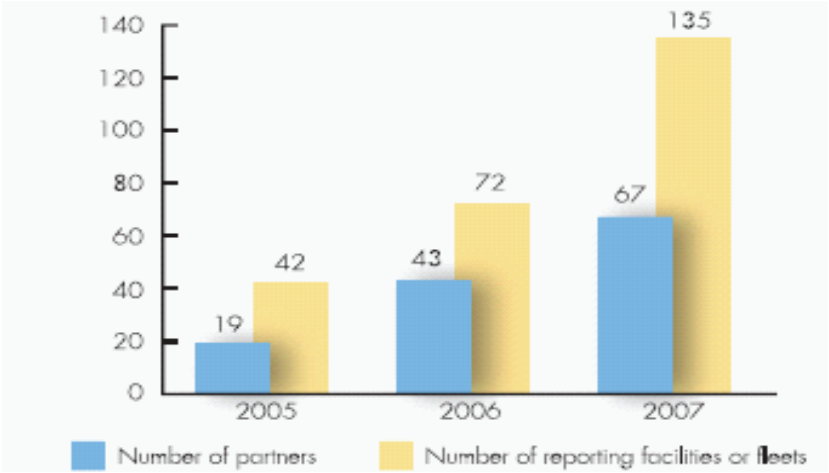


FIGURE XIII-1 2007 report results: Growth in SSV reporting partners.

Cumulative CO₂ Emissions Reductions by SSV Partners, 1990-2006

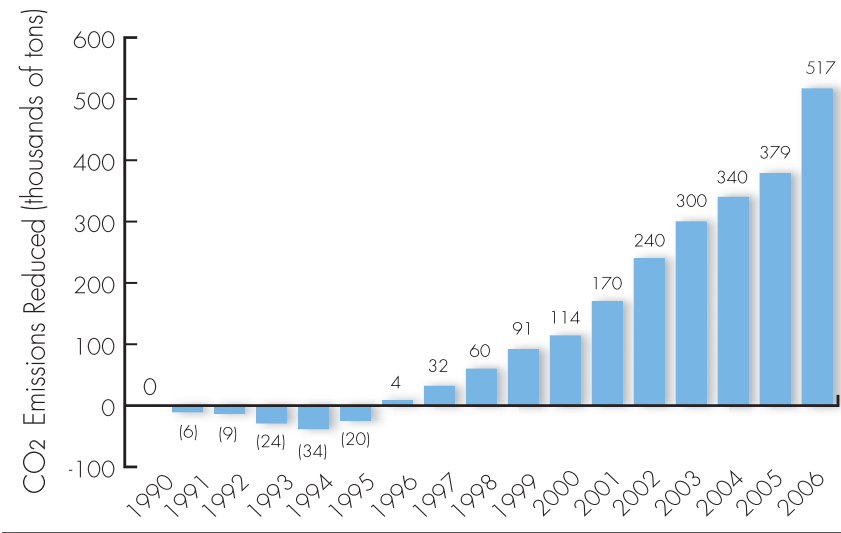


FIGURE XIII-2 2007 reporting results.

TABLE XIII-2 SSV Partners Financial Contributions

Businesses:	
1-25 employees	\$ 250
26-100 employees	\$ 500
101-1000 employees	\$ 1,000
1000-3000 employees	\$ 1,500
3001-beyond employees	\$ 2,500
Government agencies and academia	\$ 1,000
Non-profits	\$ 100
Sustaining partner	\$10,000

of development and continue to do so. An Advisory Council was formed with senior founding partner representatives and new supporters to advise SSV staff in conducting the organization activities and on new initiatives. The Advisory Council gathered for the first time on April 30, 2008, to assess the performance of the SSV partnership and offer recommendations on how to move forward.

Resources

After losing approximately \$100,000 from Cal-EPA which had paid for the SSV Director, SSV was forced to develop a comprehensive fundraising strategy. Fundraising and especially working with the SSV partners to raise money has become a central activity of the SSV staff. For instance, the Bay Area Air Quality Management District has given a few major grants to support specific SSV sponsor activities like the dissemination of best practices and a PG&E program offers financial economic incentives for energy efficiency. Pledging partners also contribute with partnership dues. Annual dues for SSV pledging partners are shown in Table XIII-2.

The financial support for SSV is on a growth trend as contributions and revenue from program activities increase. SSV will have to weather the current economic concerns. However, growth in revenue should remain on this path as new partners join and SSV outreach activities expand. Figure XIII-3 depicts current trends in SSV revenue sources.

COLLABORATION IS A PROCESS

The SSV partnership started as a small state government-led project and in only eight years it has evolved into an innovative and progressive collaborative environmental institution that is now perceived as a model organization by similar entrepreneurial regions in the United States and abroad. Building a complex and successful voluntary partnership is a dynamic pro-

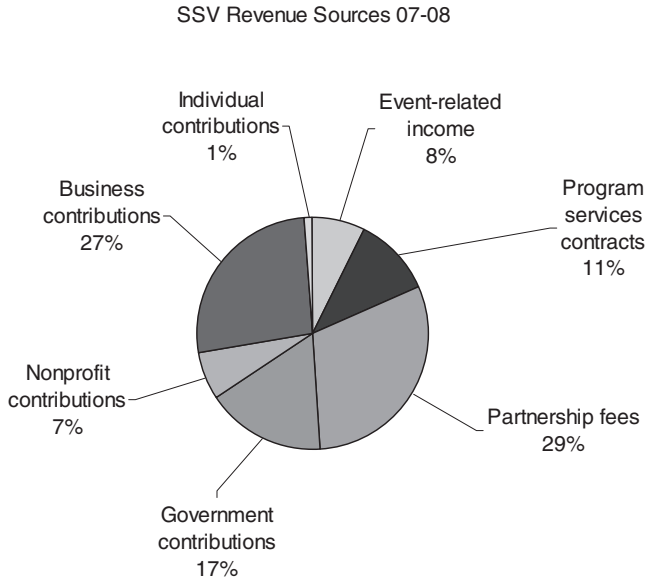


FIGURE XIII-3 SSV revenue sources.

cess. It depends on the path created by a series of circumstances, strategic decisions, and the leadership and capacity of the people involved in their development. Table XIII-3 summarizes the historical institutional evolution of the SSV partnership.

The dialogue prompted by Cal-EPA to address economic and environmental sustainability in the Silicon Valley region produced climate change mitigation solutions because it allowed that community to understand the importance of joining forces to take advantage of the collective ability to enhance economic and environmental sustainability. For instance, some business partners had already developed their own systems but they were willing to educate others on how best to achieve the common goals of the organization. This result would not have been achieved in the absence of the SSV initiative.

The early proponents of SSV were strategic about structuring the development initial stages in a way that allowed participants to identify feasible means to achieve such an ambitious goal. For instance, agreeing to use EMS as a common methodology provided the SSV partnership with a framework for working with a diverse group of organizations on a complex matter in a way that was cost-effective and achieved stated goals. In other words, EMS was technical language that was well understood by industry, academics,

TABLE XIII-3 SSV History Summary

2000	Vision: Cal/EPA SV sustainability leadership speech suggests a multi-stakeholder collaborative approach to improve environmental performance in Silicon Valley
2001	Partnership is formed: Business (SVLG), NGO (SVEP), Govt. (Cal-EPA)
2002	Web survey of environmental pressures, energy emerges as the focusing priority
2003	Set CO ₂ target, develop reporting protocol
2004	Government support withdrawn, SSV becomes an independent non-for-profit organization (501(c)(3))
2005	Form Advisory Council, offer forums, publish first annual report
2006-08	Grow funding, staff, partners, establish strategic collaborations/alliances

and non-profits as a structured approach to address industrial environmental issues. Using a common approach built trust among all partners.

The exchange of ideas and best practices on how best to reduce CO₂ emissions and minimize energy expenses focused the attention of top managers and city government officials on the issue. In time, it has become perhaps the most important public value contribution to the Silicon Valley economy. When SSV began, the high cost of energy allowed partners to rally around a common concern. The issue of reducing the region's CO₂ emissions was not in the radar of governments and the community at the time, but identifying CO₂ emissions reductions as a primary goal positioned SSV ahead of the curve and able to survive the political and economic challenges that threatened its future.

Today, climate change is at the forefront of global environmental concerns. Silicon Valley remains an active player on innovation and industrial productivity and has developed an international perspective on social corporate responsibility action. SSV has developed a track record for working successfully with businesses, non-profits, and governments to advance its goals. However, they are no longer "the only game in town" as Smith Grubb puts it. The SSV partnership is now beginning a process of internal review and exploration. While its Advisory Council was formed in 2005, it did not have a formal meeting until April 2008. The main issue addressed at that meeting was whether to continue focusing on expanding CO₂ emission reduction strategies or move to the next most pressing environmental pressure in the region: water issues.

SSV is currently undergoing its own regional EMS performance assessment. So far, it can be said the SSV partnership is a pioneer in successfully introducing energy efficiency improvements while reducing CO₂ emissions on a regional effort using the EMS approach. This experience offers several lessons to other regions interested in developing a partnership with similar objectives. Most importantly, SSV partners are were able to choose goals

and projects that meet three criteria to simultaneously address issues important to all partners: (1) SSV initiatives help partners enhance economic competitiveness at the firm and the regional level; (2) SSV actions are visible and generate positive public relations for partners' voluntary environmental actions; and (3) SSV actions do not threaten consensus by revealing industry secrets or give any partner a competitive advantage because of their contribution to enhance sustainability in the Silicon Valley region.

SSV is now exploring how the feedback of its internal review will shape the future of the organization, its strategies, and tasks at hand. It is clear that the staff, the Board of Directors, the SSV pledging partners and other supporters remain committed to enabling this collaborative environmental institution to add additional public value through the continued implementation of the SSV regional EMS. Ultimately, the SSV partnership will remain relevant if it continues to innovate ways to enhance the economic and environmental sustainability of Silicon Valley for the benefit of current and future generations.

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APPENDIX 1: SSV PARTNER ORGANIZATIONS

3 Degrees° Group	Grove & Associates
Acterra	Hewlett Packard
Adobe Systems	Integrated Archive Systems
Advanced Micro Devices	Integrated Design Associates
Agilent Technologies	Intel
Akeena Solar	Kuehne Construction
Applied Materials	LifeScan
Bay Area Air Quality Management District	Minerva Consulting
BD Biosciences	NASA Ames Research Center
BigFix	Network Appliance
Byington Steel Treating	Northrop Grumman
Calpine Corporation	Our City Forest
Cargill Salt	Pacific Gas and Electric
CH2M HILL	Palo Alto Research Center
Cisco Systems	Palo Alto Unified School Dist.
City of Campbell	Quadrus Office Complex
City of Foster City	RMC Water & Environment
City of Morgan Hill	Roche Palo Alto
City of Mountain View	San Francisco International Airport
City of Pacifica	Santa Clara University
City of Palo Alto	Santa Clara Valley Transportation Authority
City of Redwood City	Santa Clara Valley Water District
City of San José	Schering-Plough Biopharma
City of San Mateo	Seagate Technology
City of Santa Clara	Serious Materials
City of Saratoga	Sierra Club Loma Prieta Chapter
City of Sunnyvale	Silicon Valley Leadership Group
Communications & Power Industries	Silicon Valley Microelectronic
County of San Mateo	Specialty Solid Waste & Recycling
County of Santa Clara	Sun Microsystems
CV Therapeutics	SunPower
Dharma Merchant Services	Sustainable San Mateo County
Earth Bound Homes	Symantec
eBay	Tarlton Properties
ESP	The Tech Museum of Innovation
ETM Electromatic	Town of Los Altos Hills
Fenwick & West	Town of Los Gatos
Foothill-DeAnza Community College District	Town of Portola Valley
Franklin Templeton Investments	Toyota Sunnyvale
Glumac	Watt Stopper/Legrand
Great Mall	Webcor Builders

XIV

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

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INTRODUCTION

One of the inherent challenges of sustainable development is that it requires society to implement technology in a manner that is not destructive to humans or their environment. Rapid technological growth has been the cause for many of our most challenging environmental problems—yet it has also allowed for amazing improvements in the quality of life for billions of people around the world. For sustainable development to be feasible, technology cannot be dismantled. Instead, society is in the position where it needs to use its scientific and technical knowledge to create solutions by fostering innovations with joint economic, environmental, and social benefits.

Innovations, however, cannot just be conjured into existence. From a societal perspective, there is an underinvestment in the research and development that are required to turn good ideas into practical reality.¹ This is true for innovations whose sole criteria is a level of economic benefit, and one that is magnified for innovations which also have environmental and societal benefits that are dispersed among the public and difficult for any given individual or company to capture. There is a long list of policies that have been aimed at fostering innovations generally and those with a public-good aspect specifically.² Yet it remains difficult to simply mandate innovation into existence, despite well-intentioned efforts by a range of actors in governments, academia, industry, and society.

¹ Scherer, F.M. *New Perspectives on Economic Growth and Technological Innovation*. Washington, DC: Brookings Institution Press, 1999.

² Ibid.

Despite the challenges, there are many people who are actively engaged in using their expertise to change the technological paradigm to take into account societal and environmental criteria, alongside the more traditional evaluation parameters of performance and economics. One example can be found in the chemical sector, where the idea of green chemistry has been slowly gaining ground for the past 15 years. Green chemistry comes from the concept of pollution prevention, and can be most easily summarized as “the design of chemical products and processes that reduce or eliminate the use and generation of hazardous substances.”³ To be considered “green chemistry,” a product or process must go beyond being eco-friendly, and must also be effective and economically profitable.⁴ In other words, it must fulfill the criteria of sustainable development.

Many of the technologies and philosophies behind green chemistry have existed around the world for decades before it was codified by the U.S. EPA in 1993.⁵ For example, the 2005 Nobel Prize in Chemistry went to Dr. Richard R. Schrock, Dr. Yves Chauvin, and Dr. Robert Grubbs for their work on catalysis. The Nobel Prize committee cited the importance of such green chemical innovations to the world,⁶ despite the fact that the work which won them the prize was completed in 1990, three years before the term “green chemistry” was even coined.⁷ But the formalization of the concept appears to have resulted in an increase of energy and attention paid to issues of sustainability among chemists.

Since 1997, one important player in the world of green chemistry has been the Green Chemistry Institute (GCI, now the ACS GCI). Founded by stakeholders from industry, academia, government, and non-governmental organizations (NGOs) as a non-profit, GCI is an example of a multi-sector partnership whose goal is the promotion of a specific scientific and technical paradigm. In this case, its goal is to advance green chemistry particularly, and a vision of sustainable development more broadly. GCI is significant not just because of its influence over the past 11 years on the field of chemistry, but also because the production and use of chemicals is so central to the economic and physical well-being of the human population.

Chemicals are one of the largest industries in the world. In the United

³ Anastas, P.T. and J.C. Warner. *Green chemistry: theory and practice*. Oxford, England; New York: Oxford University Press, 1998.

⁴ Ibid.; John Warner, January 2008, 3rd Indo-US Workshop on Green Chemistry.

⁵ As part of the EPA's response to the Pollution Prevention Act of 1990.

⁶ “This represents a great step forward for ‘green chemistry,’ reducing potentially hazardous waste through smarter production. Metathesis is an example of how important basic science has been applied for the benefit of man, society and the environment.” Nobel Prize Committee Press Release, October 5, 2005. http://nobelprize.org/nobel_prizes/chemistry/laureates/2005/press.html.

⁷ U.S. EPA, http://www.epa.gov/greenchemistry/pubs/whats_gc.html.

States, the chemical industry in 2006 had \$604 billion in direct output, and, given the widespread use of chemicals as inputs in a variety of other manufacturing sectors, \$1,089.3 billion in indirect output.⁸ Yet the importance of chemicals goes beyond the size of the chemical sector—the true importance of thinking about how we produce and use chemicals is a result of their enormous scope. Chemicals are one of the key inputs in the supply chains for almost any product. The industries that supply basic human needs—food, clothing and medicine—are dependent on the development, production, and distribution of huge quantities of chemicals. The chemical processing of oil is required to supply energy for our transportation; chemicals are integral to communications, from paper and ink to cutting-edge electronics. In other words, there are few industries in which chemical products are not required somewhere along the supply chain. This means that in order for any given manufacturing process to be, by any definition, sustainable, the chemical inputs to that process must also be sustainable.

The complexity of the chemicals in the global supply chain is matched by the complexity of the science and engineering needed to create them. It was not hard for those who began to tackle this problem to see that they were not just dealing with a problem that, given enough grant money, could be solved in an academic or government lab. Nor was it going to emerge in its entirety from any particular industrial firm. It was far too intricate to simply mandate into existence with well-crafted regulation. It would require multi-stakeholder cooperation.

There are a variety of organizational forms that this cooperation could conceivably take. Government regulators and funding agencies could provide incentives, like funding or tax breaks, for academic and industrial R&D. Groups within or across sectors of the chemical industry could come together and share knowledge in industrial forums or roundtables, perhaps with participation from interested NGOs or academics. The cooperation could be short-term or more open-ended. It could be technology-focused, or more broadly based. Or, there is the approach taken by the founders of GCI—the creation of a formal, stand-alone organization, run by a board whose members were drawn from the public sector, the private sector, and from academia, in order to promote green chemistry throughout the chemical enterprise and around the world.

Since its founding, the core mission of GCI has remained constant, although its organizational structure has evolved in significant ways. This makes it an interesting illustration of how different models of partnerships can be engaged to tackle the same problem. It raises questions of the rela-

⁸ Snapshot of the Chemical Industry in the United States, American Chemistry Council, 2007; http://www.americanchemistry.com/s_acc/bin.asp?CID=473&DID=1596&DOC=FILE.PDF.

tionship between form and function in partnership models, and some of the trade-offs that have been made in order for the organization itself to remain sustainable.

GREEN CHEMISTRY INSTITUTE: HISTORY AND CONTEXT

The Green Chemistry Institute has gone through three distinct organizational phases since its initial founding. During the first period, from 1997 to 2000, it operated as a “virtual” institute, with no physical location or permanent staff beyond the director. From 2001–2005, it was allied with the American Chemical Society (ACS), but was still a semi-autonomous entity. Starting at this point in time, GCI was physically located within ACS headquarters, and began to build a full-time staff. And finally, from 2005 onwards, GCI was fully incorporated into ACS, was renamed the ACS Green Chemistry Institute®, and eventually ended up as a part of the Division of Membership and Scientific Advancement.

THE VIRTUAL INSTITUTE: 1997–2000

GCI was formally incorporated as a non-profit in the Commonwealth of Virginia in 1997. The idea to create the Institute arose from a partnership that had been in existence for several years prior. The Joint Association for Advancement of Super Critical Fluid Technology (JAAST) was an informal partnership whose members were drawn from government, academia, and industry: Hughes Environmental, Boeing, IBM, the University of North Carolina at Chapel Hill, the Los Alamos National Laboratory, and the Department of Energy. This particular partnership was focused on a single technology—super-critical fluids. The partnership worked on developing upstream-oriented solutions to specific industrial projects. In seeking additional governmental contacts, JAAST members approached the U.S. EPA, and were referred to Drs. Paul Anastas and Joe Breen, who were in the processes of developing the Green Chemistry and Engineering Program within EPA. The connection between supercritical fluid technologies and green chemistry was apparent to all and an ongoing partnership was formed with EPA becoming a JAAST participant.

The members of JAAST saw that there were a variety of quick demonstration projects that could be used to prove that there were solutions to some of their pressing technical problems available in academia that could be quickly transferred to industry. However, the mechanisms for procuring funding for these demonstration projects were usually cumbersome and time consuming, which was incompatible with the much quicker turnaround times required by the industrial partners. Also, while JAAST was focused on one particular green technology, its members also recognized

that there would be value in a partnership with a similar structure but a broader scientific/technical focus.

Planning for GCI began in 1996. The objective was to create a structure, independent of government that would be able to get around cumbersome EPA funding mechanisms. The organization would have a pool of money that it could then quickly turn around to fund a variety of smaller projects. The initial concept was that the institute would support (but not perform) green chemistry research, would build the green chemistry community, and would work on outreach and education in all sectors. Members of JAAST were asked to sit on the GCI board. The founding board included some of the most important champions of green chemistry in the United States at the time, including Paul Anastas (EPA), Denny Hjerensen (Los Alamos National Laboratory), Jack Solomon (Air Products), Sid Chao (Hughes Environmental and then the Raytheon Company), Bill Glaze (University of North Carolina at Chapel Hill, and Editor of *Environmental Science and Technology*), and Joseph De-Simone (University of North Carolina Chapel Hill). After GCI was formally incorporated, Joseph Breen, who had recently retired from the EPA, became its first director.

During the first years of GCI's existence, it functioned as a "virtual institute." GCI was formally housed in Los Alamos, though Breen did most of the day-to-day work from donated business park space in Virginia. Initial funding came from industrial partners and from government grants. The early projects concentrated on symposia, assembling an international network, and outreach activities. Work was done by the board members, largely on their own time and at their own expense. The organization operated through ad hoc meetings that usually took place at conferences or other venues at which the members would be present, such as ACS National Meetings.

Unfortunately, after the first year, Breen became ill with cancer. The role of director was taken over by Denny Hjerensen at Los Alamos, who had been a founder of JAAST and one of GCI's founding board members. Hjerensen was employed by Los Alamos, but on assignment to several government agencies in Washington, DC, working on international water and environmental technology issues. So while GCI no longer had anyone who was able to devote their full time to the institute, Hjerensen was able to continue GCI's activities and work GCI issues in Washington. Los Alamos was able to justify its support of GCI from the profitability resulting from the transfer of technologies developed at the laboratory into industry, often with the help of GCI.

As GCI's activities expanded, the board members were careful to avoid becoming a real research institute, and to focus instead on building a bridge between the groups involved in the research, development, implementation, and promotion of green chemistry.

During the first year and a half of Hjeresen's tenure, GCI continued to develop an international green chemistry network. The board members, working on donated time, engaged their colleagues and other interested parties. They continued with outreach and symposia at a variety of forums. Within a two-year period, GCI had established 20 international chapters. The most successful of these international chapters very closely duplicated the GCI model of academic, industrial, and government partnership. Most started with a core of one or two critical individuals and expanded activities around a centerpiece annual conference.

At this time, GCI was able to take advantage of Paul Anastas' move from the EPA to the White House Office of Science and Technology Policy. Anastas and other board members had the opportunity to interact with high-level government ministers abroad, as part of the U.S. international policies on science and technology. This provided a forum to promote green chemistry to government officials around the world, while simultaneously making connections in the academic and industrial communities. Green chemistry fit in well with White House interest in the interaction between environmental issues and security, as well as their water programs, which included upstream pollution prevention.

GCI, at this point, did not require a large amount of central management. Its members worked on the core mission, and began projects to promote education, R&D, and sector-specific consortia. Most of the work occurred independently, and was largely taken on by two or three of the members. The board consistently met twice a year. Some members of the board remained constant, although there was some turnover of the industrial board members. There were no formal methods for the evaluation of projects, or explicit metrics of success. Members measured their success by whether their involvement was still in the interest of their "home" organizations, and whether their work with GCI "paid off." The nature of the "pay off" was different for different types of members. Industry was interested in economically viable solutions to their technical challenges. Government was interested in furthering public policy goals, getting good press, and having positive industry feedback to Congress. And those involved with R&D were rewarded through innovation, prizes, papers, and products. The accepted measure of success was whether a technical approach could be worked from concept to commercial implementation, and many were.

ALLIANCE WITH ACS: 2000-2005

The GCI's second major organizational period began in 2000. After the death of Joe Breen, GCI was in need of stability and organization. While it continued to function, neither the members, nor Hjeresen as director, were

able to devote themselves to its activities full time. It was at this time that the ACS approached GCI about the possibility of a merger.

The ACS is the largest scientific professional society in the world. In 2006, it had more than 160,000 members worldwide, a net worth of \$1.28 billion, and annual revenues of around \$460 million.⁹ It is headquartered in Washington, DC, and has 1,398 employees.¹⁰ It also has a large number of volunteers, many of whom are elected, who run specific programs and divisions within the organization. ACS has a full-time, permanent executive director, a Board of Directors, and a president who is elected yearly by the membership.

In the year 2000, Dr. Daryle Busch was the president-elect, and along with the members of the ACS Board of Directors, was looking for a way to incorporate a high-profile, permanent think-tank-style institute into the ACS. They investigated several subject areas that would fit in well with ACS's existing values and mission where they thought they had potential for global impact. Some candidates included intellectual property or publications within chemistry, as well as information technology in the chemical enterprise. It was at the time that the Board was deliberating about the proposed institute that Anastas contacted ACS to discuss the current state of GCI. Busch and some of the other Board Members recognized that sustainability was going to be of great importance to chemistry moving forward, and began to consider how they might pursue the topic in the context of their proposed new institute.

In the end, they contacted GCI, and members of GCI met with Busch and his staff to discuss a proposal for a merger between the two organizations. Such an arrangement would bring the existing expertise of GCI into the ACS, while giving GCI much needed stability and resources. While there were obvious benefits for both parties, arranging for such an alliance was not simple.

ACS was a large organization, and its initial vision was that it would essentially "buy" GCI and then run it internally. Busch realized that this would not be acceptable to the board members of GCI, who were used to being part of a virtual organization, with personnel from all sectors used to having a free hand in how GCI decided upon and ran its activities. They considered independence very important as they went about the difficult task of trying to influence the behavior of industry, where the ability to act quickly and decisively could be crucial. Despite Busch's attempt to create merger documents that would allow GCI to maintain a good deal of its

⁹ ACS 2006 Annual Report Financial Highlights, http://portal.acs.org/portal/fileFetch/CTP_004997/pdf/CTP_004997.pdf.

¹⁰ http://portal.acs.org/portal/acs/corg/content?_nfpb=true&_pageLabel=PP_TRANSITIONMAIN&node_id=225&use_sec=false&sec_url_var=region1.

independence, Hjeresen rejected the first round as a “hostile takeover.” It was clear that for the merger to work, ACS would not be able to use its standard documents and procedures.

Both sides demonstrated their commitment to the merger over the next several months, as they reworked the agreement into a form acceptable to both parties. In the end, GCI was able to retain a large amount of its independence of action. The two parties agreed to a plan that would create a five-year alliance between ACS and GCI. GCI was placed under a Governing Board, which would replace its existing board. The Governing Board would be directly responsible for oversight of GCI, including its mission, activities, and funding structure. This would help GCI retain some of its independence, and determine, to a large extent, not just its overall mission and direction, but the appropriate activities in support of that vision. Since it would be a part of ACS, GCI was still responsible to the ACS Board of Directors, but mainly through the Governing Board, whose membership had to be approved by the ACS Board, and also through various organizational mechanisms, such as the budgeting process.

When both parties agreed to this structure, the GCI board was dissolved, and many of its members were elected to the new GCI Governing Board under the ACS. In return, ACS gave GCI a “start-up” grant that allowed it to pay its director, and begin to build a staff. GCI was physically installed in the ACS headquarters in Washington, DC, with Hjeresen still at the helm. In the second year after the merger, GCI was also allocated a 1 percent annual share of the Petroleum Research Fund (PRF), ACS’s major grant fund. This funding was to be used for projects at GCI’s discretion, under the guidance of the Governing Board.

The period after the alliance began was a period of adjustment. There were serious organizational challenges on both sides. GCI was used to a large amount of flexibility, and working on very short time-scales. ACS, on the other hand, was a large organization with a very long-term outlook. The two cultures worked at very different paces. However, the staff within ACS had significant experience that benefited GCI. For example, the Publications Division helped GCI learn how to determine markets and target the right efforts to create green chemistry educational materials, and the highly experienced Meetings staff helped GCI put together more effective and higher quality symposia and conferences. The international nature of GCI also worked well with International Programs at ACS, providing a whole new body of content for international technical exchanges.

For ACS, a large part of the challenge came from having to adjust to a new organizational form. The agreement with GCI meant that the Institute did not fall within the same structural hierarchy of the rest of the organization. In some ways, it was similar to the Publications Division, which also had its own Governing Board. But Publications was one of ACS’s largest

revenue generators, so that it was also, essentially, financially independent. GCI, on the other hand, was relying on ACS for much of its basic funding, while still retaining an independent identity.

Hjeresen negotiated the adjustment while commuting between DC and his job at Los Alamos. He continued for a year and a half, building up the first permanent staff. During this time, GCI became increasingly involved in educational activities, and published a number of popular educational materials. Hjeresen worked to integrate GCI into ACS, on the belief that green chemistry should be an integral part of all of the Society's activities, not a separate, stand-alone effort. He helped to get people thinking about green chemistry across the organization. This is consistent with the overall mission of GCI to promote green chemistry across the chemical enterprise, since the directions set by ACS in its activities are highly visible to the larger chemical community. In this case, ACS was a microcosm of the larger chemical enterprise.

The PRF grant income, which was around \$250,000 per year in the first years and less in subsequent years, allowed GCI to become a funding source of its own. This in turn created more work, and required more staff. It also raised GCI's profile. The Governing Board began to attract members from the upper levels of management, such as Berkeley "Buzz" Cue, Pfizer's retired vice president of research. As part of ACS, GCI became involved with the Presidential Green Chemistry Challenge Awards, one of only a handful of Presidential awards given out by the White House each year. From their inception in 1996, ACS had worked with the EPA on the judging of the nominees. They also began to partner with the EPA through a series of cooperative agreements, which provided funding for certain products, such as the educational materials.

In 2003, ACS realized that GCI would need a director who would be able to devote himself full-time. Hjeresen was offered the position, but decided to turn it down and return to Los Alamos full time. ACS brought in Paul Anastas, who had been active in GCI, and green chemistry in general, during his time at EPA and then at the White House OSTP. Anastas, often referred to as the "Father of Green Chemistry," was a highly visible and respected figure within the community, and his hiring was a signal of ACS's commitment to pushing forward the advancement of green chemistry.

Anastas arrived in 2004 just as ACS was also experiencing a leadership change. In 2002/2003, John K Crum retired after 35 years as the executive director. He was replaced by Madeleine Jacobs. This was a second adjustment phase for both ACS and GCI. Anastas quickly picked up where Hjeresen left off. He continued to work to build GCI's staff. GCI used a variety of grants, including its share of PRF funds, to pay for the new staff. This left GCI in the precarious position of having to continuously raise outside funds in order to continue running, even with the support of ACS.

While Hjeresen had worked hard to integrate GCI into ACS, the size of the organization meant that the process moved very slowly. The ACS budget works on a two year timeline, so many of the major conferences and events had their schedules and agendas set two to three years in advance. By the time that Anastas arrived, some headway had been made, and his arrival sped up the process. Anastas' goal was to move GCI from simply doing projects—its usual array of symposia, educational materials, and network building—and to turn it into an organization that could act as a catalyst for green chemistry worldwide. GCI began to look for leverage points where its activities could have the greatest impact. Anastas and the staff worked to update GCI's formal mission statement and strategic plan, which explicitly outlined its core focus areas. These six areas were, as they had been with JAAST and the virtual GCI, research, education, industrial implementation, communication, policy, and international activities.

INTEGRATION WITHIN ACS: 2005-PRESENT

In 2005, the original agreement between ACS and GCI was completed. At this point, it was decided that GCI should become a permanent part of ACS. While the Governing Board remained, GCI was made a part of the External Affairs Division. ACS increased its budgetary support of GCI, and committed to funding more of GCI's staff, increasing from 2 to 6.5 people in 2006. In future years, these levels were set to decrease, with the expectation that, like many of the other ACS Divisions, GCI would find ways to support its own operations through programs, products, and services. This complete integration of GCI added yet another layer of stability and security to their operations. It also, however, once again decreased the operating freedom of GCI.

During his tenure as director, Anastas began several new projects and partnerships. GCI continued to work with the EPA through cooperative agreements, although these activities ended due to a lack of available funds on the part of the EPA. They also increased the size of the international network, continued a summer school program to train graduate students around the world, continued to organize the annual Green Chemistry and Green Engineering Conference, and to help judge the Presidential Green Chemistry Challenge Awards. GCI also began three important new endeavors with a new set of partners.

First, in 2006, with the staff paid for by ACS, GCI and its Governing Board decided to use the PRF funds to give out research grants of up to \$60,000 a year for green chemistry research and activities. They also acquired a portion of funding from CHEMRAWN XIV to be allocated for small grants (\$5,000-\$10,000) in developing countries aimed at promoting green chemistry and strengthening the network—largely meetings,

symposia, and the creation of new materials, as opposed to laboratory research. This put them into closer contact with members of the research community in the United States and abroad.

During this time, GCI also strengthened its relationships with its industrial partners. One project used funds from a cooperative agreement with the EPA, along with ACS funds from the start-up grant, to fund the creation of business school case studies of firms that had successfully implemented green chemistry. GCI worked with business school professors and industrial partners to target, research, and write these case studies for eventual publication.

The third major activity involving industry was the creation of the ACS Green Chemistry Institute Pharmaceutical Roundtable (GCIPR). The GCIPR brought together membership from the pharmaceutical industry in order to advance green chemistry and green engineering throughout the sector around the world. The GCIPR members (including GCI) paid dues, and those in the higher (and more expensive) membership tier sat on the management team which governed the organization. The GCIPR was able to be completely self-supporting, including the salary of Julie Manley, the GCI contractor who took responsibility for its day-to-day operations, along with GCI Governing Board member Buzz Cue. The focus of the GCIPR was to target the challenges to the implementation of green chemistry in the pharmaceutical industry that could be tackled through cooperation between the parties. For reasons of competition and anti-trust, this meant looking at things like tools and metrics, as well as basic research that would address problems at a pre-competitive stage, such as finding greener alternatives to common organic chemistry reactions. While membership to the GCIPR was originally limited to firms in the pharmaceutical industry, the Roundtable is currently considering expanding membership to contract research organizations and manufacturers of active pharmaceutical ingredients and final products. This would expand the original membership definition significantly. Additionally, it has developed relationships with the EPA, National Institutes of Health (NIH), National Science Foundation (NSF), and the Food and Drug Administration (FDA) to some extent. It provides an interesting internal comparison to GCI's relationship with ACS, which will be discussed further in a later section.

At the end of 2006, Anastas left GCI for Yale University, where he holds appointments in the Department of Chemistry, the Department of Chemical Engineering, and in the School of Forestry and Environmental Science. Along with Dr. Julie Zimmerman, he has founded the Yale Center for Green Chemistry and Green Engineering, of which he is the director. His departure left GCI without its high-profile leader and long-time champion. The process to find his replacement was lengthy and contentious—it was not until March 2008 that ACS announced that Dr. Robert Peoples would

be taking on the role of GCI's Director. In the interim, GCI, along with the rest of ACS, underwent a reorganization, and GCI was placed in the Division of Membership and Scientific Advancement. GCI's staff reported to the head of the Division, Denise Creech. For six months, between May and December of 2007, Tamara Namaroff, previously director of ACS's International Activities, was GCI's acting director. The lack of permanent leadership took its toll on GCI's staff. From a high of eight full-time staff and contractors in 2006, by March 2008, the staff numbered five, only two of whom had been there during the entire 18-month transitional period. This resulted not just in a loss of GCI's ability to take on new projects, but also a loss of human capital and institutional memory that had been carefully built up over the previous five years.

Despite the leadership and staffing challenges, GCI continued to operate. Most work was limited to the core activities—the annual Green Chemistry and Engineering Conference, judging the Presidential Green Chemistry Challenge Awards, disbursing and overseeing the GCI PRF grants, helping to coordinate the Green Chemistry Student Awards and summer school, and continuing to interface with the International Chapters of the ACS Green Chemistry. Additionally, the GCIPR continued to grow and expand its activities, since the continuity of its GCI staffer and its financial independence left it relatively immune to the challenges faced by other activities within GCI.

INCENTIVES

In 1996, when its founders began to plan the founding of GCI, there was a clear motive to promote sustainability through the use of scientific knowledge and technology. Beyond the lofty goals of promoting sustainability in the chemical enterprise, there was also a practical motivation that led to the formation of the partnership. Each of the multiple participants in the enterprise had a different metric for success, so a balance had to be struck. From the work of JAAST, several of the founding members saw that there would be value to an organization that could react more quickly to industrial needs than was possible through the cumbersome EPA funding process. An organization like GCI would be able to act as a funder in its own right, taking grant money from the EPA and others, and then using it to fund short, quick-turnaround projects. These could include R&D support, as well as symposia and educational opportunities to disseminate green chemistry knowledge.

For industrial partners, the benefits were access to new technologies that would have potential economic benefits. Over the years, experience has shown that many of the particular challenges that can be addressed through the use of green chemistry are common to a number of firms, or

even industrial sectors. Over the past five years, the success of GCIPR has demonstrated the general usefulness of not just particular chemical reactions, but of tools and platforms across the pharmaceutical industry and the broader chemical enterprise. However, despite a common need for certain tools or scientific information, in the absence of organizations like GCI or the Pharmaceutical Roundtable, there is often an underinvestment on the part of firms in their development.

This is a common problem with innovations generally, and there are many works in the economics and innovations literature that document a general underinvestment in research and development on the part of private industry.¹¹ Generally, compensating for underinvestment in these areas falls to the government—in the case of the United States, through the NSF, the NIH, and other government agencies (Department of Energy, EPA). But these funding sources, with funding turnaround times that can be a year or more, and who require lengthy, time-consuming grant applications, are geared more towards the academic research institutions, and not the needs and timescales of industrial actors. There was also an additional factor complicating the availability of funding for these projects. The big science funding agencies have a tendency to focus their efforts at the very center of disciplines such as catalysis, or synthetic or inorganic chemistry. Thus, their review boards are dominated by the scientists at the center of these fields. As a result, they tend to be highly unreceptive to new areas that work at the fringes of a discipline or cross between disciplines.

However, these are the areas in which green chemistry thrives, and which it encourages. The ability of industry to develop certain commonly desired technologies is made even more difficult by the paradox of the need to capture the benefits of the investment in research, and the constraints placed on their ability to cooperate by anti-trust regulations. Companies, if they do invest in certain streams of research must either keep it as a trade secret if they wish to profit, or they must disclose it, and allow their competitors access to the same knowledge, creating problems of smaller, less profitable or able firms being able to free-ride off of the investment of others. On the other hand, it is difficult for firms to cooperate or jointly invest in research without running afoul of anti-trust regulation.

For industry, the incentive to become and remain involved in GCI was that GCI provided a mechanism to circumvent some, if not all, of these difficulties. GCI could coordinate the interests of industry and the research agenda of academia. It could provide educational symposia to help develop interest and skills among industry decision makers and industrial scientists. It could also provide funding and other support for small demonstration

¹¹ Scherer, F.M. *New Perspectives on Economic Growth and Technological Innovation*. Washington, DC: Brookings Institution Press, 1999.

projects, to help move green chemistry out of the laboratory and into practice. Since green chemistry is by definition economically as well as environmentally beneficial, firms gained financially. There were also benefits beyond the cost savings from more efficient, less wasteful practices. Those companies who received recognition, such as through the Presidential Green Chemistry Challenge Awards, or through sponsorship of various conferences and activities, added to their “green credentials”—an increasingly important consideration as institutions like the Dow Jones Sustainability Index have become influential.

For the government partners, there were a variety of non-financial incentives for involvement with GCI. First of all, it was a venue to cultivate friendly, non-adversarial relationships with members of the chemical industry. For example, while there are no government members in the GCIPR, they have, on occasion, invited NIH and NSF in for discussions and symposia. Relationships with the FDA have come through GCI, not the Roundtable. This is a distinctive difference which allows the members of the Roundtable to remain comfortable in their work of the Roundtable while not interfering with company relationships with the FDA. GCI, not the Roundtable, has engaged the FDA to educate on the relationship between green chemistry and Quality by Design and Process Analytical Technology. In this case, GCI provides a platform for government and industry to come together in a non-confrontational setting, without the usual threats of regulation or oversight. This helps the FDA to understand the kinds of innovations being considered by pharma, and to devise regulations to help encourage, as opposed to hinder, their efforts in green chemistry. The relationships of this sort between industry and various funding or regulatory agencies can translate into positive feedback to members of Congress in charge of agency oversight, which in turn can be beneficial to the agencies in terms of their agendas and budgets. Government partners also received positive publicity from many of their activities with GCI.

The academic partners were incentivized by the usual currency of academia—the opportunity to publish papers, present their work at conferences and symposia, and also access to funding provided by GCI, either directly through grants or as part of various projects and initiatives. Such projects have included the production of educational and curricular materials, and more recently, direct research funding through grants awarded by the GCIPR and the PRF program. Anecdotally, over time, associations with green chemistry in general and GCI’s green chemistry network in particular have helped attract talented, interested students to their departments. While GCI has taken measure of the total quantity of funds it has transferred to academic research or educational initiatives, there is not any measure of directly related academic output (papers, patents, talks, etc.) for its entire history. However, those academics who have partnered

with GCI have been on the forefront of green chemistry, and several of the active academic partners, such as Dr. John Warner, Dr. Joseph De-Simone, Dr. Terry Collins, Dr. Eric Beckman, and Dr. Jim Hutchison are highly respected and considered pioneers in the field. GCI has also been able to foster up-and-coming scientists in the field. Drs. Robert E. Maleczka, Jr., and Milton R. Smith III from Michigan State University were recipients of a GCIPR Research Grant in 2007, and their work has won them the Presidential Green Chemistry Challenge Award in 2008.

GCI, by taking on such a visible role and working to increase the visibility and viability of green chemistry, conferred increased prestige on those academics who took an active role along with it.

Finally, for the ACS, its relationship with GCI is driven by a desire to be perceived as a leader on an important issue, both within chemistry and externally. There is a sense that public perception of chemistry is very negative, with a focus on both the difficulty of the subject matter, and a reputation of dirty, dangerous, pollution-intensive behaviors. Green chemistry presents an opportunity to change this perception, and to position chemistry as a field that can be an important part of the movement towards sustainable development.

For none of the partners have the incentives been clearly quantifiable. While all appear to have benefited, there is no set dollar amount of increased profits or number of publications over the years that can be completely attributed to work done through the partnership. Yet the various incentives, many intangible, have kept the partners involved even in difficult times. Thus, the largest challenges faced by the partnership have not been providing incentives to its members, but instead have been those related to the partnership's own sustainability.

IMPLEMENTATION PRACTICES/FUNCTIONAL ANALYSIS, PARTNERSHIP ORGANIZATION AND GOVERNANCE

The first major challenge faced by GCI was the illness and subsequent death of Joe Breen. Breen had been the foremost champion of green chemistry—a passionate leader who had just retired from the EPA when he agreed to take on his role at the head of GCI. With his passing, GCI was without either a full-time leader or full-time staff. Stability, both in terms of funding, and also resources more generally, became a serious concern for the members. However, solutions to the issue of ensuring GCI's long-term stability brought with them a trade-off in terms of freedom of action and nimble-ness. 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.”

Another ongoing challenge is the result of organizational and cultural differences between ACS and GCI. GCI was built by high-visibility, pas-

sionate individuals that have world-wide recognition. ACS, on the other hand, prides itself as being “member driven.” In other words, volunteer governance is supposed to get the credit for successes while the paid ACS staff is expected to remain more in the background. This set up an inherent conflict for GCI within ACS, one which remains a consideration as GCI charts out its future within ACS.

More recently, GCI has dealt with another challenge to its existence. In the 18 months that it was without a permanent, full-time director, GCI has been further and further integrated into ACS, while at the same time, it lost all but two of its long-term staff members. This has curtailed GCI’s activities significantly. And this in turn has lowered its visibility and its impact on the chemistry community. During this same time, several important new institutions in green chemistry have emerged, including two new institutes run by two of the leaders in green chemistry, John Warner (the Warner Babcock Institute) and Paul Anastas (The Center for Green Chemistry and Green Engineering at Yale University). GCI is now developing its role in this new landscape. Staff and board members alike have been discussing what direction GCI should take, and what value it can add that is not provided by the other organizations in the field. As part of this process, GCI is redefining its strategy and assessing its mission. GCI is seen as a valuable part of ACS, integral to achieving ACS’s mission “to advance the broader chemistry enterprise and its practitioners for the benefit of Earth and its people” and is very unlikely to disperse and quietly fade into the larger activities of ACS. There are a number of stakeholders who feel GCI is now positioned to play a key role as the integrating nexus for global green chemistry initiatives.

IMPLEMENTATION PRACTICES, FUNCTIONAL ANALYSIS, PARTNERSHIP ORGANIZATION, AND GOVERNANCE

GCI was initially founded as a non-profit; the planning process took under a year from the initial meeting of the partners to decide whether to form GCI until its incorporation. The founding partners were named to the Institute’s Board of Directors, and also acted as a volunteer staff. Since it was formally registered as a not-for-profit 502(c) organization, GCI had a formal structure, including its Board of Directors, as well as corporate bylaws. When GCI became a part of ACS, the Board of Directors was dissolved, though many of its members were subsequently elected to GCI’s new Board of Governors. When GCI entered into its formal agreement with ACS, the planning again took about a year to complete. The elements of the agreement with GCI became a part of ACS’s formal bylaws. This includes provisions for the composition of the Board of Governors. It is clearly designed to preserve the multi-sectoral participation that was the impetus for GCI’s founding. The make-up of the Board is as follows:

- ACS Executive Director or his or her designee.
- ACS Green Chemistry Institute Director.
- Two individuals who are voting members of the ACS Board of Directors.
 - Two individuals with experience in industry who are not members of the ACS Board of Directors.
 - Two individuals with experience in government, nonacademic research institutions, or nongovernmental organizations, who are not members of the ACS Board of Directors.
 - Two individuals with experience in academia who are not members of the ACS Board of Directors.
 - Two members who bring significant expertise to the Governing Board in areas of strategic importance to the ACS Green Chemistry Institute who are who are not members of the ACS Board of Directors.¹²

All of the appointed members (everyone except the ACS Executive Director, and the ACS GCI Director) serve for three-year terms, and may serve no more than three terms consecutively. For members of the ACS Board of Directors, service on the GCI Board is contingent on their membership on the ACS board. The ACS Executive Director and the ACS GCI Director serve as long as they hold those positions, and the ACS Executive Director (or his/her designee) serves as the GCI Board's chairperson.

As a result of this structure, even though GCI is fully a part of a larger non-profit, it remains a partnership. It is likely that ACS's own structure reinforces this method of operation, since ACS itself, beyond the work of its professional staff, is run by a large number of volunteers who hail from industry, academia, and government. ACS prides itself on representing chemists in all of these venues, and endeavors to act as a platform where these groups can interact.

Despite a solid, well codified structure, funding has become a struggle for GCI. Initially, funding came from grants, industrial contributions, and the time and resources of the members. Activities were undertaken as funds or volunteer time was available, and there was no permanent paid staff. Funds for major projects were secured on an "as needed" basis. The technical projects that went to commercialization raised capital both domestically and internationally—and that was their measure of success. Major conferences such as CHEMRAWN XIV in Boulder and a series of international conferences with the Japanese, British, and Chinese raised private and public funds and, in some cases, created a surplus for further activities.

Counterintuitively, the merger with ACS led to instability in finances.

¹² ACS Regulations III 19(b), http://portal.acs.org/portal/fileFetch/C/CTP_004180/pdf/CTP_004180.pdf.

That is, rather than worrying about raising funds to do specific activities, GCI now had the responsibility of raising funds for those activities and of generating additional revenue streams that would contribute directly to ACS coffers. This created serious friction and was an ongoing topic of discussion during the five-year transition period.

However, even given the financial challenges, the merger with ACS allowed GCI to overcome another hurdle faced by the partnership. While their activities had been largely successful, GCI felt that it needed to be able to reach a broader audience. It was at the point where it needed to have a way to reach out beyond the relatively small community that already had interest and knowledge of the area. ACS, as a professional association, had access to that audience. For Hjeresen, the reason for merging with ACS was not the money, but for the access to the 160,000 chemists in ways that those chemists would recognize. As part of ACS, GCI was able to have a presence at ACS meetings, publications, education programs, and committees. To this end, in several instances, GCI consciously channeled funds to ACS organizations to build goodwill and buy-in—so they would see GCI as valued added to their organization.

When GCI became a part of ACS, ACS gave them market access—and a new physical permanence. GCI received physical space, funding for a full-time director and initial staff, and a yearly allotment of the annual outlay of ACS's PRF (its only grant-giving fund). Anastas expanded his staff by using some of the PRF funds, as well as by writing grants for projects that included their salaries. Several projects were funded by cooperative agreements with the EPA, NSF grants helped with conferences and educational activities, some foundational support was used for the GC Summer School, and industrial partners have sponsored the annual Green Chemistry and Engineering Conference, and some also pay dues as members of the GCI facilitated Green Chemistry Pharmaceutical Roundtable.

The original thinking, on the part of ACS, was that eventually GCI would be self-funding, providing services in return for revenue. Initial budgets had decreasing support for GCI after its full incorporation in 2005. However, there has been a change in attitude. As noted earlier, in 2006, Anastas was able to negotiate to expand ACS funding of the GCI staff from 2 to 6.5. While this level was initially set to decrease, recent indications are that ACS will continue to provide funding for the staff at this level, while encouraging them to bring in additional funding for their projects and activities through grants or services provided for a fee.

In the early, "virtual institute" phase, projects were completed according to the availability of the members who took them on. The timeline for projects was dictated by the ability of the members to find the time and resources to complete them. Often times, activities like symposia or trainings were planned to coordinate with larger industrial or academic events

(conferences, trade-shows) in which the members would be participating as part of their formal employment responsibilities for their home institutions. While GCI always had a general mission and business plan regarding its activities, they did not at this point have a strategic plan or definite timeline for goal completion. GCI's work was, in general, very informal and undertaken by agreement between partners and the director.

As part of ACS, GCI has had a more formal structure. Day-to-day activities are undertaken by a permanent staff, which currently numbers five on-site staffers (including the director) and one off-site contractor. There are weekly staff meetings, bi-annual meetings of the Governing Board, and annual progress reports. Additionally, GCI will be undergoing an extensive audit as part of the ACS continual evaluation process. Over the past three years, during which GCI has been disbursing PRF funds in the form of research grants, there is also a formal application and oversight and evaluation process for any project that receives these funds.

In 2006, GCI adopted a new strategic plan, which included a concrete mission statement. It also included three concrete goals, with outcome metrics, along with associated strategies and tactics for reaching these goals. The plan was updated for 2008 at the end of November 2007. Thus, as of 2008, GCI's three goals are

1. Communicate the opportunities for green chemistry to address global sustainability challenges and provide useful information on the relevance, value, and benefits of green chemistry to the scientific community and to the public.
2. Catalyze implementation of green chemistry in the chemical industry by convening industry and other stakeholders and providing them useful products, programs, and services.
3. Provide educational materials and instructional resources to enable students and teachers to incorporate green chemistry concepts into their research and teaching.¹³

Despite over a decade of significant changes, GCI's strategic goals have remained largely constant. While the form of the partnership has evolved, the organizing principle that led to GCI's formation still exists, most explicitly stated in the second of its current strategic goals.

For GCI, historically, the most important metrics have been the continued involvement of its partners, and its perception of the advancement of green chemistry. Partners can come and go as they choose. Those involved in oversight functions—first the Board of Directors and now the Governing Board—have increased in stature over the years. Many are members of

¹³ ACS GCI 2008 Strategic Plan 2008 November 2007 revision.

upper management in large industrial firms, well-respected academics, and senior bureaucrats in government agencies. They set the general goals and direction of GCI, and informally evaluate progress during their bi-annual meetings.

Along with the goals noted in the strategic plan, there are an associated set of metrics. GCI's current goals, and the associated metrics, can be seen in Table XIV-1.

Regular feedback processes are largely informal, and occur either during staff meetings or during Governing Board meetings. During the bi-annual Governing Board meeting, the GCI Director and staff present the various projects that GCI has undertaken, and the progress being made towards the goals in the strategic plan. There are also performance evaluations for the staff, which focus more on details of job fulfillment than on the larger goals of GCI and ACS.

Beyond its biannual report to its Governing Board, GCI is now a part of the Division of Membership and Scientific Advancement (MSA), for which it must also report its progress towards its strategic goals, as well as towards the larger divisional goals. The MSA reports in turn to the ACS Board of Directors, and as such is subject to all of ACS evaluation, feedback, and budgeting mechanisms.

Superficially, the mission and goals of the MSA align quite well with the mission and goals of GCI. Its stated mission is "to serve the needs of ACS members and prospective members and to provide scientific and professional programs, products, and services that advance chemistry and its practitioners globally."¹⁴ The MSA's three goal statements are

1. We serve an expanding universe of global, diverse, and multidisciplinary scientists through traditional and innovative programs, products, and services (PPS).
2. We identify and catalyze progress around the critical scientific, social and professional issues in the in the global chemical enterprise.
3. We, MSA staff, are empowered to be a cohesive, nimble, agile, and responsive team.¹⁵

In comparison to GCI's goals, the larger MSA goals are clearly about articulating a common identity, as opposed to the action-oriented goals in GCI's mission statement. While these two goal sets do not openly conflict, the requirements on GCI to simultaneously fulfill its own mission and goals, while also being responsive to its responsibilities as a unit of the MSA with its strategic plan, does present the possibility of complicating

¹⁴ ACS Division of Membership and Scientific Advancement Strategic Plan 2008-2010.

¹⁵ Ibid.

TABLE XIV-1 ACS GCI 2008 Strategic Goals and Metrics.

Goal	Metrics
Communicate the opportunities for green chemistry to address global sustainability challenges and provide useful information on the relevance, value, and benefits of green chemistry to the scientific community and to the public.	<ul style="list-style-type: none"> • Five percent annual increase attendance and 3 percent annual increase in first-time attendance at Green Chemistry & Engineering Conference compared to 2007. • The majority of conference attendees who respond to our post-conference survey will agree or strongly agree (on a 5-point Likert scale) that the conference enhanced their appreciation of the relevance, values, and benefits of green chemistry. • Coverage of ACS GCI-generated content in the media increases 5 percent each year. • Establish a method for tracking growth of the ACS GCI electronic network.
Catalyze implementation of green chemistry in the chemical industry by convening industry and other stakeholders and providing them useful products, programs, and services.	<ul style="list-style-type: none"> • Develop and begin to pursue a business plan for a new roundtable modeled on the success of the ACS GCI Pharmaceutical Roundtable. • The portfolio of activities undertaken by the ACS GCI Pharmaceutical Roundtable in 2008 will include one significant new effort by the member companies to implement green chemistry.
Provide educational materials and instructional resources to enable students and teachers to incorporate green chemistry concepts into their research and teaching.	<ul style="list-style-type: none"> • By June 2008, develop a mechanism to assess the extent to which individuals trained in previous train-the-trainer workshops are using the skills and materials provided by ACS GCI. • Track the use of ACS green chemistry education materials, measured by sales of and requests for materials. • By end of Q3 2008, develop and administer a follow-up survey to past green chemistry summer school participants to assess the impact of participation in this program.

Author's adaptation of the ACS GCI 2008 Strategic Goals and Metrics.

decision making within GCI. While the goals of GCI and MSA appear to be relatively easy to integrate, the focus of the two strategic plans, in terms of metrics and tactics, is more problematic. The actions outlined in the MSA's strategic plan, as expected, are focused on providing services to the diverse membership of ACS. MSA has identifiable customers to whom it is responsible. GCI, in contrast, is working to promote a very specific

issue, and explicitly reaches out beyond the membership of ACS in order to do so. For MSA, GCI is a way to provide services to its members, and also to attract new ones. But for GCI, the focus is on the larger question of sustainability—building an ever-larger network, and on developing green chemistry as an area of research and as an implementable technology. There is a difference in the underlying missions, and incentives, between the two, even though GCI now finds itself nested within the MSA.

The tension felt by the GCI staff between their responsibilities to GCI, and also to MSA and ACS as a whole, are not unique to their particular organizational context. For all partnerships, there is a challenge presented by the need of members to fulfill their responsibilities to their “home” organization, as well as to be responsive to the needs of the partnership.

GCI, for the large part, has always been run and driven by the people doing the work, be they volunteers or paid staff. Although the Governing Board is highly involved with setting the mission and direction of the Institute, the staff has a great deal of freedom, within a general set of constraints, to pursue the projects and activities that they see as being the most beneficial, and interesting, to GCI. For a long time, it could be categorized as “controlled chaos—but productive.” In the past year, it is more reactive, having to use limited staff resources mainly to address its ongoing obligations (the PRF grant process, the annual GC&E Conference, working with the EPA to judge the annual Presidential Green Chemistry Challenge Awards). 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 has been slowed through human resource and organizational constraints. However, it was founded, and continues to function, on the assumption that the Institute will continue to exist as an identifiable entity, even if it is fully contained within the ACS, for the indefinite future.

GCI AND THE PHARMACEUTICAL ROUNDTABLE: NGO-INDUSTRIAL PARTNERSHIPS

Since 2005, one of GCI's main activities has been its role as the facilitating organization for the Green Chemistry Institute Pharmaceutical Roundtable (GCIPR). GCIPR “is a coalition between the ACS Green Chemistry Institute (ACS GCI) and pharmaceutical corporations united by a shared commitment to integrate the principles of green chemistry and engineering into the business of drug discovery and production.”¹⁶ Membership is open to any pharmaceutical research, development, and manufacturing companies (and may broaden to include manufacturers of active pharmaceutical

¹⁶ GCIPR 2007 Business Plan.

ingredients and final products) on a dues-paying basis, with day-to-day operations undertaken by a dedicated member of GCI's staff.

From its inception, GCIPR has been a well-organized collaboration. Financially, GCIPR is completely self-sufficient from GCI—it funds its operations solely on the dues that it collects on a yearly basis. Industrial partners are free to come and go as they please, and may participate at three possible levels, which are based on both company size and annual level of contributions. For GCIPR, funding throughout the year is stable, though its existence over the long term requires the continued interest, and financial participation, of the industrial members.

The origins of GCIPR date back to 2004, when Paul Anastas, then the director of GCI, approached Berkeley “Buzz” Cue, who had just retired as Pfizer’s VP of Developmental Research. While at Pfizer, Cue had started their internal green chemistry program—a program that eventually resulted in, among other accomplishments, a Presidential Green Chemistry Challenge Award. Anastas wanted to know if Cue could accomplish at a sector level what he had done at Pfizer. Anastas and Cue both knew that there were other green chemistry champions in the pharma industry, including Merck and Lilly. ACS agreed to match a \$50,000 donation to GCI from Pfizer in honor of Cue’s retirement, and they used these funds as seed money for the GCIPR.

In January of 2005, GCIPR had a launch meeting to gauge interest in the roundtable. GCI presented their proposed structure. In order to avoid any issues with anti-trust, it would be open to all paying members. It would have GCI and a member from the pharmaceutical industry as co-chairs. Three levels of membership were established:

- *Partners* are member companies that chose to take a leadership and governance role in ACS GCIPR. Annual membership fee is \$50,000.
- *Members* are those that actively participate in ACS GCIPR; however, they do not participate in the governance of the organization. Annual membership fee is \$25,000.
- *Associate Members* are those corporations with sales less than \$10 billion/year and actively participate in ACS GCIPR; however, they do not participate in the governance of the organization. Annual membership fee is \$10,000.

At this phase, there were three original industry members: Pfizer Inc., Merck & Co., Inc., and Eli Lilly & Co. Cue took on an advisory role, GCI hired Julie Manley as GCIPR’s business manager, and GCIPR put together a business plan, complete with their mission and strategic priorities (see Table XIV-2).

Membership in GCIPR has grown from the original three members

to the current complement of nine: AstraZeneca, Boehringer-Ingelheim, GlaxoSmithKline, Johnson & Johnson, Eli Lilly and Company, Merck & Co., Inc., Pfizer Inc., Schering-Plough, and Wyeth. In 2007, the eight members at the time (the nine listed minus Boehringer-Ingelheim) represented 61 percent of revenues and 73 percent of profits generated from the *Fortune* Global 500 pharmaceutical sector (July 23 issue of *Fortune*).¹⁷

To date, no member company has elected to leave the roundtable. Additionally, the management team has remained fairly constant. Each partner-level member is allocated two spots on the management team. Two members of this team have switched because of job changes and internal reorganizations, but otherwise, except for the enlargement of the group due to new members, the composition has been stable. More variation is seen in the working groups outside of GCIPR meetings where the work is done. Each member has 5-10 individuals who are actively involved with GCIPR activities, which leaves the overall working group much more robust to internal changes (such as reorganizations, job changes or retirement) than a set-up where only one or two individuals from each organization participates.

The incentives for participation differ between members, depending on the state of their internal green chemistry and engineering programs. For some, it provides a cost-effective way to access tools that they need to integrate green chemistry and engineering into their practices. For others, it provides a venue for consensus throughout the sector on the appropriateness and effectiveness of these tools, which helps justify their decisions to implement them. And there are members for whom it is a matter of corporate citizenship, or a desire not to be left out (the “band-wagon” effect). Beyond these incentives, members also justify the investment through the publicity they receive. When people are exposed to GCIPR’s work at conferences and other venues, many of them go to the partnership’s website to substantiate or gather more information. This helps spread a positive image of the members’ behavior. In the current market, the image that being part of GCIPR bolsters is important for recruiting staff, for public relations, and even for rankings, such as the Dow Jones Sustainability Index.

One of the challenges faced by GCIPR is the differing incentives of its members. There are a variety of different internal agendas that play out in decisions about the direction and activities to be pursued. Defining success can be difficult, since there is no clear metric associated with the overall mission to “catalyze the implementation” of green chemistry in the sector. GCIPR has developed a strategy to deal with these challenges, through its process of agenda setting and evaluation.

¹⁷ ACS GCI Pharmaceutical Roundtable 2007 Year in Review, http://portal.acs.org/portal/fileFetch/C/WPCP_008603/pdf/WPCP_008603.pdf.

TABLE XIV-2 GCIPR Mission Statement and Strategic Priorities

Mission Statement To catalyze the implementation of green chemistry and engineering in the pharmaceutical industry globally.

Strategic Priorities

Informing and Influencing the Research Agenda	To monitor and identify new research opportunities with implications for more efficient process development and production. To influence the technical agendas of federal/ international funding agencies by defining needs and advocating investment in specific areas of green chemistry and engineering innovation. To encourage external funding support for research in academic and government laboratories that will have direct value to the pharmaceutical industry.
Defining and Delivering Tools for Innovation	To identify, design, and provide tools available to member companies to promote green chemistry and engineering innovation within the industry. To provide a centralized resource for accumulating alternatives, sharing tools, maintaining the toolbox, and minimizing duplication of effort.
Educating Leaders	To educate and influence today's and tomorrow's pharmaceutical leaders on the business value and scientific merit of green chemistry and engineering and its application in the pharmaceutical industry.
Collaborating Globally	To provide green chemistry and engineering expertise to pharmaceutical corporations worldwide by utilizing the GCI network of international affiliates and researchers and by sharing best practices among our members.

Each year, the membership looks at the strategic priorities and establishes objectives for the year. These objectives aim to be at a level that leaves the members satisfied, according to their varied interests and goals. Since they are member driven, they vary from year to year, and over time present a “moving target.” When the objectives for the year are accepted, each member weighs whether, if they are met, they are enough to justify continued participation. Each activity is given a due date, and progress is reported quarterly. Finally, at the end of each year, GCIPR puts together

an end-of-year report, listing all of its activities, including progress in each strategic priority area, and any publications that were the result of contributions from GCIPR, or include the value of GCIPR.

While there have been activities in all four strategic issue areas, GCIPR has focused most heavily in the first two: Informing & Influencing the Research Agenda, and Defining & Delivering Tools for Innovation. For example, related to the research agenda, in 2007, the GCIPR spent a large amount of time assembling some of the key areas in pharma which would benefit from more green chemistry research at a pre-competitive stage. They co-authored a paper, "Key green chemistry research areas—a perspective from pharmaceutical manufacturers" which was published in *Green Chemistry* in May 2007. Based on the areas identified in this paper, GCIPR awarded grants to two research scientists in academia, totaling \$230,000.¹⁸ This paper was in the top ten most accessed papers of 2007 published in *Green Chemistry*, showing the importance of this work beyond the GCIPR.

GCIPR interacts with groups outside of GCI and the pharma industry. However, there are no plans to broaden membership to include either academics or government agencies. One of the strengths of GCIPR is that it provides a venue for pharma companies to discuss the implementation of green chemistry without the need to consider the response of regulatory agencies who might also be present in other venues. Given that pharma firms are subject to stringent regulations (especially from the FDA and its counterparts in Europe and elsewhere), there is not always a great deal of communication, beyond what is officially mandated, between industry and government. And while regulatory agencies are not eligible for membership, GCIPR has worked to help increase awareness in the FDA of green chemistry and the advantages of promoting its implementation in the pharma industry. Decisions to work with the FDA, or other government partners (such as NIH, National Institute of Standards and Technology, and the National Academy of Sciences) are made on a case-by-case basis by the members, but work has been done to form connections with these agencies at conferences and other venues.

Moving forward, GCIPR has several challenges. First of all, it is only in its fourth year, so its long-term viability is unknown. Its funding structure leaves it vulnerable to downturns in the pharmaceutical market—members will only continue their membership for as long as they can justify the expense, and in times when budgets are very tight, this could be difficult. There are also some questions arising regarding the ideal composition of the GCIPR, both in terms of size and the types of firms involved. There are always fears about members joining, especially at the lower-cost levels,

¹⁸ ACS GCI Pharmaceutical Roundtable 2007 Year in Review.

to essentially free-ride on the extensive work that has already been done by the current members. There has also been interest in membership from some of the larger contract manufacturers. As pharma becomes less vertically integrated, including some of these firms would have the advantage of increasing the impact of GCIPR across the entire supply chain. But it could also bring in a number of competitors who are potentially much more (or less) progressed in green chemistry practices, which would complicate the process of deciding on, and carrying out, GCIPR's activities. There is some concern that if GCIPR gets too large, the structure could change, or key members could be driven away.

In addition, because planning is done on a year-to-year basis, there is no real set of long-term goals or plans. This means that it is possible for GCIPR to become temporarily focused on one or two particular activities, which may or may not be moving it towards its overarching goal of acting as a catalyst for green chemistry throughout pharma. If membership changes or interest shifts, potentially valuable projects could end up being prematurely dropped. Also, there are some important issues that GCIPR will not, at least according to its current plans, be addressing in the near future. This includes the issue of pharmaceuticals persisting in the environment, which would require serious investigation into areas such as designing drugs for degradation. The member companies have already been addressing individually and in organizations outside of the GCIPR such as PhRMA (the pharmaceutical industry trade association). But members have reserved the right to revisit the decision on whether this is something worth addressing in the future.

Regardless of these potential issues, GCIPR continues to move actively forward. It continues to fund research into some key areas of green chemistry, work towards creating effective green chemistry tools and metrics for the industry, and increasing awareness, learning, and understanding. The GCIPR, interestingly, remained highly active even as GCI underwent its 18 months of internal turmoil. While it is technically a collaboration between GCI and the industry members, the fact that dues pay for the work of its dedicated GCI staffer, as well as the fact that its agenda is decided upon by its own internal governing group, make it robust to internal issues on the part of GCI.

The success of the GCIPR model thus far has not gone unnoticed by GCI. In April 2008, in conjunction with its spring Governing Board Meeting, new Board Member David Long (recently retired from SC Johnson) convened a meeting with representatives from a number of the major companies in the cleaning products industry. Their goal was to decide whether it would be valuable and feasible to form a similar GCI Roundtable in their industry, and what the scope and mission of such a group would look like. As GCI has come to resemble more of a business unit within a

larger organization, and less a partnership in its own right, it might have discovered that one of its comparative advantages is to act as a catalyst for other partnerships.

ASSESSMENT OF PARTNERSHIP AND CONCLUSIONS

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 outreach to the larger community. For many years, GCI was unique in the green chemistry community. While there were some other Green Chemistry centers in the United Kingdom, Australia, and elsewhere, their focus was largely technical. GCI was committed to building the green chemistry network, to encouraging the exchange of knowledge and information, and to raising awareness in the chemical community, in the broader scientific, educational and regulatory sphere, and in the general public. The continued growth of their conference, of the GCI global network, the popularity of textbooks in which they were major collaborators, and the increasing popularity of their summer school are all indicators that many of these efforts have been successful and durable.

However, the structural challenges that GCI has faced have provided significant barriers that they have overcome with varying degrees of success. At the outset, GCI's effectiveness was limited by funding and staffing constraints; most of the work fell onto a handful of partners. While the partners were certainly dedicated, this limited its reach. When GCI gained visibility 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. The recent challenges to leadership and staffing have left GCI in a situation where its activities were limited to its most basic, core functions—the annual conference, the distribution of research grants, facilitation of the Pharmaceutical Roundtable, and the judging of the Presidential Green Chemistry Challenge awards. While these are important functions, 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 challenges in establishing its role from some of the newer institutes belonging to the high-profile green chemistry champions like John Warner and Paul Anastas. These smaller, more nimble organizations are able to play to a specialized audience—and conceivably could have a similar niche to GCI in its early days. Ideally, GCI could take advantage of these institutes in a way that would allow GCI to disseminate its findings and services out

to its own, much larger, customer base. These organizations are not inherently in competition with GCI in its current form, as long as GCI is able to differentiate itself, and establish its role in the marketplace.

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 European Union (Registration, Evaluation, Authorisation and Restriction of Chemical substances—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 the most influence. The controlled chaos that could be effective in a new, emerging field is no longer strategically effective as the field matures. At the same time, that does not mean that GCI can no longer impact sustainability. For example, GCI could potentially take advantage of its position within ACS to spread an attitude within the organization 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.

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 one of its strategic advantages in the current environment.

With the new GCI Director, Peoples, onboard, a new strategic plan is already out for approval and a renewed focus and energy is manifest in the organization. Peoples brings a new perspective to the position based on a track record of facilitating partnerships through the consensus process and an extensive complementary set of industrial, business, and government connections. He brings a global sustainability perspective to the initiative at a time when the ACS Board of Directors just approved the elevation of sustainability as a Level 1 priority for The Society. It appears that the ACS GCI is poised to finally come into its own.

ADDITIONAL SOURCES

GCI Documents and Presentations:

- ACS GCI 2008 Strategic Plan (rev. November 2007)
- Final MSA Plan 2008
- ACS GCI 2007 Accomplishments
- ACS GCI 2007 Upcoming Activities
- ACS GCI 2005 Green Chemistry Year in Review
- GCI Pharmaceutical Roundtable Budget 2006
- GCI Pharmaceutical Roundtable Objectives Report 2006 (Q1)
- GCI Pharmaceutical Roundtable Year in Review 2006
- GCI Pharmaceutical Roundtable Year in Review 2007
- GCI Pharmaceutical Roundtable Business Plan 2007

Interviews with:

- Dr. Paul Anastas, Yale University, founding Board Member, GCI; Director ACS GCI (2004-2006) (March 7, 2008)
- Dr. Daryle Busch, University of Kansas, ACS President (2000), ACS GCI Governing Board (March 24, 2008)
- Dr. Berkeley Cue, Jr., ACS GCI Governing Board, VP of Research, Pfizer, Inc. (ret), GCI PR (February 28, 2008)
- Dr. Denny Hjerensen, Los Alamos National Laboratory; founding Board Member; Director ACS GCI (2000-2003) (March 17, 2008)
- Dr. Richard Engler, U.S. EPA (March 6, 2008)
- Julie Manley, ACS GCI Senior Industrial Coordinator, GCIPR (March 6, 2008)
- Dr. Jennifer Young, ACS GCI Senior Program Manager (March 18, 2008)

XV

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

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INTRODUCTION

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:

- **MIM Secretariat** (<http://www.mimalaria.org/>) has a small staff that coordinates the activities of the components, serves as the communication nexus for the malaria research community, and organizes the Pan-African Malaria Conference with a local committee of malaria researchers. The secretariat rotates to different partner organizations every three to five years: it was initially located at the Wellcome Trust in London in 1997, assumed by the U.S. National Institutes of Health (NIH) in 1999, moved to the Karolinska Institute in Stockholm in 2003, and is currently hosted by the African Malaria Network Trust (AMANET) in Dar es Salaam, Tanzania.

- **MIM/TDR** (<http://www.who.int/tdr/grants/grants/mim.htm>) is based within the Special Program for Research and Training in Tropical Diseases of the World Health Organization (TDR/WHO) which supports a program manager to coordinate the MIM Task Force review of research proposals from African scientists, to administer grant funding, to organize annual grantee network meetings, and to promote capacity enhancing activities such as training in project management, research ethics, and so forth, related to the three-year grants.

- **MIMCom** (<http://www.nlm.nih.gov/mimcom/mimcomhomepage.html>) is based at the National Library of Medicine (NLM) at NIH and led by the head of international programs. The MIMCom project has built scientific communications infrastructure and provided access to medical literature as well as training and support at malaria research sites across Africa.

- **MR4**, the Malaria Research and Reference Reagent Resources Center (<http://www.mr4.org/>), is housed by the American Type Culture Collection in Manassas, Virginia, and is contracted by National Institute of Allergy and Infectious Diseases (NIAID) at NIH to collect and standardize malaria-related reagents and protocols for relevant methods that are available at no cost to the malaria research community worldwide. MR4 also conducts and supports training workshops for malaria researchers.

Despite what might be characterized as a controlled chaos approach to partnership over 10 years, the MIM components have accomplished a great deal to strengthen malaria research capacity across Africa. The history of this complex approach to partnership provides the rationale for the evolution of MIM and highlights the challenges to tackling the enormous problem of malaria in Africa that still remain today.

PRE-DAKAR DISCUSSIONS

The operational reality of MIM grew out of a series of deliberative meetings in the mid-1990s culminating in a pivotal conference in Dakar, Senegal, in January 1997, exactly 100 years after Ronald Ross discovered the role of mosquitoes in the malaria parasite life cycle. The road to the Dakar conference was conceived at a meeting at NIH in July 1995. The NIH Director at that time, Dr. Harold Varmus, invited leaders from other major biomedical research funders such as Institut Pasteur, the Wellcome Trust, and the British Medical Research Council to discuss how these organizations could accomplish more to address the health problems of developing countries through cooperation and collaboration and to explore new strategies to optimize the use of their resources to maximize benefits. Driven by the conviction that scientific research efforts could address health problems that in turn would stimulate critically needed social and economic improvement, the participants concentrated on the health situation in Africa and decided that malaria research should be the focus of their initial collaborative activities. At a second meeting in April 1996 these funding agency representatives were joined by leading African scientists where an overarching goal for their collaboration crystallized: "To strengthen and sustain, through collaborative research and training, the capacity of malaria endemic countries in Africa to carry out the research required to develop and improve tools to control malaria." The late Dr.

John R. LaMontagne, then Deputy Director of NIAID, suggested a Dahlem-style conference¹ to identify the barriers that stifled the ability of African investigators to conduct malaria research and to make recommendations to overcome these barriers. Dr. LaMontagne's leadership was critical to the formation of MIM.

THE MALARIA RESEARCH SITUATION IN THE 1990s

The stark reality of malaria research and the malaria situation in Africa inspired the discussions. The malaria disease burden is highest in Africa where 48 out of 52 countries have endemic transmission and it is estimated that 60 percent of the 300-500 million malaria episodes worldwide and 80 percent of over one million deaths occur each year, primarily in young children and pregnant women. In 1995, at a time when the genomic revolution in medical research was well under way in generously funded labs throughout the industrialized world, these leaders in biomedical research acknowledged that a malaria vaccine was unlikely to be available soon and no new insecticides for public health use had been developed since DDT use was banned. Only a handful of new drugs were in development, most were years away from regulatory approval despite the rapidly increasing failure of anti-malarial drug treatment as resistant malaria strains spread from Asia throughout Africa.

MALARIA RESEARCH FUNDING DEPRESSION

Funding for malaria research was in a similarly depressed state. A 1996 audit conducted by the Wellcome Trust showed chronic underfunding and a declining trend in the world's public sector investment in malaria research (\$84 million, possibly doubled by industrial R&D spending) compared to the economic cost of malaria in Africa (estimated to be more than \$2 billion annually). In 1994, the U.S. Agency for International Development (USAID) was the single biggest funder of malaria research contributing \$9.7 million, however, down five-fold from 1985 due to setbacks in their malaria vaccine program. USAID would soon suffer from an additional 40 percent cut in funding for tropical disease research. In the year MIM was launched, the Institute of Medicine Board on International Health issued a report showing U.S. support for international health projects (\$7.3 billion) was lower

¹ Dahlem-style workshops attempt to "foster scientific creativity, the exchange of information and ideas between different fields, and the development of new theses on the basis of well-founded research. . . . Traditionally the workshops focus on areas of life sciences and Earth sciences." Reference: <http://www.fu-berlin.de/veranstaltungen/dahlemkonferenzen/en/index.html>.

as a proportion of GDP than at any other time since 1950, significantly lagging behind other industrialized countries (Japan \$14.5 billion, France \$8.4 billion, Germany \$7.5 billion). NIH contributed approximately one quarter (around \$20 million) of the world's total public support for malaria research. However, some funding had been invested over many years by several U.S. and European donors to train the current generation of African malaria researchers and support research collaborations between northern and African scientists. Despite paltry budgets, there was collective experience with research support mechanisms and research capacity strengthening programs among the research agencies to float the concept of a multilateral effort on which to build new collaborative activities.

BEFORE THE ERA OF PUBLIC-PRIVATE PARTNERSHIPS

The era of public-private partnerships to develop interventions for neglected diseases had not yet dawned. In 1992, Dr. Manuel Patarroyo donated an anti-asexual blood stage vaccine with promising although controversial trial results in Colombia to WHO for further human trials. At the time the concept of MIM was coalescing, trials of this vaccine and three other pre-erythrocytic stage vaccines conducted in Africa and Asia demonstrated little effect. Just as an explosion of malaria drug resistance was recognized in Africa, creating a pressing need for new anti-malarial drugs, the pharmaceutical industry abandoned most malaria R&D as part of the multiple consolidations among these companies during the 1990s. By 1997, only two drug companies were pursuing malaria vaccines. The only remaining malaria drug developer announced it was halting this effort. However, other malaria research partnerships were bearing fruit. The Walter Reed Army Institute of Research in collaboration with SmithKline Beecham announced that preliminary evaluation of an anti-sporozoite vaccine protected 6/7 volunteers (a version of this vaccine is now in phase 3 trials in Africa). A multinational collaboration sequencing the *Plasmodium falciparum* malaria genome supported by the U.S. Department of Defense, Burroughs Wellcome Fund, Wellcome Trust, and NIH was under way.

THE CHALLENGE OF THE PARALLEL AGENDA

The tension between investing in the short-term morbidity and mortality gains resulting from malaria control versus deriving long-term benefits from developing new anti-malarial tools through research was evident in the 1990s and continues to be debated in the broad scientific community tackling the malaria problem today. A parallel series of deliberative discussions focused on malaria control was conducted during approximately the same time frame as the MIM concept incubated, resulting in the Roll Back

Malaria (RBM) Initiative in 1998, the year after MIM was launched. The RBM umbrella of partnerships centered at WHO and many other control (as opposed to research) programs that were developed in the last decade proved challenging to the growth of MIM.

INCREASED FOCUS ON MALARIA CONTROL

In 1992, following the Global Malaria Conference in Amsterdam where many governments of malaria-endemic countries raised awareness of the severity of the problem, a Global Malaria Control Strategy was adopted. Alarmed by the worsening malaria situation in 1993, WHO called for a renewed global effort to combat malaria. A 25-member scientific advisory board of malaria researchers formed the Malaria Foundation International which initiated a malaria awareness campaign with a website (*www.malaria.org*) in 1995. Malaria was a focal issue in the “Transatlantic Agenda” discussed at the summit in Madrid between the United States and the European Union member states in the same year. In 1996, Ebrahim Samba, the Africa Regional Director of WHO and Richard Feacham, director of the Health, Nutrition and Population division at the World Bank, began exploring an idea to create a multi-agency, 30 year program to control malaria. Malaria control appeared for the first time on the agenda of the Organization of African Unity annual summit of heads of African countries in Harare in July 1997. After discussion of the initiative at the G8 Summit in Birmingham, England, in April 1998, the RBM initiative was launched by a consortium of the WHO, the World Bank and other UN agencies and announced by Gro Harlem Brundtland, the new WHO Director General, in her acceptance speech in May. The expressed aim of RBM was to halve the world malaria burden by 2010 by advocating for increased use of currently available treatment and prevention tools.

THE TENSION BETWEEN MALARIA CONTROL AND RESEARCH

The tension between malaria control versus malaria research camps is illustrated by some of the public expressions (news articles in *Nature* and *Science*) of Harold Varmus and Richard Feacham during the time in which MIM and RBM were conceived. In a 1997 article, Varmus is reported saying that research should be an essential component (of RBM) and the world’s major research bodies would, therefore, need to be “formal partners.” Feacham is quoted as responding “The possibility the (RBM) program will fund research has not been excluded, it could be inside or outside but strongly linked.” Varmus: “Moves to develop control programs without a strong emphasis on research are pennywise and pound foolish, you can’t do control without research because you don’t know the best way to do it.”

Feacham: “We need an integrated approach, not thoughtless grabbing at the latest attractive idea and putting it into the field without adequate care” and “No magic bullet developed in a lab in London or Washington will end malaria.” Varmus voiced the need for action to complete the anti-malarial work already going on and called for a collective effort to enact a grand strategy for research relevant to malaria treatment and control.

THE SPIRIT OF DAKAR: JANUARY 1997

The three-day conference “Malaria in Africa: Challenges in Cooperation” was retrospectively baptized the first MIM Pan-African Malaria conference. The Dakar meeting is described as a watershed moment in malaria history that engendered incredible enthusiasm for cooperation and collaboration with African scientists to find solutions to this enormous problem. It featured in *Science* and *Nature* news articles as well as in the press with several follow-up stories in the subsequent year. One hundred and twenty malaria experts from 35 countries participated (50 were from 22 African countries) along with leaders from all the major malaria research funding agencies. No formal scientific presentations were made. Instead, participants met in 10 discussion groups to identify research priorities in their area of scientific interest. Two additional groups met to discuss research training and potential mechanisms of cooperation and support. It was considered 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 the way forward, to debate ways to strengthen and coordinate research needed to develop or improve tools for malaria control.

MECHANISMS OF COOPERATION AND SUPPORT FOCUS GROUP REPORT

During the Dakar conference, 20 representatives from 14 research funding agencies formed a group charged with discussing how partnership could play a role in enhancing malaria research. Consensus principles for international scientific collaboration were defined. They agreed that coordination between various funding agencies was needed to offer increased opportunities for scientists from all three continents to jointly tackle malaria research. All expressed the desire to support the priority malaria research areas in which international partnerships would most likely lead to new malaria control tools. However, the focus was primarily on ways to enhance relationships between malaria scientists, not building relationships between agencies. The final group report states, “First and foremost, it should be clear that the organizers of this conference intend to harness

existing mechanisms to foster international collaboration.” The results of their deliberation also included the following recommendations:

- To foster genuine partnership between malaria scientists from different continents, improved means of communication (especially electronic) for the malaria research community in Africa were needed.
- Long-term substantial research capacity strengthening (African scientific research training and career development) should be the cornerstone of collaboration.
- Joint agency funding of malaria research activities and coordinated development of scientific projects could be considered if there is an expressed need by the malaria community. New mechanisms could be developed as needed to coordinate approaches among agencies.

OUT OF DAKAR

The Dakar conference participants agreed on the overriding need to build sustainable research capacity in Africa through partnership between scientists from different continents and the immediate priority to provide African malaria scientists access to the Internet. Sustainability was enthusiastically embraced in the idealized goals for MIM, however, plans to sustain the organization were left unresolved. Varmus pledged one million dollars and the technical expertise of the NLM to build communication infrastructure at African malaria research institutions on the spot in Dakar. Priorities for long-term malaria research in Africa were identified and a call for letters of interest in conducting this collaborative research was issued by Dakar participants in April. The published call indicated that letters of interest were to be reviewed by an international task force at a follow-up meeting in the Netherlands in July, however, there was no name, administrative or financial structure forged for the purpose of handling this enterprise. Varmus commented, “No one has said, ‘Here’s my 10 (million); here’s my five; here’s my seven.’ Nobody’s talking specific dollars at this point,” that he personally likes the idea of giving this effort a new name, something like “The Alliance Against Malaria” and possibly a “little pot of money” to call its own, that one possibility would be to simply look at proposals and assign them to different agencies for support, but that he was willing to consider a more formal international structure to pool funds. Maxime Schwartz, the director of Institut Pasteur acknowledged that “several people are hesitant about creating a new administrative structure” to run this effort.

THE HAGUE MEETING JULY 1997—THE DEVIL'S IN THE DETAILS

The Multilateral Initiative on Malaria name first appeared during preparations for 60 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. Meeting 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 process in which common application forms would be jointly peer reviewed and subsequently, individual agencies would select a portion of the meritorious proposals to fund. Varmus initially asked agencies to “take risks . . . on interagency funding” of research through schemes that would be “not permanent but experimental.” Barend Mons, from the Netherlands Organization for Scientific Research noted that “research agencies are ten years behind” and research managers “need to share resources like scientists do.” In contrast, Robert Howells of the Wellcome Trust pointed out that “collaboration and cooperation are a reality at the level of the investigator” already because most scientists receive funding from multiple agencies. Shared peer review of applications among agencies was thought to be legally difficult and practically cumbersome. There was concern that the proposed changes could upset established working relationships in agencies involved in malaria research and some fear of the dominance of NIH. Varmus dismissed these agency positions on MIM as defending “business as usual, with a little more enthusiasm.”

MONEY BECOMES THE PERCEIVED PROBLEM

All participating funding organizations indicated constraints in increasing funding to support more malaria research. Some scientists didn't see the point of installing another level of grant bureaucracy without providing increased funds for malaria research. It was not clear that lack of funds was the most significant barrier to funding agency partnership for MIM. An analysis of the letters of interest indicated that 50 percent of best projects could be supported for around \$10 million per year, just 10 percent total spending on malaria research at the time. In the rethinking spurred by the deadlocked discussions of interagency financing mechanisms, advocacy for increased malaria research funding was added to the MIM agenda. The Malaria Foundation offered to develop a public relations strategy to increase malaria research funding. In the end, many of the research agencies present stepped up to do what they could do best, on behalf of MIM. Tore Godal agreed that WHO/TDR, perceived as relatively neutral and experienced in making capacity-strengthening grants to African scientists,

would coordinate the response to the 138 letters of interest (later to become the MIM/TDR component). NLM volunteered to steer the development of a strategy for Internet connectivity for major African malaria research institutions (later to become MIMCom). The Wellcome Trust in London agreed to host the next MIM meeting. Representatives left the Hague with disappointing promises to “improve communication and coordination” and to study the issues further. Nearly a victim of a premature birth, MIM was subsequently described as a “loose confederation” of funding agencies with the flexibility to achieve its objectives with existing funding mechanisms with “the added value of coordination and synergistic action” supplied by MIM.

THE WAY FORWARD—MIM EMERGES—LONDON MEETING NOVEMBER 10-11

In November 1997, the core MIM agency partners (NIH, the Pasteur Institut, the U.K. Medical Research Council, WHO/TDR, and the Wellcome Trust) assembled in London for another attempt to organize the initiative. A loosely structured effort emerged in which each agency agreed to take responsibility for a specific part of the program. The meeting backed a proposal from the MIM Task Force (African and non-African malaria researchers working in Africa which reviewed the letters of interest) to fund a small number of collaborative research grants between a scientist at an internationally competitive African lab with a partner in less developed African institution and a non-African partner using an expected budget of \$2.5 million per year. WHO/TDR took responsibility for the continued management of the MIM/TDR Task Force review and administration of this competitive grants program. An organizing office charged with coordinating MIM activities (eventually called the MIM Secretariat) was established at the Wellcome Trust in London for a year, widely seen as a means of depoliticizing the initiative. NIH held a planning meeting in November to gather ideas from malaria researchers about how a malaria reagent repository should function. After a planning contract, a seven-year, approximately \$1 million per year NIAID contract was awarded in September 1998 to the American Type Culture Collection to set up the Malaria Research and Reference Reagent Resources Center (MR4, the fourth component of MIM) to provide the malaria scientific community parasite, proteins, molecular biology reagents and immunologic reagents with a subcontract to the U.S. Centers for Disease Control and Prevention for mosquito vector reagents.

EVOLUTION OF MIM— MAKING IT UP WHILE MAKING IT HAPPEN

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:

- **MIM Secretariat:** During the first two rotations, the large host research funding agencies supported program staff and operational costs. Contributions from partners were solicited to support activities such as workshops and conferences.
- **MIM/TDR:** TDR/WHO supported grants management staff, the MIM Task Force's work, and contributed to a pool of grant funds obtained from other donors
- **MIMCom:** NLM supported a project director who brought on a technical contractor, training, and some operational costs. Initially, installation and operational costs were shared by local institutions and research agencies funding malaria research at these sites (more than 30 partners for 19 sites in 13 African countries). MIMCom acted with the guidance of a website advisory committee composed of 11 African malaria researchers.
- **MR4:** NIAID provided a competitive contract to support scientific and administrative staff and operational costs. A Scientific Advisory Board of at least 12 international scientists (including Africans) serving 3-4-year terms determines priorities for acquisitions, workshops, distribution strategies, and so on.

The MIM Secretariat remained the weathervane for the overall initiative. The rotation of the Secretariat was meant to encourage different partner organizations to contribute new energy and new approaches based on their strengths through MIM administration. Hence, each Secretariat implemented a unique set of activities, contributed new approaches to original Dakar mandate and refined MIM goals. As the initial Secretariat, the Wellcome Trust established several channels to facilitate communication within the malaria research community (newsletter, web site, journal articles, and meetings). As promised at Dakar, the Wellcome Trust conducted an unprecedented review of malaria research capabilities in Africa as well as a compilation of research training opportunities for developing country scientists. To pursue the success of the Dakar conference, the MIM Secretariat committed to organizing a regular Pan-African Malaria Conference at the end of their rotation, held in Durban, South Africa (1999), Arusha, Tanzania (2002), Yaounde, Cameroon, (2005) and tentatively scheduled for

Nairobi, Kenya, in 2009. The decision to transfer the Secretariat to NIH was made at the Durban conference. The FIC/NIH secretariat focused on promoting partnerships and addressing additional research capacity gaps through workshops and meetings. The FIC/NIH secretariat implemented a competitive proposal submission process for hosting the Pan-African malaria conferences and a democratic mechanism for the succession to host the MIM Secretariat.

EVALUATION AFTER FIVE YEARS— 2002 EVALUATION OF MIM PARTNERSHIP

1. In 2002, five years after the launch of MIM, an independent review panel was organized by FIC/NIH at the end its tenure hosting the Secretariat to convey guidance for refining the initiative to the new Secretariat in Stockholm. The reviewers found MIM to be a healthy growing group of four organizations still in its infancy. A remarkable number of objectives designed at Dakar had been realized by the time of the review through the work of the MIM components. The 1997 operational and strategic concepts based primarily on hope and theory were thought to have grounded MIM's early success, however, the reviewers pointed to core business functions and governance which needed strengthening in order to sustain the organization while moving its agenda forward.

2. The reviewers found confusion about specific goals of MIM which had evolved with two secretariats and three components over time due to 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). They suggested that MIM develop guidelines for the responsibilities of partners and partner accountability, and offer both "buy-in" and "serve-in" options to maintain equitable democracy among those from north and south. Their recommendations were seen to be mutually re-enforcing: A strategic plan with a single set of goals shared by all the MIM components was crucial to fundraising efforts pursued under the leadership of an Advisory Board, to maintain existing partnerships and cultivate new ones. The reviewers acknowledged that the number and variety of potential partners (and competitors) for funding had multiplied dramatically since MIM was founded along with the tensions between the malaria research capacity mandate of MIM and the malaria control agenda. MIM was urged to position itself relative to other initiatives such as 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. MIM was encouraged to pay careful attention to what roles it

could play to leverage resources from the large new control-oriented initiatives. The reviewers provided the following recommendations to guide the organization's coming of age:

- Refine and clarify MIM's vision in a single, overarching set of goals and objectives (operational and scientific) for the next five years and develop a strategic plan to fulfill them.
- Enhance communication and coordination among the four MIM components.
- Strengthen MIM's organizational structure by creating a small but powerful Advisory Board with a strong African voice, increase the tenure of MIM's Secretariat, and plan for the transfer of the Secretariat to an African institution.
- Plan strategically to augment and secure MIM's long-term resources and funding.

The review also provided constructive management recommendations for each of the MIM components to carry forward in 2002-2007:

- **MIM Secretariat:** Fundraising was foreseen as an increasing Secretariat staff responsibility. A goal of doubling the total MIM budget of \$8 million in 2002 was thought to be realistic over the next five years. The Secretariat's lack of status as a legally chartered organization was identified as a barrier to receiving funds from some organizations, especially NGOs. The reviewers commented that the housing of the first two secretariats within large research funding agencies willing to generously support their activities may have stunted the development of other stable funding streams. They suggested that length of rotation at each hosting institution increase to 4-5 years to decrease the proportion of each rotation spent learning the ropes while increasing the time for activities at full strength. The Secretariat in Stockholm was charged with "solidifying MIM's operations and finding stable funding to sustain the effort" while mentoring a potential African partner institution in preparation for the subsequent rotation.
- **MIM/TDR:** After the London meeting, MIM/TDR administered an annual research grant competition for African malaria scientists (23 multi-centric projects were funded by this time, involving 24 African and 7 European countries and the United States). By 2002, many projects were joined into regional networks (dedicated to anti-malaria drug resistance, epidemiology and information technology, pathogenesis and immunology and vector biology and insecticide resistance) that were thought to enhance the value of their research. WHO/TDR was increasingly challenged by donor-driven interests and earmarking, making it difficult to direct funding to MIM grants. Donors were ambivalent about contributing to MIM

as well as RBM, both at WHO. Since TDR had its own strategic plan for malaria control tool development, the reviewers were unclear what role the MIM projects played in its overall malaria portfolio and priorities and suggested mutually beneficial integration. They also suggested that the MIM/TDR Task Force role in grant proposal review be expanded to provide more strategic advice to all the MIM components.

- MIMCom: The review panel encouraged this effort to move from an opportunistic approach to enhance Internet connectivity for African malaria research institutions to a more strategic approach for a large ongoing effort to recruit appropriate funders.
- MR4: The reviewers pushed for MR4 to do more to assist African scientists to gain hands-on involvement in cutting-edge research done in Africa and suggested that it revisit the idea of satellite centers in Africa as a way in which African scientists could become more closely involved in developing and sharing malaria reagents.

CONTEXT—2004 ASSESSMENT OF THE MALARIA RESEARCH

In a 2004 commentary, Brian Greenwood from the London School of Hygiene and Tropical Medicine stated “overall malaria research was better funded than ever, thanks to increased support from previous donors and the injection of several hundred million dollars from new donors such as the Bill & Melinda Gates Foundation. However, an essential component was being forgotten which risked the waste of new interventions and funds: the human resources in Africa needed for researching and implementing malaria control measures.” In another article, four well-funded African malaria researchers complained that “inadequate dialogue between malaria researchers and malaria control program managers made the translation of research results into immediate interventions in the field a big challenge for them.” They viewed malaria research in Africa, outside the MIM, as fragmented with weak and irregular linkages within African institutions and countries, along Francophone-Anglophone divisions and between north and south, with the bulk of research funding still going to northern partners in collaborative projects with some African researchers relegated to role of collecting field material. “Embracing post-genomics research will remain a pipedream for African research as long as the funding imbalance remains. Leadership in malaria in the north must exist in tandem with African excellence. There must be a meeting of the minds between the northern and southern partners and those who hold the purse strings to improve funding for malaria research in Africa.” A survey of MIMCom users showed that the network improved the professional performance of African researchers through email exchange with other scientists, access to published literature,

and research proposal development and submission, and writing manuscripts for publication.

2004 REASSESSMENT OF MIM

To follow up the recommendation of the evaluation, the Secretariat in Stockholm convened a MIM Strategic Advisory Board of eight well-known scientists and provided the following recommendations focusing primarily on its scientific agenda, not its organizational needs for sustainability and partnership:

- MIM should maintain its focus on research capacity strengthening—MIM/TDR was encouraged to include socioeconomic and behavioral malaria studies in the grants application mechanism but not at the expense of other current scientific areas.
- MIM might establish better linkage to malaria control through encouraging applications in operational and health systems research including collaboration with local control organizations.
- MIM should propose larger projects involving several MIM components with defined expected outcomes to present to donors for funding.
- MIM/TDR should consider increasing the duration of MIM grants and outreach efforts to Francophone African malaria researchers.

Specific challenges to each of the MIM components were described:

- MIM Secretariat: Tightening up organizational coordination without crossing the line to governance.
- MIM/TDR: Strong African researchers not necessarily backed up by strong institutional research environments that need leadership, financial management, statistical support, and administrative capacity strengthening.
- MIMCom: A growing need to develop information technology management capacity, especially to ensure the ability to conduct bioinformatics and genomics research.
- MR4: Increase usage by African scientists, perhaps by opening small-scale MR4 satellites in Africa initially providing basic malaria reagents as well as training in methodologies for using them and good laboratory practice.

INVESTMENT IN MALARIA RESEARCH— THE BIG PICTURE IN 2004

In 2005, the Secretariat in Stockholm hosted the Malaria Research and Development Alliance that produced a detailed assessment of the global

investment in malaria research and development. A four-fold increase in funding (to \$323 million) since the Dakar conference was identified. The two largest contributors, NIH and the Bill & Melinda Gates Foundation, provided 49 percent of total malaria research funding in 2004. A recent analysis of the impact of the Grand Challenges for Global Health Initiative supported by the Gates Foundation postulates that, contrary to the traditional wisdom that increases in funding in one agency in a particular area of research will lead other agencies to reduce their support to this field, NIH increased funding to global health research approximately \$1 billion (primarily for HIV/AIDS research) spurred by Gates funding, at a time when the overall NIH budget experienced little growth. However, the Malaria R&D Alliance estimated that if malaria research was funded at the average rate for all medical conditions, it would receive more than \$3 billion annually. Their survey also indicated that only 3.8 percent of malaria funding (\$12.4 million) was spent on malaria research capacity building in 2004, the major focus of MIM.

MIM NOW—MIM MOVES TO AFRICA

- In 2006, the MIM Secretariat rotated to AMANET in Tanzania for five years following the fourth and largest yet Pan-African Malaria Conference in Yaounde, Cameroon. This was attended by more than 1,500 participants from 65 countries and supported by more than 25 sponsors. It was organized back to back with the RBM Partnership Forum V. In preparation, a new coordinator spent several months with the Stockholm Secretariat and temporary funding from the Swedish International Development Agency (SIDA) was transferred to sustain core functions until new funding was secured. Unfortunately, the coordinator left a short time after the transfer. A former MIM/TDR grantee was hired in 2007 as the new coordinator. Several funding proposals have recently been submitted to MIM partners, monthly conference calls are convened with representatives of the MIM components and the Strategic Advisory Board and planning for next Pan-African Malaria conference in Nairobi, Kenya in 2009 is ongoing. A plan to convert the MIM Secretariat to a charitable foundation which could better channel donor funding to grants and other research support activities is being considered.

- By 2007, MIM/TDR supported 69 malaria research grants to African scientists for a total of \$12.9 million over 10 years. These projects produced over 100 research articles and trained over 200 malaria research students. Many of the early grantees subsequently received grant support from other international research agencies and emerged as scientific leaders with international reputations. However, the reduction in funding to the program has curtailed the size and number of projects supported in the last

few years. In 1998, MIM/TDR had six partners who contributed a total of almost \$4 million. In 2006, only two partners remained, contributing a total of \$1.4 million.

- In its second phase, MIMCom with support from SIDA, facilitated Internet connectivity to five sites in three additional African countries where MIM/TDR grantees conducted research. Information technology managers have been trained for each site and two of the most experienced managers now conduct new site assessments for the program.
- MR4 received renewed contract support from NIH in 2006.

MIM PARTNERSHIP IN A CROWDED LANDSCAPE

Between 1997 and 2007, 7 bilateral and multilateral initiatives, 5 public-private partnerships, 19 coalition/alliances/NGOs/foundations, 7 campaigns or grassroots networks and 7 private industry initiatives were initiated to fight malaria, increasingly a crowded landscape that has intensified the same problems recognized at the time of the Dakar meeting: lack of international donor coordination, fragmented funding, little capacity building in Africa and insufficient communication and genuine partnership with African stakeholders. Tenuous integration of malaria research and control efforts continues in the context of much bigger stakes. For example, the Global Fund and President's Malaria Initiative are supporting a large influx of anti-malarial drugs and insecticide-treated bednets in many African countries with minimal support for research related to these efforts. Many worry about the sustainability of these interventions considering the natural history of drug and insecticide resistance. Many are hesitant about recent renewed call for the eradication of malaria based on the previous history of malaria control efforts. Many U.S. and European research sponsors of new malaria diagnostics, drugs, and vaccines resulting from the increased investment in malaria R&D since Dakar are beginning to find the lack of malaria research capacity in Africa a major barrier to translating these products into public health successes. Reminiscent of the origins of MIM, major sponsors of global health research recently met in Stockholm to devise plans for cooperation, alignment, and harmonization in capacity building in Africa for research in health. This meeting and others were planned to support a declaration for increased commitment to African health research by the World Health Ministers' Forum in November 2008 in Bamako, Mali, to tackle the bigger challenge of establishing viable health research systems in all African countries.

LEADERS GO AND COME

The high-profile leadership who initiated the Dakar Conference mostly moved on to other challenges in new positions, however, some to other influential malaria related endeavors. Committed scientific program staff working with African malaria researchers turned the Spirit of Dakar into realized achievements and continue to provide guidance gained from their experience after the rotation of the secretariat. Inherent in the wisdom of its founding principles, MIM nurtured its own leadership with increasing numbers of young African malaria scientists participating in the advisory groups for the MIM components, leading the organization of the MIM conferences and coordinating the activities and fundraising for the organization.

THE FUTURE

MIM is still a good idea. Capacity building for African malaria researchers through the support of a coalition of partners dedicated to their sustainability is needed now more than ever to take advantage of the unprecedented influx of funding for new interventions to control malaria on the continent. MIM is in a precarious but exciting phase of moving to Africa to establish its activities on the front lines of the malaria battlefield. The risks of relocation are high being hosted by an African NGO highly dependent on external funding in a setting with minimal experience and investment in national research and development and an insufficient pool of active scientists. However, it is clear that externally funded malaria intervention development cannot progress without collaboration with African malaria researchers and coordination with all interested African stakeholders. The current MIM envisions its future as a key player to bring together all interested parties to build the necessary capacity and leadership in health research and to lead the construction of an effective platform of research cooperation in Africa.

The MIM Secretariat recognizes the need to re-direct its efforts. In contrast to previous secretariats, MIM is now close to the researchers in the field which it sees as its strategic advantage. The first priority for MIM is to clearly determine the achievements made so far toward the Dakar goals and to elaborate a strategy for the next 10 years tied to fund raising. It identifies three priority areas for the near future:

1. Research capacity building targeted at identified African institutional or regional needs through more engagement via networks with local researchers to assist them in their day-to-day efforts. A critical mass of scientists active in the field are often overloaded with responsibilities and

cannot respond to funding opportunities or devote time to mentor emerging groups.

2. Intra-African communication, collaboration, and partnership need to be promoted. African researcher contributions are not sufficiently acknowledged regionally and to some extent, are better recognized internationally.

3. Intra-African advocacy for research and policy. Recently, MIM welcomed an ambassador for raising the visibility of malaria research in Africa, a famous African performer and singer with a wide fan base across Anglophone, Francophone, and Lusophone Africa who is well known by all levels of the society. MIM expects this effort to increase the awareness of the efforts made by African researchers and to open the door to local African leaders.

The MIM Secretariat also hopes to address issues related to functioning of the organisation such as its legal status, the options to set up a foundation to receive funds, and management of its complex organizational structure.

Over its 10-year life span, fewer partners have provided long-term commitment to operational support for the MIM components. However, the MIM Pan-African malaria conferences garner increasing numbers of participants, sponsorship, and media coverage. As if repeating the cycle, malaria research funding organizations have once again recognized the need to organize in order to more effectively build research capacity in Africa. Fostering MIM as an organization while simultaneously addressing its objectives will likely be its *modus operandi* for 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.

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XVI

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

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LIVESTOCK, SMALLHOLDERS, AND POVERTY IN SUB-SAHARAN AFRICA

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 keep livestock. Their cattle, buffalo, sheep, goats, pigs, and poultry holdings 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 smallholder households—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 reducing poverty. Recent studies of Kenya and Ethiopia, for example, suggest that investments in improving livestock productivity can have a significant impact on reducing poverty relative to other investments at both the household and national levels (Burke et al. 2007; Diao and Pratt 2007).

Yet smallholders face an increasing number of challenges to their existence, including shrinking and contested grazing lands, eroding livestock and forage biodiversity, weak rural infrastructure, incomplete markets and market institutions, unresponsive policy systems, and a heavy disease burden among livestock.

It is against this backdrop that efforts to improve livestock—to enhance productivity, reduce vulnerability to disease, and increase value in the mar-

ketplace—are recognized as vital to improving the livelihoods of smallholders in sub-Saharan Africa. And it is against this backdrop that livestock vaccine research and development has received a growing level of attention in recent years. When combined with other interventions such as disease surveillance, genetic improvement, and market development, vaccines represent an important means of securing the value of livestock as a source of livelihood for the poor.

This study examines a recent vaccine development project designed to combat East Coast fever (ECF), a livestock disease that causes production losses of US\$300 million per year, primarily among small-scale, resource-poor households in eastern, central, and southern Africa. The project was a unique initiative that was designed and implemented as a partnership among public research organizations, advanced research institutes, universities, and a private company.

Data and information for this study are drawn from several sources, including the following: an in-depth review of literature on the project and its partners; presentations on the project given by its principals in 2005; semi-structured interviews conducted with key informants that were conducted in person and by email in 2006; and follow-up interviews with several key informants in 2008.

Findings from this study suggest that the project represents an innovative response to a complex problem that requires solutions from a range of diverse organizations with different capabilities. As a model for future public-private partnerships, the project also offers invaluable lessons on how to exit from a partnership when proof of concept cannot be established. As such, this paper is meant to provide insights to researchers, research managers, investors, and policy makers on how research partnerships can be effectively designed and implemented in support of global efforts to promote sustainable development and alleviate poverty in sub-Saharan Africa.

This study is organized as follows. The second section examines ECF and the feasible solutions to the disease in Africa. The third section traces the design and implementation of the ECF vaccine project, followed by an analysis of the project in the fourth section. The paper concludes in the fifth section with an assessment of the lessons learned from the project and its possible implications for future research partnerships.

EAST COAST FEVER: THE PROBLEM AND ITS POSSIBLE SOLUTIONS

Tick-borne diseases represent a class of livestock disease that can be optimally combated through vaccination. Ticks surpass all other arthropods in the number and variety of pathogens that they transmit to domestic animals. Recent studies indicate that livestock ticks alone are responsible for

US\$14-17 billion of economic loss annually throughout the world, while in sub-Saharan Africa, ectoparasites (parasites that attached to the host's surface) are implicated among the top 10 livestock health constraints (Perry et al. 2002).

Yet the currently available means of combating tick-borne diseases are often too costly for small-scale, resource-poor households in many sub-Saharan African countries. In East Africa alone, the costs of acaricide application by hand-spraying or dipping—currently, the primary means of tick and tick-borne disease control in both smallholder dairy and traditional cattle systems—can amount to between US\$6 and US\$36 per adult animal in Kenya, Tanzania, and Uganda (Minjauw and McLeod 2003). And this does not include the costs associated with declines in efficacy due to increasing resistance to acaricides, the costs associated with environmental contamination and food safety, or the problems generated by variations in the availability of acaricides in local markets. Hence, there is an urgent need for more effective, sustainable, and environmentally friendly technologies.

The Threat and Costs of East Coast Fever

ECF is a major tick-borne bovine disease caused by the *Theileria parva* protozoa. ECF is prevalent across the eastern, central, and southern parts of Africa, and is found in 11 countries in the region: Uganda, Tanzania, Kenya, Burundi, Malawi, Mozambique, Rwanda, Sudan, Zaire, Zambia, and Zimbabwe. The disease places some 28 million cattle at risk in these countries, and lays claim to at least 1 million cattle deaths per year.

In terms of the economic costs, production losses caused by ECF-related morbidity and mortality are estimated at approximately US\$300 million per year. From this figure, losses from lower milk production account for 47 percent of total losses, followed by losses incurred by the costs of tick control and treatment (28 percent), losses to traction (13 percent), and losses in meat (12 percent) (Ndegwa 2005).

There are several methods of treating ECF. One method is the intensive use of acaricides by hand-spraying or dipping. But for the reasons described earlier, this method has only limited impact among smallholders in sub-Saharan Africa. Another method is chemotherapy treatments for cattle, although this approach has also yielded only limited success, with costs that exceed acaricide use.

Low-cost vaccines may be an ideal treatment against ECF. In the mid-1970s, the East African Veterinary Research Organization in Kenya developed a vaccine for ECF that relies on infection of the animal with live parasites combined with simultaneous treatment with an antibiotic (oxytetracycline). In 1996-1997, the International Livestock Research Institute (ILRI) further demonstrated its efficacy and developed batches of the

live vaccine for commercial deployment. However, the live vaccine has several limitations: It requires cold chain storage for the vaccine, trained manpower for its safe and effective deployment, and a relatively high cash outlay for the vaccine (US\$8-12 per immunization plus eartagging and antiworming treatment). This makes it a somewhat less desirable option for scaling up in those African countries where ECF is prevalent, although it has been widely deployed. Of the 600,000 doses which were made in 1996-1997, less than about 120,000 remain, implying that over 450,000 cattle have been immunized.

Nonetheless, ILRI continues to invest in improving disease control strategies through use of appropriate diagnostics and vaccines. The institute strongly believes that advances in fundamental understanding of disease processes will provide tools for scientists to better characterize and address the threats to livestock. When combined with investments in conserving and applying genetic resources to develop disease-resistant livestock, and with investments in learning and capacity building to strengthen national livestock research programs in developing countries, the institute expects that its work on disease control strategies will contribute to securing livestock assets, increasing livestock productivity, and reducing poverty in many sub-Saharan African countries (ILRI 2008a).

The Search for an ECF Vaccine

Hence, ILRI and its many partners in the global livestock research community hold an intense interest in the development and deployment of an ECF vaccine that is effective, safe, user-friendly, and affordable. However, the search for such a vaccine remains fraught with challenges.

First, the global state of research in livestock vaccines is fairly limited with respect to the needs of smallholders in sub-Saharan Africa (Jeffries 2005). In spite of a long record of excellent research in the field of livestock vaccines, there are few effective products in the market that combine appropriate vaccines with effective delivery systems for deployment across highly dispersed rural populations.

Second, agricultural research expenditure trends suggest that livestock research in developing countries has been an area of waning interest in recent decades. Between 1981 and 2000, the growth rate of public investment in agricultural research stagnated across sub-Saharan Africa (Beintema and Stads 2006), thus endangering already underfunded national research programs in animal health. Major donors also shied away from funding agricultural development beginning in the 1980s, and have only recently placed agricultural research back on their agendas.

Third, in the private sector, a series of mergers, acquisitions, and consolidations in the animal health business further reallocated research

spending away from the product development and marketing that targeted developing countries (Jeffries 2005). In short, the environment surrounding the search for an ECF vaccine was hardly a favorable one.

Despite these challenges, three key scientific observations suggested that a vaccine could be developed in spite of the systemic challenges. First, cattle that recover from *Theileria parva* infection naturally or after treatment are solidly immune to infection with the same parasite, implying that immunity is effectively conferred by exposure. Second, this immunity is mediated by cytotoxic T cells, an observation made in the late 1980s and early 1990s at a time when the role of these cells was only just being understood, mostly in viral infections. Third, the transfection approach developed by ILRI in the early 1990s, in which parasite genes were introduced into mammalian cells and assessed for reactivity with cytotoxic T cells, had identified a total of six antigens that could be used for further development of an ECF vaccine.

Not uncommonly, the idea for a new approach to developing an ECF vaccine emerged from informal discussions between scientists. Malcolm Gardner, a faculty member at The Institute for Genome Research (TIGR) based in Rockville, Maryland, and Vish Nene, a molecular biologist at ILRI, met during a conference convened in 1998 at Oxford University on malaria. The two scientists discussed whether Gardner's work on sequencing the human malaria parasite *Plasmodium falciparum* was in some way applicable to the *Theileria parva*, given the close relation between the organisms and their vectors (Goldberg 2001).

The idea for a significant research project that incorporated a new genomics-based approach emerged from their meeting and received immediate support from Claire Fraser, then president and director of TIGR. ILRI's eventual support followed soon after the institute recognized the value of introducing genomics into their research (Goldberg 2001). In May 1999, ILRI entered into a research agreement with TIGR to undertake sequencing, analyzing and annotating the *T. parva* genome, facilitating web-based access to data, and conducting preliminary functional analysis.

THE ECF VACCINE PROJECT DESIGN AND IMPLEMENTATION

From this initial contact between two scientists, a more comprehensive project to develop an ECF vaccine emerged. The project's primary goal was to develop an experimental multi-component subunit vaccine against ECF that could be shown to be protective to cattle in laboratory trials. The long-term scientific objective was to generate a safe, efficacious affordable and easily deliverable ECF vaccine in partnership with a commercial company (Taracha and Taylor 2003).

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 that 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.

The project was divided into two phases. Phase I would focus on establishing proof of concept by identifying vaccine candidates and evaluating their performance. Phase II would focus on product development and commercialization, including extensive field testing for safety and efficacy, followed by strategies for licensing and distribution. A 60 percent adoption rate by smallholders was projected for the vaccine if it entered into commercial production and distribution (Taracha and Taylor 2003).

Given the unique nature of a project—the innovative application of research on human disease to livestock disease, and the fact that potential beneficiaries were African smallholders with limited purchasing power or market access—funding was initially difficult to marshal. A US\$25,000 grant from the U.S. Agency for International Development was used to start up the genome sequencing work, and supported the exchange of *Theileria parva* DNA samples and scientists between ILRI and TIGR. Additional funds followed from several sources, including a donation of \$100,000 from Craig Venter, chairman of TIGR's Board of Trustees (who himself had received the money as part of the King Faisal Prize in Science); ILRI's own core (unrestricted) funds; and from TIGR's endowment fund (Goldberg 2001).

A larger, more long-term proposal for funding for the project was developed in 2001 and submitted to the Centre for Tropical Veterinary Medicine (CTVM) in Edinburgh, U.K., and the U.K. Department for International Development. Their response was favorable, and the project began in earnest with GB£3.7 million, a figure that later expanded to GB£5.537 million to cover six years of funding (Ndegwa, 2005). In-kind contributions from the project's private sector partner (described in detail below) were roughly estimated at US\$400-500,000.

It is worth noting here that the ECF vaccine project is a somewhat unique partnership when compared to other public-private partnerships' (PPP) projects pursued by the international agricultural research community. Typical PPPs are often designed to leverage private sector expertise in distribution and marketing to commercialize public research and deploy viable products for target beneficiaries. This is the case, for example, with some 44 percent of all partnerships undertaken by the research centers of the Consultative Group on International Agricultural Research

(CGIAR).¹ Only 12 percent of these partnerships are designed along the lines of the ECF project, i.e., as an investment in frontier research that requires advanced technological expertise and tools from the private sector (Spielman et al. 2007).

The ECF vaccine project also represents a different model of PPP than commonly pursued by the international agricultural research community. Whereas the majority of such PPPs focus on crop varietal improvement or commodity value chain upgradation, the ECF vaccine is more akin to projects pursued by global health partnerships such as the Global Stop TB Partnership, the Roll Back Malaria Global Partnership, or other initiatives supported by the Global Fund to Fight AIDS, Tuberculosis and Malaria. In short, the ECF vaccine project is a health sector model of partnership applied to the agricultural sector.

The Project Partners

To ensure its success, the ECF vaccine project required more than TIGR's genome sequencing of the *Theileria parva* and ILRI's work on immunological assays. The key was to identify a partner with complementary expertise in animal health research, vaccine development, and product deployment. Hence the entry of Merial Ltd., a leader in the animal health field (described in detail below).

In October 1998, ILRI and Merial entered into a confidentiality agreement to discuss the possibility of entering into a joint project. Merial was expected to be a potentially major scientific contributor to the project, although the first years of their engagement with ILRI was only exploratory, in that the company took on a "wait and see" approach to the project. It was not until November 2001 that ILRI entered into a research agreement with Merial that opened the door to a more active role for the company.

Apart from Merial, ILRI brought several other partners into the project. Between mid and late 2001, the Ludwig Institute of Cancer Research, the University of Victoria (Canada), Oxford University (U.K.), CTVM, and the Kenya Agricultural Research Institute (KARI) all joined the effort. In sum, the project planning and start-up process proceeded quite rapidly from an informal exchange of ideas to a series of formal agreements that outlined a range of activities to be undertaken by the project partners.

The key question looming over the project is what brought these

¹ Established in 1971, the CGIAR is a non-profit alliance of countries, international and regional organizations, and private foundations to mobilize agricultural science to reduce poverty, foster well-being, promote agricultural growth, and protect the environment. The CGIAR supports 15 international centers that work with national research systems, civil society, and the private sector to achieve these goals.

diverse organizations to the table in search of an ECF vaccine? What were the incentives that led to the establishment of the partnership? We examine here the incentives that brought three key partners—ILRI, TIGR, and Merial—into the project.

The International Livestock Research Institute

ILRI's stated mission is to work at the crossroads of livestock and poverty, bringing high-quality science and capacity-building to bear on poverty reduction and sustainable development for poor livestock keepers and their communities (ILRI 2003). The institute not only conducts advanced research at its headquarters in Nairobi, Kenya, but also serves as a stakeholder platform on how livestock research can address the long-term needs of the world's poor.

The ECF project is one of several ILRI initiatives that capitalize on the institute's comparative advantage in conducting bioscience research in the east and southern African region, and in serving as a focal point for collaborative efforts to develop new products and tools specifically aimed at livestock. In short, ILRI's incentives were strongly compatible with the type of research and the type of project design needed to develop an ECF vaccine.

Although ILRI had only limited experience in interacting with the private sector, its experience had been fairly positive, namely leveraging the private sector to develop and market products useful to their target beneficiaries. A primary example of this was the commercialization by Svanova (Sweden) of four tick-borne disease enzyme-linked immunosorbent assay (ELISA) tests developed by ILRI in 2004. This success helped persuade ILRI that collaboration with the private sector was a necessity in the rapidly changing field of livestock research.

The Institute for Genomic Research (TIGR)²

TIGR is a non-profit research institute founded in 1992 that is now part of the J. Craig Venter Institute. The institute was the first to sequence the genome of a free-living organism, the bacterium *Haemophilus influenzae*, in 1995. Subsequent genome-sequencing projects established the institute's leadership in the field of genomics (JCVI 2008).

TIGR brought several assets to the ECF vaccine project, including its

² The new J. Craig Venter Institute (JCVI) was formed in October 2006 through the merger of several affiliated and legacy organizations: TIGR and The Center for the Advancement of Genomics (TCAG), The J. Craig Venter Science Foundation, The Joint Technology Center, and the Institute for Biological Energy Alternatives. See JCVI (2008).

renowned “shotgun” approach to genomic sequencing developed by Craig Venter, the institute’s co-founder; extensive, ground-breaking experience in sequencing genomes of different organisms; and a record of sequencing genomes in a fraction of the time otherwise thought possible (Goldberg 2001). TIGR’s contributions to the project were largely focused in the project’s initial research on genomics and antigen identification; however, as the research has moved into investigation of vaccine delivery systems, TIGR was less involved.

Merial Ltd. Merial is a global leader in animal health, and was established as a joint venture between Merck & Co. and Sanofi-Aventis, two global leaders in the pharmaceutical sector. Merial holds 14 percent of the global market for animal health products, maintains operations across 150 countries, and in 2007, generated worldwide sales of livestock, pet, and wildlife products totalling approximately US\$2.5 billion (Merial 2007).

The company brought several assets to the ECF vaccine project. These assets included novel technologies and intellectual property (delivery platforms such as vaccine vectors); a full understanding of and experience with the development and registration processes for veterinary vaccines; manufacturing skills and assets (e.g., access to the Botswana Vaccine Institute); experience in product commercialization, marketing, and distribution; and project management skills, including knowing when to kill a project (Jeffries 2005).

Ultimately, Merial’s decision to join the project was driven by two main factors. First was its history of involvement in control of diseases affecting the developing world (for example, rinderpest, foot and mouth disease, contagious bovine pleuropneumonia (CBPP), and rabies). Second was its recognition of the possibility that the science would assist in building a clearer understanding of how protozoal vaccines of greater commercial interest may be developed (Jeffries 2005).

The Project’s Outputs and Outcomes

In order to find suitable antigens that would form the basis of an effective vaccine, the project’s researchers adopted a twin track approach to (a) identify potential vaccine targets, and (b) investigate feasible delivery systems. Major project outputs that resulted from this approach included antigen identification (genome sequencing, cloning of selected genes, and application of a random cDNA transfection approach to identification); antigen delivery systems; a series of laboratory trials; and optimization of high-throughput assays (Taracha and Taylor 2003).

It is worth noting that while the application of genomics to the ECF vaccine development project was a major technological innovation, all six of the antigens relevant to the project were identified by the earlier transfec-

tion approach, while the genomics approach only identified one of these six. In other words, the project could have generated the same outputs without the genomics approach. Of course, the genomics approach did provide corroborative evidence to the project and, in the long run, the sequencing of the *Theileria parva* genome itself will likely contribute to further research on ECF vaccine development.

Regardless of the path taken, the project's outputs were ultimately used to clone candidate vaccine antigens into a Merial delivery system that was tested on live cattle in 2003. In the end, while the testing with live cattle did generate the desired response—protection against ECF in cattle—the response occurred in only 30 percent of the cattle tested. Without this critical proof of concept, i.e., the ability to consistently produce measurable immune responses in host cattle, further partnership-based research effectively came to an end in 2007. Partners had agreed at the outset that Phase II (development and commercialization) would not commence unless Phase I could produce a successful vaccine candidate.

The Future Research Agenda

While this experience proved a major setback for the project and for ILRI as the project's lead organization, it is not without precedent. To be sure, these types of technical obstacles also play into vaccine research and development for malaria, HIV, and other human diseases. Moreover, ILRI had chalked up similar experiences with prior research on trypanosomosis, a similarly devastating cattle disease in sub-Saharan Africa.

Moreover, the experience gained from this project shows the importance of a diversified research strategy. For example, market information suggests that the existing alternative method of ECF control—the live vaccine that relies on an infection and treatment approach—has emerged as a relatively popular intervention among smallholders. Although the live vaccine still has its limitations (described earlier), 75 percent of the 600,000 doses developed in 1996-1997 have been sold commercially. Meanwhile ILRI has developed an anti-sporozoite vaccine for ECF as an alternative to the live vaccine, and Intervet, a rival to Merial, is working towards its commercial deployment.

And although key project staff have since moved on and funding for continuing this research has not been mobilized to date, there is still real support in the international development community for the development of an ECF vaccine.

In light of the evidence suggesting that new and better vaccines for ECF can be developed, renewed efforts are under way to continue the research. Parties such as ILRI, Texas A&M University, University of Edinburgh, Merial, University of Maryland, and Oxford University have all expressed

interest in establishing a new research consortium. ILRI intends to continue its research by focusing on identifying antigens and evaluating vaccine candidates to induce the desired immunity in a commercially acceptable percentage of cattle.

However, with a time horizon of 12-15 years before commercialization, ILRI and its partners acknowledge the importance of promoting both existing and new alternatives. A critical platform for these efforts will be the Global Alliance for Livestock Veterinary Medicines (GALVmed), a not-for-profit organization committed to creating sustainable solutions to poverty among 600 million of the world's poorest people whose survival depends on the health of their livestock (GALVmed 2006). The organization brokers global partnerships between animal health companies and other organizations in the public and private sectors to promote the development of accessible and affordable animal vaccines and other animal health products for the world's poorest farmers. GALVmed's scope of work covers research on ECF—including deployment of the existing live vaccine with support from the African Union Inter-African Bureau for Animal Resources—while its board of trustees includes ILRI's deputy director of research.

The Project's Unintended Consequences

It should be noted that the ECF vaccine project has also generated several positive consequences that were not identified by the initial project proposal. First, several research organizations are using the methodologies of vaccine antigen identification developed by the project, while several others have expressed interest in replicating the project to evaluate the efficacy of vaccines which target similar immune responses. Second, the project resulted in several organizational innovations—particularly within ILRI—that have helped build new bridges between public and private sector researchers. These consequences are discussed in greater detail below.

AN ANALYSIS OF PROJECT IMPLEMENTATION AND GOVERNANCE

This section reviews some of the key characteristics of the ECF vaccine project's implementation and governance. Emphasis is placed on (a) communications and coordination among partners, (b) organizational change, (c) exchanges and use of intellectual property, and (d) exit strategies.

Communications and Coordination

The ECF vaccine project has benefited from fairly low costs of coordination among partners and donors. The project was governed by an array

of contracts between and among the various partners that mapped out key roles and responsibilities, and was bolstered by open lines of communications through scientific exchanges, telephone and email correspondence, and regular annual meetings to review progress and map out future priorities. Importantly, the project was also supported by the donors whose consistent commitment to funding minimized the amount of time and effort needed to keep the project running.

Necessarily, the project did experience its fair share of challenges, both in the research processes and in the coordination of partners (Ndegwa 2005; Jeffries 2005). For instance, according to project staff interviewed in 2006, initial interactions between Merial and ILRI were fraught with a degree of mistrust that stemmed from fairly predictable factors. Necessarily, scientists at ILRI working for the public good harbored concerns about the motives of private scientists at Merial working for commercial purposes, while Merial scientist harbored some concern about ILRI scientists' focus on generating outputs in the form of journal articles rather than marketable products.

When and where these issues arose, project principals made concerted efforts to maintain clear channels of communication, openness about each party's motives and expectations, and a dedication to the overarching project objective. Thus, in the long run these factors had a fairly minimal influence on the project, and were of marginal concern relative to the gains in knowledge and understanding secured by the projects' partners.

Organizational Change

More importantly, the necessity of communicating and coordinating among so many diverse partners had a profound effect on ILRI itself. A study by Smith (2005) of the project describes how the collaborative nature of the project helped ILRI to overcome organizational sclerosis and inward-looking tendencies of research organizations; and how the market-oriented, results-based outlook drove ILRI and its partners to focus on the production of real outcomes. In many ways, this project marked a significant departure from ILRI's traditional approach to scholarly research, bringing it into a more relevant role in the region's livestock innovation system. This type of institutional learning and change represents a valuable, though unintended, consequence of the project.

Unfortunately, not all partners experienced similar processes or institutional learning and change. KARI, the key national partner for ILRI's activities in Kenya and one of the largest national agricultural research systems in Eastern Africa, played a fairly limited role in this project. Despite ILRI's commitment to building national research capacity through national partners, KARI did not benefit significantly from the project. There are several

reasons for this, according to project staff interviewed in 2006, including declining scientific capacity at KARI, high staff turnover, and a role that was appropriately allocated to the later research phases of vaccine evaluation and deployment—a phase which was never fully reached.

Exchange and Use of Intellectual Property

The exchange and use of intellectual property in the ECF vaccine project offers some important points for consideration. According to the initial terms of agreement between ILRI and Merial, contact between the institute and other firms engaged in vaccine research required prior notification and discussion with Merial. Given that the animal health sector involves a fairly large number of companies, these conditions effectively prohibited ILRI from identifying other sources of knowledge and technology in support of the project. Of course, these conditions also protected Merial from the possibility that its competitors could secure an edge over them by also partnering with ILRI.

Subsequent agreements entered into between ILRI and Merial over the use of proprietary knowledge posed additional problems. ILRI, with only limited experience in intellectual property (IP) management, struggled with issues such as the absence of provisions on commercial exploitation of IP used in the project's research, insufficient clarity in the terms and conditions set forth in the contracts, and the need to make continuous amendments to existing agreements as the project evolved (Ndegwa 2005).

Critically, these agreements may have somewhat impeded the process of searching for relevant IP held by Merial, and exchanging that IP between Merial and ILRI. Whereas IP generated by public institutions like ILRI is typically accessible in the public domain (i.e., in public research databases, published articles, conference proceedings, and project documentation), IP generated by the private sector is much more difficult to access. ILRI's ability to search and probe Merial for useful tools, technologies, and information was extremely limited when compared to Merial's ability to do the same to ILRI. As such, public and private researchers working on the ECF vaccine project were rarely on equal footing, and thus unable to fully evaluate the available knowledge that might have been applied to the project.

Exit Strategies

Finally, the ECF vaccine project offers a crucially important lesson for project design and implementation—when to call it quits. After five years of research, ILRI and its partners decided not to go forward with the project when it was recognized that measurable immune responses in host cattle could not be consistently produced.

While private companies are often expert at knowing when to quit—knowing when the cost, time, or uncertainty of developing a marketable product exceeds the company’s ability to invest in the research—public research institutes such as ILRI are far less accustomed to making such decisions. It is for this reason that the ECF vaccine project’s exit strategy is so significant. In essence, the project was designed with a milestone that, when reached, would require a decision to be made on whether to proceed or terminate. Without a consistent immune response in host cattle, the partners had no choice but to terminate the partnership. Despite the unfortunate lack of a viable outcome from the project, the decision to quit may ultimately prove to be a wise choice in that it makes resources available for other livestock improvement projects, protects the goodwill among partners, and sets the stage for renewed efforts with a clean slate.

CONCLUSION: AN ASSESSMENT OF THE PARTNERSHIP

Despite failing to meet its objectives, the ECF vaccine project did generate some significant scientific findings and, more importantly, some lessons for future partnerships in livestock vaccine research. This section assesses several lessons learned from the partnership to inform the design and implementation of similar partnership-based efforts to promote sustainable development and alleviate poverty in sub-Saharan Africa.

Formal Contracting

The ECF vaccine project involved a significant number of formal agreements that were used to assign specific roles and responsibilities to partners, manage the exchange and use of IP, and keep the partnership on track. Key lessons learned from this experience are as follows. First, clear contractual agreements are needed to ensure that the type of research envisioned by this project can move forward. Second, clear contractual agreements must be open to review, renegotiation, and amendment as the project evolves. Third, review, renegotiation, and amendment requires regular planning, evaluation, and foresighting to ensure that new terms and conditions address the specifics of the project’s evolution.

Technology Transfer versus Joint Innovation

Partnerships like the ECF vaccine project demonstrate how collaborative research can move well beyond the common “technology transfer” modality, in which private and public sector researchers exchange technologies and information to promote a specific research objective of either the private company or the public institute. The ECF vaccine project

was designed to do more than simply transfer technologies; rather, it was designed to truly bring public and private sector expertise to bear on a specific research problem. Partners were engaged in the joint planning and execution of research through repeated and durable interactions, that is, joint processes of technological innovation or “co-innovation.” It is likely that this back-and-forth exchange of knowledge and technology between partners accelerated the pace of research and made outcomes possible that neither ILRI nor its partners could have achieved in isolation.

Replicability

To what extent can the lessons learned from the ECF vaccine project be used to improve future research projects on livestock vaccines? This is an important issue for GALVmed, an international partnership platform designed to promote greater research in the animal health sector. In short, the research continues.

In summary, this study offers some insights into a research project designed to combine public and private expertise to combat the threat of ECF in eastern, central, and southern Africa. Although the project failed to meet its objective—a cost-effective, easy-to-use vaccine for ECF—it still serves as a model for future partnerships. Specifically, the project is a potentially replicable model because it represents an innovative response to a complex problem that requires solutions from a range of diverse organizations with different capabilities. It also offers invaluable lessons that can help guide researchers and investors on how to kill a project when viable outcomes are not forthcoming.

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XVII

The Farm to Fork Initiative: A Shareholder and Management Partnership

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INTRODUCTION

The Smithfield–Nathan Cummings Foundation–Ceres story is markedly different from many other partnerships. The interactions between Smithfield Foods and the Nathan Cummings Foundation began as an effort by the Foundation to encourage Smithfield’s to be more transparent about the environmental impacts of the company’s operations through a shareholder resolution that Smithfield opposed. As a result of a willingness by both Smithfield and the Foundation to engage each other, continuing conversations between Smithfield and Cummings, and openness to innovative transparency mechanisms (the Ceres developed Facility Reporting Project) a relationship that started out as confrontational ultimately evolved into a joint enterprise.

Today, Smithfield, Nathan Cummings, and Ceres are working together to examine a new way to make the sustainability impacts of a very large, vertically integrated agricultural and food processing operation more transparent internally within the company, to its contract farming operations, to its customers, and to the public. Ceres and Cummings feel most comfortable characterizing the interaction among the organizations as a “deliberate working relationship,” although both Smithfield and the Foundation have referred to the interaction as a partnership at least as to the issues related to sustainability reporting. The expectation by all parties is that increased transparency will support continuous improvement and sustainable environmental outcomes in Smithfield Foods’ operations. Although the engagement between Smithfield and the Foundation has continued for

five years, the “partnership” between Smithfield and Cummings did not emerge until almost two years after the original engagement, and work on the partnership’s most ambitious project is ongoing. As a result, while some important conclusions can be drawn from the process of forming the partnership and its early work, the long-term success of the effort is still to be determined.

BACKGROUND

Partnerships and collaborations have become increasingly important tools in the quest to achieve more sustainable outcomes, particularly with respect to environmental management. This has occurred for several reasons.

- As environmental regulation becomes more pervasive and the numbers of regulated entities increase, regulation-only solutions have become less viable.
- Solving big environmental problems such as estuary restoration, non-point-source water pollution, urban ozone contamination, and climate change requires the willing involvement of a broad cross section of society.
- The public, once willing to defer to government as their representative in dealing with environmental issues, increasingly demands a direct voice in decision making.
- Partnerships and collaborative efforts have begun to prove themselves as important environmental management approaches through the success of early partnerships and collaborations.
- Companies are increasingly recognizing that sustainability and improved environmental conditions can be good for business.
- For many companies, reputation has become a growing percentage of the companies’ value, requiring companies to more actively engage in enterprises such as environmental or sustainability partnerships that can help insulate their reputation or affirmatively build public reputation and shareholder value.

Two Minnesota partnerships provide good illustrations of the changing climate for partnerships and collaboration. Clean Air Minnesota is a partnership initiated by the Minnesota Chamber of Commerce and developed in collaboration with the Minnesota Center for Environmental Advocacy (MCEA) to reduce the emission of pollutants causing ground-level ozone formation in order to reduce the likelihood that the Minneapolis/St. Paul region would be designated an ozone non-attainment area. Having determined that a non-attainment designation could cost local businesses as

much as \$260 million dollars per year, the Chamber sought a way to avoid these costs by working with others to reduce releases of nitrogen oxide and volatile organic compounds that lead to urban ozone problems.

The Chamber chose a partnership approach jointly chaired by the Chamber and Minnesota's leading environmental advocacy organization, and facilitated by the Minnesota Environmental Initiative (MEI). MEI's mission is to bring business, government, and environmental organizations together to solve difficult environmental problems. Over the past five years, the multi-stakeholder partnership has implemented several ozone and particulate matter reduction projects that have improved air quality including an ongoing effort to retrofit most diesel engine school buses in the state. The U.S. Environmental Agency (EPA) recently recognized the Clean Air Minnesota diesel retrofit program with its 2007 Clean Air Excellence Award because of program "significantly improved community quality of life."

A second partnership process in Minnesota initiated by the state Pollution Control Agency and facilitated by MEI successfully bridged very wide policy differences among farmers, local governments, environmental groups, state agencies, businesses, lake associations, and other stakeholders on how to deal with polluted lakes and rivers in the state. The resulting Clean Water Legacy Act passed the state legislature and was signed into law with broad bi-partisan support. The Act is the first state law in the country to comprehensively address lakes and rivers designated as "impaired" under the Clean Water Act. These two examples are illustrative of the diverse structure that sustainability partnerships can take, the range of problems they can address, and the diverse leadership models that they employ.

Building on these and numerous other partnerships and collaborations around the country, the National Academy of Public Administration (NAPA) recently recommended that EPA make partnering a central part of its strategy for achieving the nation's environmental goals. NAPA found that to effectively address major environmental problems, EPA must "continue its efforts to build programs and a culture that allow it to function effectively as both a regulatory agency and a partnering agency, and to be clearly perceived as functioning both ways."

The Smithfield-Nathan Cummings Foundation partnership adds yet another innovative relationship to the list, a partnership between a shareholder and a company that grew out of a shareholder resolution.

THE PLAYERS

The Nathan Cummings Foundation

Nathan Cummings built the company that is today known as the Sara Lee Corporation. 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." Pursuant to this mission, the Foundation's core programs include arts and culture; ecological innovation; contemplative practice; health; collaborative initiatives; and Jewish life and values. Grants emphasize

- concern for the poor, disadvantaged, and underserved;
- respect for diversity;
- promotion of understanding across cultures; and
- empowerment of communities in need.

The foundation has an endowment of approximately \$535 million and is a long-term investor with an active approach to responsible ownership. A key part of the Foundation's strategy is engagement with the corporations in which the Foundation is a shareholder. As a long-term investor, the Foundation is "concerned that corporations that do not consider the long-term implications of their environmental and social practices may maximize short-term profitability but fail to develop sustainable, long-term business models. Such a failure impacts not only long-term shareholder value but also the quality of our society." As a result, the Foundation "believes that shareholders have a fiduciary responsibility to vote proxies associated with the stocks they own and take active stands on issues that affect long-term shareholder value." This belief led the Foundation to adopt in 2002 Shareholder Activity Guidelines that call on the Foundation to

- consider its programmatic values including accountability and transparency when voting its proxies;
- encourage dialogues among shareholders, non-profit groups, and corporate managers;
- and file shareholder resolutions on issues that "lie at the intersection of programmatic interests and long-term shareholder value."

The Foundation has filed over 50 shareholder resolutions since 2003 as a result of what has become known as "responsible investment policies." This activist approach to dealing with the Foundation's investment portfolio is central to the Foundation's involvement with Smithfield Foods.

Smithfield Foods

Smithfield Foods today is a global food company with sales approaching \$12 billion dollars. This status represents a dramatic change from the

company's historical roots as a local meat packing plant founded in 1936 in Smithfield, Virginia. The company launched a series of acquisitions beginning in 1984 that eventually added more than 20 companies to the Smithfield "Family of Companies" including well known brands such as John Morrell, Farmland, Armour, Eckrich, and Butterball.

Smithfield is now a very large player in pork production, controlling 17 percent of hog production and 31 percent of pork processing in the United States. To gain additional control over its supply of hogs, and to produce more consistent, higher-quality and leaner pork, the company began focusing on vertical integration of its hog operations in 1990. Smithfield defines vertical integration as "control over all aspects of a product's development, manufacturing, and distribution." In the meat industry, vertical integration refers specifically to control over both livestock production and meat processing. This allows for greater product consistency and traceability."

Smithfield owns and operates about 500 hog farms but relies on approximately 1,700 "contract farms." In contract farming, an integrator such as Murphy-Brown LLC, the livestock production subsidiary of Smithfield supplies feed, feeder pigs, transportation, veterinary service and other supplies to the contract farmers who are paid, under a contractual arrangement, to raise the pigs to market weight and then send the pigs to the affiliated packer for processing. In 2004, 67 percent of hog farms in the country were contract operations. The contracts carefully distinguish between the role of the integrator supplying the feed, pigs, and other services related to producing uniform quality livestock—and the responsibility of the farmer for the farming operation including proper care and handling of the animals to ensure animal well-being, daily observation and management of feeding programs, monitoring animal health, and appropriate environmental management practices for the operation. These distinctions are central to long-standing questions about whether food processors in the pork and chicken industry should be held legally responsible for environmental issues that arise at a contract farming operation—often referred to as "integrator responsibility." The hog farms, both owned and contract, that are essential to Smithfield's vertical integration are the primary focus of the Smithfield–Nathan Cummings–Ceres relationship.

Ceres

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." A coalition of investors, environmental organizations, and other public interest groups founded Ceres in

1989 and developed a 10-point code of corporate environmental conduct to be publicly endorsed by companies as an environmental mission statement or ethic. Embedded in the code of conduct is the mandate to report periodically on environmental management systems and results. Sunoco, the Pennsylvania-based oil company, was the first Fortune 500 Company to endorse the “Ceres Principles,” which today have been embraced by over 70 companies including 20 Fortune 500 companies.

Ceres current work focuses on three areas:

- **Investors**—The Ceres Coalition brings together environmental and public interest organizations with investors and foundations to promote “corporate sustainability by working with companies to encourage accountability, disclosure, and continuous improvement of environmental and social performance.”
- **Industry**—Ceres is coordinating dialogues among environmental experts, investors and companies on a variety of issues including the financial risks that climate change may create for the electric power sector, and the impact of the oil sector on biodiversity, among others.
- **Sustainability Reporting**—Because of the role Ceres has played in corporate governance, corporate sustainability reporting has been an important focus for the organization. In 1997, Ceres founded the Global Reporting Initiative (GRI) which has become the international gold standard for corporate sustainability reporting. GRI provides reporting metrics at the corporate level. Ceres, working with the Tellus Institute through a stakeholder dialogue process, also developed the Facility Reporting Project (FRP). Ceres notes “organization-level sustainability reporting is becoming a basic expectation for larger corporations and institutions. Facility reporting is a complement to organization-level reporting, providing significant benefits to society, the larger organization and the individual facility. The FRP has developed Sustainability Reporting Guidance in order to strengthen facility accountability to the public and other facility stakeholders by enabling them to report their economic, environmental and social performance to the public in a credible, comparable and consistent manner.”

It is through FRP reporting that Ceres became involved with Smithfield Foods and this partnership. North Side Foods, a Smithfield subsidiary, was one of 18 organizations that agreed to pilot-test FRP.

THE PROCESS LEADING TO PARTNERSHIP

The partnership that is the subject of this case study grew out of a series of shareholder resolutions filed by the Nathan Cummings Foundation, the

first of which was filed in 2003. The Nathan Cummings Foundation held about 32,000 shares of Smithfield Foods stock in its investment portfolio when it first filed a shareholder resolution with the company.

Smithfield Food subsidiaries and contract farming operations had been charged with a series of environmental violations in the late 1990s and early in this decade. On September 16, 1999, North Carolina was hit by Hurricane Floyd. The rains associated with Hurricane Floyd flooded vast areas of eastern North Carolina, and it was classified as a 500-year storm event. This epic flood was the most widespread, destructive, and deadly natural disaster in state history. The flood impacted homes, businesses, municipal treatment systems, row crop agriculture and livestock operations, and most everything in its path, including several hog farms operated by contract suppliers to Smithfield Foods. Although many different activities and parts of the infrastructure of the flood zone were affected, releases from hog farm anaerobic lagoons and other waste management systems caused by the hurricane were subject to criticism by elected officials and NGO groups. Although the vast majority of these systems survived the event without negative environmental impacts, the few that had problems resulted in an agreement between Smithfield Foods and the North Carolina Attorney General's Office, signed in 2000, under which Smithfield agreed to fund \$15 million in research to evaluate potential environmentally superior waste management technologies. In 2006 Smithfield settled two lawsuits filed by the Waterkeeper Alliance, an environmental NGO, agreeing to implement environmental enhancements at 275 North Carolina hog farms.

The increasing public attention to Smithfield's environmental practices followed within a few years of the time the company transitioned from a relatively small regional food processor to a rapidly growing, international integrated food company listed among the Fortune 500. To better address its environmental issues, Smithfield focused more attention on its environmental management in 2002 through at least four approaches. First, Murphy Brown LLC, Smithfield's livestock production subsidiary, headquartered in North Carolina, developed a comprehensive Environmental Management System (EMS) which met all of the requirements to become certified under the international ISO 14001 Standard. Murphy Brown was the first livestock operation in the world to achieve this distinction. Second, the company produced its first corporate responsibility report. Third, Smithfield hired Dennis Treacy, a former Director of the Virginia Department of Environmental Quality, as its Vice-President of Environmental and Corporate Affairs. Finally, Smithfield added a corporate responsibility specialist to its corporate legal staff. One of early initiatives of the new environmental management/corporate responsibility team was revamping the company's annual corporate responsibility report to ensure that it was seen as credible outside of the company by basing the report on GRI metrics,

although the report was not a formal GRI report. It is at this point that the Nathan Cummings Foundation enters the picture.

Lance Lindblom became President and Chief Executive officer of the Nathan Cummings Foundation in 2000 with a personal interest in the role foundations should play in aligning the Foundation's investment efforts with its grant making mission. The Foundation has essentially three options for dealing with the companies in which its endowment is invested:

- use a social investment screen to weed out stocks that are seen as inconsistent with the foundation's grant making mission, as several foundations and universities had been done in screening out companies that had continued to operate under the South African Apartheid regime;
- divest those stocks that are seen as inconsistent with the grant making mission; or
- engage with the companies for which the Foundation is a shareholder with the goal of having a voice in how their assets are managed so that long-term investment risk is reduced, the opportunity for long-term economic gain enhanced, and the Foundation's program goals advanced.

The Foundation chose the third strategy, first applying the strategy to its Smithfield Food holdings. The Foundation sees voting its proxies and filing shareholder resolutions on issues with implications for long-term shareholder value as a fiduciary responsibility.

As Smithfield was making progress on its environmental issues in 2003, the Cummings Foundation filed the first of five shareholder resolutions seeking to have the company use the Global Reporting Initiative as the basis for its annual corporate social responsibility report. The resolution noted, among other things, that "Our company has embarked on a strategy of increasing brand awareness . . . thereby increasing the importance of maintaining our company's good name and reputation for quality and integrity with customers" and "Notwithstanding our company's commitment to responsible environmental stewardship, it has been cited for serious environmental violations, most notably from the breaching of hog waste lagoons into public waterways during hurricanes in 1995 and 1999."

The resolution concluded that "hog waste lagoons and other CAFO [confined animal feeding operation] practices used at the company and contract facilities pose significant environmental, financial, and reputational risks," and asked management to "at reasonable cost and omitting proprietary information, prepare a report based upon the Global Reporting initiative guidelines describing the environmental, social and economic impacts of its hog operations and alternative technologies and practices to reduce or eliminate adverse impacts of these operations." Subsequent resolutions have focused on the farming operations. The original resolution raises

three important issues that later help shape the Smithfield Foods–Nathan Cummings Foundation–Ceres relationship; a focus by the Foundation on preserving the value of its assets, concerns about the company's reputation, and a belief by the Foundation that transparency can drive changes in sustainability-related practices.

Taken by surprise by the resolution, Smithfield responded by working with the company lawyers to have the Securities Exchange Commission (SEC) disallow the resolution, which the SEC did. At the same time, though, Smithfield decided to engage with the Foundation to discuss the issues that led to filing the resolution. This became the first important step in moving towards a partnership with the Foundation; a willingness to engage with an adversary rather than simply fight.

The Foundation, too, was willing to engage with Smithfield, although remaining adamant about pursuing its goal of wider disclosure. The discussions between the Foundation and Smithfield continued on an occasionally basis for the next three years, even though the Foundation continued to file resolutions, was successful in getting the resolutions on the shareholder meeting agenda and was attracting increasing support for the resolutions with the 2006 resolution achieving support of 29 percent of shares voted. As a result of the discussions, Smithfield agreed to include additional data in its annual corporate responsibility report. Importantly, beginning with the 2004 corporate social responsibility report, Smithfield asked the Foundation to review and comment on the draft report. Smithfield made changes in the report based on the Foundation's comments and included some critical commentary from the Foundation in the report. Smithfield identifies this point as the time when they considered the relationship with the Foundation to be a partnership even though the Foundation continued filing resolutions. The Foundation saw the willingness of Smithfield to have the Foundation review the draft report and incorporate the Foundation's comments in the report as an important indication of good faith engagement.

As discussions between the Foundation and Smithfield continued, the Foundation learned that the vast majority of the company's hogs were produced on contract farms, which were not covered by Smithfield's sustainability report and which represented a potential unexamined source of environmental risk for the company. By 2004, the Smithfield resolution evolved to a request that Smithfield prepare a sustainability report examining the environmental impacts of company-owned and contract farms. This request presented a couple of problems for Smithfield. The first was finding a useful set of metrics that could be used for reporting. The second, and more difficult issue, was requiring contract operations to report to the company on their farming operations. Integrated animal operations such as Smithfield have maintained sharp legal distinctions between the role they play in supplying animals and feed and the role of independent farmers in

managing the farm operations. Smithfield indicates that it is not in a position to report on environmental conditions on independent farms for a variety of reasons; environmental permits for independent farms are issued to the farm owner, independent farm owners have and need the flexibility to manage their farms in ways they see as best so long as they comply with the law, and the company has no legal standing to make management decisions on the farmers' behalf. The company does have the ability of terminate production contracts if contract farmers do not manage their farms in compliance with all applicable legal requirements.

The deadlock over the issue of reporting on farming operations was broken by a combination of the trust that had been built up over time between the Foundation and Smithfield, persistence on the part of the Foundation in pursuing its goal of obtaining information on farm operations, the willingness to engage in creative thinking when barriers (here the integrator responsibility issue) arose in the discussion, and openness to innovative reporting tools. When it became clear that reporting on contract farming operations would not be acceptable, Smithfield staff looked for other ways of developing a proxy report that could satisfy the Foundation's interest in more transparency in the farming operations. Smithfield first offered to provide copies of Notices of Violation for all its farming operations but the Foundation felt that these data would alone not be very helpful in disclosing the environmental impacts of farming operations. Ultimately, Smithfield offered to do a report for one of its corporate-owned farms that was representative of the kind of releases that would be typically for hog farming operations. Ceres becomes part of the calculus here.

Transparency through corporate reporting has been a key part of Ceres' mission. After completing work on the Global Reporting Initiative and spinning it off as an independent non-profit organization, Ceres convened a group of stakeholders to develop a reporting process that focuses on individual facilities rather than corporate level aggregate reporting. Guidance for facility-level reporting was completed in 2004 and a series of pilot tests began to assess the workability of the reporting protocols. Ceres contacted Dennis Treacy to discuss whether one of Smithfield's subsidiaries might be part of the pilot testing process. North Side Foods Corporation's Cumming, Georgia facility was selected, in part because the facility was a major supplier to McDonalds. Smithfield believed that an expanded external reporting regime might add value to the relationship which was subject to McDonald's growing list of supply chain performance requirements.

The Cumming plant already employed an ISO 14001 certified environmental management system to assess its environmental impacts, set goals for impact reduction, measure progress, and adjust practices based on the metrics. However, the reporting was largely internal and both North Side

and Smithfield saw value in expanded external reporting as the plant underwent a major expansion.

Because the reporting at the Cumming plant was part of a pilot project to test FRP, Ceres worked closely with the plant environmental manager to implement the reporting process which requires both detailed operational information and extensive stakeholder engagement. Through this process, the Cumming facility was able to establish stronger relationships with its local stakeholders and better interact with the community, as well as show leadership in environmental management, performance improvements, and local-level disclosure within Smithfield's overall subsidiary system. The facility was proud of its accomplishments in completing the report and the plant manager was asked to talk about the FRP process at Smithfield corporate meetings.

Since the pilot project was such a positive experience, Smithfield began discussing additional projects with Ceres. Ceres encouraged Smithfield to expand its use of the FRP to facilities at different points in the company's value chain—including at the farm level—in order to capture the impacts and engage communities at each stage in the pork production process. Kelley Kline at Smithfield identified this approach—specifically producing a farm-level sustainability report—as a way to help meet the objective of the Foundation's resolution. The Smithfield–Nathan Cummings Foundation–Ceres relationship was thus formed. The project that emerged from the discussions is a supply chain assessment of the sustainability impacts of a corporate farming operation, a slaughtering facility and the Cumming, Georgia, processing plant using FRP reporting. The farm chosen for the project is part of a very large operation in North Carolina that includes both a breeding facility and a feeding operation. The farm manager is familiar with environmental management systems and has a clear interest in participating in the project. Based on the agreement, the Foundation withdrew its 2007 shareholder resolution and has not filed a resolution in 2008 to allow the partnership effort to play out.

INCENTIVES TO PARTNER

Each of the partners has a clear motivation for participating. For the Nathan Cummings Foundation, the principle motivation is pursuing its policy of engagement with companies for which it is an investor. The Foundation seeks to ensure long-term returns on its investment based on its theory that sustainable operations reduce operational risk, enhance reputation and contribute to profitability. This strategy allows the foundation to pursue its grant-making mission using not only the investment income to fund grants but also the principal to increase transparency and to leverage

operational changes for practices that are seen as more environmentally, socially, and economically sustainable.

The role of corporate reputation is a particularly interesting issue in this partnership. A recent survey of CEOs and organizational leaders conducted by the World Economic Forum indicates more than 40 percent of a company's market capitalization can be attributed to reputation. John Graham, Fleishman-Hilliard's Chairman and CEO, has noted, "The reputation of a company and its products used to be regarded as an intangible asset that was hard to quantify. Now it is clear that reputation is a vital component of a company's value and it is becoming a key measure of a company's performance." For Smithfield reputation is important to building and maintaining its customer base, and is especially important to some of its very large corporate customers such as McDonalds and Wal-Mart who themselves have to maintain good reputations because of customer pressure. For the Nathan Cummings Foundation, financial damage resulting from possible environmental violations occurring at company-owned and contract farms is a major concern. Environmental violations can have a significant impact on a company's reputation which, as indicated above, affects the value of the company.

Smithfield's role as a supplier to a number of major restaurant chains such as McDonalds and retail stores such as Wal-Mart is also an important factor in participating in the partnership. All 20 of Smithfield's largest customers include sustainability or other management specifications in their contracts. These supply chain requirements are a growing phenomenon as company's look for ways of protecting their reputation and using their influence to impose change throughout their supplier network. Smithfield also sees the transparency associated with reporting as a way to improve performance internally and as a way to demonstrate to external audiences including state attorneys general and environmental groups that the company is improving its environmental performance. In addition, because Smithfield has increasingly been trying to establish a strong public brand for its pork products, the company's reputation with customers is an important incentive to improve its practices and increase transparency. Finally, Smithfield would like to see the interaction with the Foundation as a model for how stakeholder issues could be resolved through engagement and dialogue.

Another of Smithfield's interests in the partnership has been dealing with the concerns of its shareholder and avoiding the need for shareholder resolutions. Shareholder resolutions are routinely opposed by Smithfield because of the extra work involved and because they complicate the company's annual meeting. Cummings, however, believes that the resolutions add little to the complexity or time needed for a shareholder meeting.

Ceres has a variety of interests at play in the partnership. The partner-

ship allows Ceres to demonstrate the value of facility-level sustainability reporting as a tool for value chain assessment and accountability. Ceres also has a strategic interest in working with McDonald's suppliers since the company is a relatively recent Ceres Network member. McDonald's has focused its attention on its top tier suppliers but the Smithfield project allows an examination of sustainability practices further down the supply chain—here all of the way down to the farm. The project also allows Ceres to test FRP through a value chain (here a farm, a slaughtering facility, and a processing operation). Ceres sees the Smithfield "Farm to Fork" reporting effort as a useful model for future engagement with companies throughout the supply chain.

PARTNERSHIP ORGANIZATION AND GOVERNANCE

The relationship between Smithfield and the Nathan Cummings Foundation started out in an adversarial mode, although the relationship between the Smithfield environmental staff and the Foundation staff was cordial and constructive from the start. Smithfield pointed to these constructive and cordial conversations as important in developing the long-term relationship with the Foundation and encouraging creative thinking in resolving the more difficult issues surrounding reporting on farming operations. The relationship with the Foundation stood out in contrast with the more confrontational approaches taken by other parties who have filed shareholder resolutions with Smithfield, making Smithfield more willing to stay engaged with the Foundation. The Foundation noted that the relationship with Smithfield always had a level of tension because the Foundation was adamant about filing resolutions until it was able to move the company at least part of the way towards addressing its concerns, but it was a "real" relationship. The relationship between Smithfield and the Cummings Foundation remains subject to other sustainability issues including questions related to labor practices at Smithfield but those issues have thus far not prevented progress on environmental concerns.

The partnership between Smithfield, the Foundation, and Ceres is informal. As noted earlier, Ceres characterizes the process as a deliberate working relationship, rather than a partnership. The existence of the "partnership" relies on the parties' continuing sense that there is value in working together, although it has survived changes in important players at both Smithfield and the Foundation. There are no rules of interaction, no timeline, and no specific agreed upon shared outcomes or goals other than to complete work on the current reporting project. The interaction likely will last as long as the Foundation feels that more needs to be done to protect its long-term investment consistent with its grant making mission and as long as Smithfield remains willing to engage with Smithfield without

compromising key legal issues such as breaching the company's approach to integrator liability.

OUTCOMES

Since this is a partnership in midstream, outcomes are not final. However, some outcomes are clear including

- The creation of a strong and now relatively long-standing working relationship between Smithfield and the Foundation that has survived significant personnel changes;
- Routine involvement by the Foundation in reviewing and commenting on Smithfield's corporate responsibility report;
- More detailed reporting by Smithfield on sustainability aspects of its operations;
- The launch of an important new effort to use a standard reporting metrics (FRP) to assess the impacts of one of the company's hog farming operations with the expectation that the farm can be used as a surrogate for the impacts for close to 2,000 such operations;
- The availability within the company, among its contract farming operations and to the public once the FRP pilot is completed, of better information about Smithfield Foods' overall sustainability impacts as well as the impacts of hog farming processes and operations throughout Smithfield's value chain;
- A more complete test of the value of FRP reporting in a new context (a farming operation) and throughout an entire supply chain;
- Withdrawal of the Foundation's shareholder resolution.

What remains to be seen is how well FRP functions in the context of hog farming operations, whether the information generated will be sufficient to provide a good picture of the sustainability impacts of the farms, whether the available information will result in changes operational changes that result in improved sustainability, and whether any changes that are made by Smithfield or its contract farming operations are sufficient to satisfy the Foundation that its long-term investment in Smithfield is now sufficiently secure and the policy objectives associated with the Foundation's mission have been sufficiently satisfied for the Foundation to desist from filing shareholder resolutions.

ASSESSMENT OF THE PARTNERSHIP

The Smithfield–Nathan Cummings Foundation–Ceres relationship is most notable for the new approach to shareholder engagement by foun-

dations that it represents. While a number of non-profit organizations and foundations have filed shareholder resolutions, the Nathan Cummings Foundation was committed to going well beyond a shareholder vote to directly work with Smithfield over an extended period of time to find innovative ways to achieve the Foundation's objective.

The partnership is also important in demonstrating the role that corporate reputation can play as a motivating factor for partnering. Reputation was important to Smithfield because of its consumer product focus and because of the concerns of its corporate consumers and at least indirectly to the Foundation as a long-term investor concerned about the value of its stock. The FRP reporting process that Ceres brought to the table as part of its mission to promote corporate transparency and accountability provides an important measurement tool to assess Smithfield's environmental practices. The case study suggests that issues related to reputation should be taken into account whenever a partnership involves a major corporation, especially a company that has a high public profile or that has supply chain relationships with companies for which reputation is important.

The case study reinforces the value of ongoing conversations among the partners to build trust and to allow critical underlying concerns to emerge (here the concern over farming operations instead of the initial focus on processing operations). The partnership also demonstrates the value of both bringing creative ideas to the table to break deadlocks as happened here when Ceres FRP was introduced to deal with transparency issues, and the importance of continuing dialogue in providing the opportunity for creative ideas to emerge.

CONCLUSION

The Smithfield–Nathan Cummings Foundation–Ceres partnership represents an interesting new model for the constructive engagement between shareholders and companies on sustainability issues. It also should provide useful information on the role expanded reporting can play in making the sustainability impacts along supply chain more transparent and the effect that this transparency can have on sustainability outcomes. Since the partnership is still a work in progress, a follow-up evaluation of the changes that occurred in farming and other operations within Smithfield as a result of the partnership could provide very valuable information.

Appendixes

Appendix A

Partnerships for Sustainability: Examining the Evidence

June 18-19, 2008

Location: The National Academy of Sciences (Lecture Room)
2100 C Street NW
Washington, DC

June 18 **Breakfast available at 8:30 am**

9:00 am **Welcoming Remarks and Goals of the Symposium**, *Emmy Simmons, Assistant Administrator, U.S. Agency for International Development (retired)*

9:15 am **Keynote Address: The Role of Partnerships in Meeting Twenty-First-Century Challenges**, *Charles M. Vest, President, U.S. National Academy of Engineering*

9:45 am **Examining the Evidence: The Case Study Approach and Preliminary Analysis**, *Derek Vollmer, Associate Program Officer, U.S. National Academies*

10:15 am **BREAK**

Partners Coming Together, *Gerald Keusch, Boston University School of Public Health*

10:30 am Panel discussion with perspectives from:
LeRoy Paddock, The George Washington University Law School
Smithfield Foods/Nathan Cumming/Ceres Partnership
Cortnie Shupe, Global Public Policy Institute
Agua Para Todos

Liliana Andonova, Colby College
 Green Power Market Development Group
Barbara Sina, Fogarty International Center, National
Institutes of Health
 Multilateral Initiative on Malaria
Petra Kuenkel, Collective Leadership Institute
 Common Code for the Coffee Community
Blas Pérez Henríquez, Goldman School of Public Policy,
University of California, Berkeley
 Sustainable Silicon Valley
William Sugrue, U.S. Agency for International Development
(retired)
 Sustainable Forest Products Global Alliance

This panel will discuss how partnerships form, how they define the problem(s) they seek to address, how they set goals for the partnership, and what incentives and motivations the partners have for joining a partnership

11:30 am **Question and Answer**

12:30 pm **Lunch**

Partnership Organization and Governance, Robert Stephens, Multi-State Working Group

1:30 pm Panel discussion with perspectives from:
Sander Chan, VU University, Amsterdam
 Renewable Energy and Energy Efficiency Partnership
Kira Matus, Harvard University
 Green Chemistry Institute
Jennifer Smith Grubb, Sustainable Silicon Valley
Francine Ntoumi, Multilateral Initiative on Malaria
Tanvi Nagpal, Global Water Challenge

This panel will discuss organizational forms for partnerships, how assets are handled, how partners are held accountable, and the timeframes that partnerships set for action

2:30 pm **Question and Answer**

3:15 pm **BREAK**

Partners Co-Producing, William Clark, Harvard University

- 3:30 pm Panel discussion with perspectives from:
LeRoy Paddock, The George Washington University Law School
 Smithfield Foods/Nathan Cumming/Ceres Partnership
David Spielman, International Food Policy Research Institute
 East Coast Fever Vaccine Development
Liliana Andonova, Colby College
 Green Power Market Development Group
Barbara Sina, Fogarty International Center, National Institutes of Health
 Multilateral Initiative on Malaria
Petra Kuenkel, Collective Leadership Institute
 Common Code for the Coffee Community

This panel will discuss how partners cooperate within the partnership, how funding is structured and allocated, how timelines and metrics are set, and how monitoring and evaluation of progress are carried out.

- 4:30 pm Question and Answer

- 5:15 pm Summary of Day One and Charge for Day Two

June 19 **Breakfast available at 8:30 am**

- 9:00 am Review of Day One, *Hank Habicht, SAIL Venture Partners*

Assessing Partnership Outcomes, Marco Ferroni, Syngenta Foundation for Sustainable Agriculture

- 9:15 am Panel discussion with perspectives from:
David Spielman, International Food Policy Research Institute
 East Coast Fever Vaccine Development
William Sugrue, U.S. Agency for International Development (retired)
 Sustainable Forest Products Global Alliance
David Graham, Dow Chemical Company (retired)
 Global Water Challenge
Martin Meyer, Common Code for the Coffee Community

This panel will discuss how partners assess both the partnership's outcomes and their own participation in the partnership, what the key takeaways have been, and how the experience might influence future action

10:15 am Question and Answer

11:00 am BREAK

Enhancing the Effectiveness of Partnerships for Sustainability, William Clark

11:15 am **Breakout group discussions**

*This breakout session is intended to allow participants to summarize the lessons that have emerged from their own experience, the case studies, and discussions during the symposium. Participants are encouraged to examine the relative strengths and weaknesses of the partnership approach to sustainability and identify **three best ideas/approaches** for enhancing the effectiveness of partnerships, with the goal of informing nascent partnerships in emerging fields critical to sustainability*

12:15 pm **Reporting Back, Breakout group rapporteurs**

12:45 pm **Wrap up and summary, Emmy Simmons**

Appendix B

Registered Participants List

Partnerships for Sustainability, Examining the Evidence: A Symposium
The National Academy of Sciences, Lecture Room
Washington, DC
June 18-19, 2008

Peter Adriance
National Spiritual Assembly of the
Baha'is of the U.S.

Jeremey Alcorn
SAIC

Molly Anderson
Food Systems Integrity

Liliana Andonova
Colby College

Matt Arnold
Sustainable Finance, Ltd.

Sarah Banas
AAAS

Jay Benforado
U.S. Department of State

Tom Blackstock
Global Environment & Technology
Foundation

Michael Bowers
Cooperative State Research,
Education & Extension Service
U.S. Department of Agriculture

Lori Brutton
Bureau of International
Information Programs
U.S. Department of State

John (Jack) Burke
Environment International
Government, Ltd.

Leslie Carothers
Environmental Law Institute

Sander Chan
Vrije University

Patricia Chaves
Division for Sustainable
Development (UNDESA)
United Nations

Patricia Cimino
U.S. Environmental Protection
Agency

William Clark
Harvard University, John
F. Kennedy School of
Government

Rene Cochise
U.S. Forest Service

Nicole Cosmann
Booz Allen Hamilton

Heather Creech
International Institute for
Sustainable Development

Sweta Daga
Global Water Challenge

Glen Daigger
CH2M HILL

Howard Daugherty
York University

John Dernbach
Widener University, School of Law

Clifford Duke
Ecological Society of America

Monica Ellis
Global Environment & Technology
Foundation

Nina Fedoroff
U.S. Department of State

Ira Feldman
Greentrack Strategies

Marco Ferroni
Syngenta Foundation for
Sustainable Agriculture

Penny Firth
National Science Foundation

Steve Fries
U.S. Environmental Protection
Agency

Jesse Gallun
ACS Green Chemistry Institute

Alene Gelbard
Public Health Institute

Nighisty Ghezae
International Foundation for
Science

Andrew Gillette
Georgetown University

David Graham
The Dow Chemical Company

Albert Grant
Engineers Forum on Sustainability

Luis Gutierrez
Solidarity, Sustainability and
Nonviolence

Hank Habicht
Sail Venture Partners/GETF

Jeremy Harris
Sustainable Cities Institute

Gang He
World Resources Institute

Bill Hendrickson
Issues in Science and Technology

Philip Henshaw
HDS Design Science

Dale Hill
World Bank

Rosalyn Hobson
Virginia Commonwealth University

Keri Holland
U.S. Department of State

Stephen Hopkins
U.S. Environmental Protection
Agency

Ellie Kanipe
U.S. Environmental Protection
Agency

Flora Katz
National Institutes of Health

Jack Kaye
U.S. National Aeronautics and
Space Administration

Jerry Keusch
Boston University

Sheila Khatri
Moti International

Matthew Klasen
U.S. Environmental Protection
Agency

Pat Koshel
The National Academies

Petra Kuenkel
Collective Leadership Institute

Teresa Kuklinski
U.S. Environmental Protection
Agency

Rob Lalka
Global Partnership Center
U.S. Department of State

Hiram Larew
U.S. Department of State

Kai Lee
David & Lucille Packard
Foundation

Stewart T. Leeth
Smithfield Foods, Inc.

Valerie Lee
Environment International Ltd

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U.S. Environmental Protection
Agency

Pei Lin
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Jennifer Lynette
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Dale Manty
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Pamela Matson
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Kira Matus
Harvard University

Corrie Mauldin
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Education

Larry Papay
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Alexander Perera
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Blas Perez-Henriquez
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Kevin Rabinovitch
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Kevin Saba
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Barclay Satterfield
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Swati Save
Indian Young Professionals
Network

Chris Scalzo
Global Partnership Center
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Natural Resources Defense Council

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Adam Slote
USAID/Global Health

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Derek Vollmer
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REEEP North America

Mitzi Wertheim
CNAC

Carmen Yee-Batista
U.S. Department of State

Jennifer White
Global Development Alliance
U.S. Agency for International
Development

Jennifer Young
ACS Green Chemistry Institute

Appendix C

Partnerships for Sustainability: Past, Present, and Future

Background paper prepared for the Symposium

Priya Sreedharan and Derek Vollmer

INTRODUCTION

Sustainable development, the reconciliation of society's development goals with the planet's environmental limits over the long term, is necessary to meet the needs of current generations without compromising the needs of future generations. *Our Common Journey: A Transition Towards Sustainability* (NRC, 1999), highlighted the need for a transition towards sustainability in light of social and environmental trends that include wasteful consumption, expanding urbanization, disparities in wealth, deforestation, loss of species, and general human dominance of natural systems. The National Academies' committee determined that the primary goals of such a transition should include meeting the needs of a growing human population, to sustain the life support systems of the planet, and to substantially reduce poverty and hunger.

Contrary to more mature fields, sustainability is interdisciplinary and draws from a wide range of core and cross-disciplines, such as natural resources and environmental sciences, economics, physical sciences and engineering, and all the combinations among and between. Generating the ideas, strategies, and action items to encourage sustainability, not only on a regional scale but on a global scale, is challenging. No single governmental, nongovernmental, private, or community entity, is capable of addressing these challenges independently. Defining and executing projects that meet the goals of sustainability requires participation across traditional sector and disciplinary boundaries. Partnerships provide a means to pool multiple expertise and practically achieve sustainability goals.

Partnerships are everywhere, both as a description of how work is done and a prescriptive for how work should be done. There are many terms used to characterize similar ideas, such as consortia, collaboratives, and alliances. It may be easier to define what is not a partnership, rather than what is a partnership. Nonetheless, the following working definition of partnerships may be useful:

“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” (Briggs, 2003).

The use of partnerships for leveraging divergent expertise for achieving a particular objective is not novel. Certain sectors, notably health care, have a long history of engaging in partnerships as actors realized the necessity of working with partners to meet objectives on the ground. A vast literature describes the use of partnerships in health care that involve public agency and community organizations (El Ansari, 2005; El Ansari and Weiss, 2006). Similarly, development agencies and finance organizations such as the World Bank have also used partnerships as a means of fulfilling their missions, though these partnerships have historically been contractual, unidirectional (donor to recipient), and less characterized by co-production.

While partnerships are not new, recent events, trends, and the emergence of new challenges are directing greater attention and emphasis on the partnership model. The 2002 United Nations World Summit on Sustainable Development (WSSD) recognized the failures of large international and national governmental agencies in meeting the challenges of sustainable development as laid out by the 1992 Earth Summit in Rio De Janeiro (Scherr and Gregg, 2006). Partnerships have proliferated since the WSSD.

Second, businesses are playing a larger, and sometimes leading role, in what are known as public-private partnerships. In the late 1990s, the World Bank created the Business Partners for Development (BPD) to study, support and promote “trisector” partnerships, which involve civil society, business, and government. Trisector partnerships may help to provide long-term benefits to the business sector while meeting simultaneously the needs of civil society. BPD represents an effort to engage more private entities in partnerships by making the business case for partnering.

Third, society is sure to face great challenges to achieving long-term sustainability in the face of growing energy and food security threats, water scarcity and climate change. It is becoming increasingly apparent that a mobilization of partnerships spanning multiple scales of government, private entities, and non-governmental organizations (NGOs) will be required to generate practical solutions to these complex problems.

HISTORICAL CONTEXT AND CURRENT TRENDS

The concept of partnerships was first used in the context of sustainable development. Implicitly, funding organizations were to partner with recipients in developing countries and, together, achieve environmentally sustainable outcomes. Today, however, partnerships for sustainability are not limited to developing countries, but are being used across the globe to address a variety of sustainability issues ranging from the environmental management of nanotechnology, to the deployment of community-scale water treatment plants.

The concept of partnerships for sustainable development was introduced at the 1992 Earth Summit held in Rio De Janeiro as a vehicle for meeting the sustainable development goals described in Agenda 21, a blueprint for sustainable development that was endorsed at the Earth Summit. Many of the partnerships that were formed following the Earth Summit consisted of intergovernmental (i.e., multilateral and bilateral) partnerships. These partnerships were largely ineffective in achieving the goals of Agenda 21, in part because they did not involve the local or regional NGO community or private sector and perpetuated a business-as-usual model (Scherr and Gregg, 2006).

The 2002 WSSD recognized the failings of intergovernmental partnerships in successfully implementing programs that meet sustainable development goals. The WSSD proposed an alternative model of partnering with an emphasis on implementation that would actively involve local communities, private corporations, and NGOs. Since the WSSD, calls for public-private partnerships to promote sustainable development have grown. However, information on these partnerships, their structures, and their outcomes remains scattered.

Levy and Chernyak (2006) published an excellent annotated review of relevant web sites on partnerships for sustainable development. The United Nations Commission on Sustainable Development (CSD) maintains the most comprehensive inventory of partnerships through its website,¹ which contains searchable information, statistics, and publications on the partnerships and is the primary vehicle for registering partnerships that follow conventions set forth in the WSSD. These partnerships share certain key characteristics as summarized in the Bali Guiding Principles.² They must be voluntary, have multiple stakeholders, and be committed to achieving sustainable development goals (as defined by Agenda 21 and Millennium Development Goals, the most recent blueprint for promoting sustainable

¹ <http://www.un.org/esa/sustdev/partnerships/partnerships.htm>.

² http://www.un.org/esa/sustdev/partnerships/bali_guiding_principles.htm.

development³). As of this writing, more than 340 partnerships are registered with the CSD.

In addition to the CSD partnerships, many other public-private partnerships for sustainable development have been forged at various levels. The Seed Initiative (Supporting Entrepreneurs for the Environment & Development)⁴ is one major program that supports locally driven partnerships. USAID works through nearly 300 partnerships, such as the USAID Congo Basin Forest Partnership, which brings together more than 30 governmental and nongovernmental organizations to enhance the sustainable management and living conditions of the Congo Basin forests. Other federal agencies such as the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA) are increasingly using partnerships as a means to implement innovative solutions for meeting sustainability challenges. Information on these and other U.S. government efforts can be accessed through the Sustainable Development Partnerships website.⁵ Many partnership efforts led by the business community are tracked by the World Business Council on Sustainable Development⁶ and the Global Compact.⁷

Understanding the lessons and failures from existing partnerships for sustainability can be useful for designing and managing future partnerships. There is a growing academic literature on partnerships for sustainable development with a strong focus on large-scale international partnerships and the evolving nature of global environmental governance (Andonova and Levy, 2003; Biermann, 2007; Witte and Reinicke, 2005).

A smaller subset of the overall partnership literature critically evaluate partnerships in a comparative context (Altenburg, 2005; Hale and Mauzerall, 2004; Steets, 2005; Witte and Reinicke, 2005; World Water Forum Bulletin, March 2006; United Nations Public-private partnerships for the Urban Environment program; Chairman's Summary of CSD-14, Parts I and II; Mountain Partnership secretariat report to CSD-14, 2006).

Key lessons can be synthesized from these studies:

- Partnerships tend to be successful if they adequately address issues of goals, financing, and capacity.
- Partnerships that discuss goals and benefits within the strategic planning process and evaluate progress relative to these goals tend to be more effective.

³ <http://www.un.org/millenniumgoals/>.

⁴ <http://seedinit.org/>.

⁵ <http://www.sdp.gov/>.

⁶ <http://www.wbcsd.org>.

⁷ <http://www.unglobalcompact.org>.

- The process of explicitly stating goals ensures that each partner envisions a self-interest in the partnership.
- The importance of financing cannot be over-emphasized as lack of adequate financing is cited often as the principal reason for failure or slow development of partnerships. Explicit identification of financial resources prior to the formation of the partnership, or at a minimum, the development of a plan to finance the partnership is essential.
- Last, partnerships are more likely to be effective when the need for planning and management capacity is treated seriously and when each partner can contribute significantly to the planning and management of the partnership. Some of the most successful partnerships have “behind the scene” brokers who help create, build, and nurture the partnership.

Fewer studies evaluate small, locally driven partnerships for sustainability and sustainable development. Steets (2005) describes partnerships based on the SEED initiative. In contrast to the partnerships registered through the CSD, which require an international component, the SEED initiative partnerships are locally driven and focus on the implementation of sustainable development.⁸ Steets found successful partnerships to have adequate financial resources; good communication among partners; and a clear definition of the role of the individual partners, partnership process, and structure. Anecdotal evidence suggested, also, that individual champions were at the core of successful partnerships.

A common criticism of the WSSD partnership movement is that it failed to engage the private sector in a significant way, based on the number of private sector partnerships registered with the CSD and the small fraction of funding contributed by the private sector (Andonova and Levy, 2003; Hale and Mauzerall, 2004). Despite historically low representation in the CSD, the private sector is engaging in partnerships for sustainability for reasons that include practicing corporate social responsibility, which strengthens relationships with customers, improving business process and productivity, and managing risk. Thus, the private sector partner can benefit from the partnership (Business Partners for Development, 2001).

The literature contains relatively few comparative evaluations of public-private sector partnerships for sustainability, most likely because of their historic underrepresentation in programs such as the CSD. Altenburg (2005) describes partnerships between donor agencies and private sector partners in different countries. German public-private partnerships, for example, require business partners to assume entrepreneurial risk so that

⁸ Where sustainable development goals are defined by the Millennium Development Goals.

they have a self-interest in the commercial success of the project. This is seen as an important guarantee for the sustainability of the project.

The Business Partners for Development is a potentially useful resource for understanding the success factors of trisector partnerships for sustainable development.⁹ A 2001 publication attempts to dispel common myths of partnerships (Business Partners for Development, 2001). For example, successful partnerships are not shaped around common goals or a common vision, but are shaped around common and shared activities that deliver individual partners' aims. Individual champions are commonly thought to be instrumental to the success of a partnership. The study advocates that the methods for initiating partnerships are interchangeable (i.e., individuals or structured groups may be effective); however, once a partnership becomes operationalized, structured methods are more effective than individuals.

MEETING THE CHALLENGES OF THE FUTURE

The formal concept of sustainable development came from a recognition that economic development and poverty alleviation should not be achieved at the expense of environmental degradation. Previously, sustainable development may have been viewed as a concern primarily of developing countries. Today, as society faces unprecedented challenges from climate change, food, energy, and water security, the effects from activities in one part of the world are experienced in other parts of the world. Addressing any one issue requires an approach that involves multiple expertise and knowledge bases, and involvement across multiple scales of government, the private sector and the public sector.

Partnership-based solutions may be effective in promoting climate change mitigation and adaptation strategies. Trisector partnerships can help mitigate climate change through, for example, public-private partnerships that invest in clean energy technology development, and interagency partnerships that promote demand and supply-side solutions. Several existing partnerships have initiatives to encourage energy efficiency, sustainable energy development, renewable energy at community, city, state, federal, and international levels. The Energy Star partnership is a well-known successful public-private partnership that promotes energy efficiency across the economy.

Partnerships may be useful, also, for promoting solutions to sustainably adapt to climate change. While the nature and scale of the impacts of climate change will vary by geography, virtually no portion of society will remain unaffected. Each physical phenomena of climate change, such as temperature changes and extreme weather events, is likely to have impacts

⁹ <http://www.bpdweb.com/>.

on agriculture, forestry, ecosystems, water resources, human health, industry, and settlement patterns (IPCC, 2007). Sea-level rise is expected to exacerbate flooding, storm surge, erosion, and other coastal hazards. A comprehensive response strategy is required to address short-term and long-term adaptation needs. In the near term, weather monitoring, early warning systems, and catastrophic event response strategies will be needed. Resettlement programs will be needed in the long term. Policies and programs will need to address a range of issues from community outreach, to technology deployment, and urban planning. Adapting agricultural practices to climate change is another area that will require a comprehensive policy approach and a combination of outreach and response strategies (Howden et al., 2007).

An integrative approach that combines the physical, natural, and social sciences, in a coordinated effort, will be needed to respond to these and other climate change impacts. Partnerships are ideally suited for addressing multidisciplinary problems and in the context of adaptation, could convert the science into solutions, as well as connect stakeholders, practitioners, policy makers, and scientists. At a minimum, partnerships will be useful, if not necessary, to coordinate the efforts that will be needed to promote climate change adaptation strategies due to the disperse nature of the impacts. Partnerships can help coordinate the functions of typically disparately operating public agencies and coordinate responses across borders, as the impacts will be regionally specific and will not be defined by country borders.

Public-private partnerships in sustainable agriculture are emerging. Sustainable agriculture will become more important as climate change impacts are experienced, water and land resources are further depleted, and population continues to grow. Some partnerships have formed to promote sustainable agriculture practices. Among the SEED partnerships, 32 percent have a sustainable-agricultural component (Steets, 2005). They typically encourage farmers to use organic production methods and produce traditional crop varieties. Access to markets was reported to be a major problem for small organic farmers. The SRI Global Marketing Partnership was formed, in part, to improve market access for small rice growers in Africa and Asia. Such partnerships may be well placed to promote markets for the products of sustainable agriculture.

While partnerships may bring benefits to sustainable agriculture, the design of the partnership is crucial. Hartwich et al. (2005) evaluated several agricultural public-private partnerships for promoting innovation-based growth along agricultural chains in Latin America. Many of the partnerships were not formed to support new innovations that may have the greatest positive impact on people, but were used as funding mechanisms for previous research activities.

Biofuels is another topic that has strong ramifications for sustainability on a global scale. Recent concerns rooted in high food costs illustrate the complex relationship between food and energy security. The biofuel economy is far reaching and has consequences for agriculture, natural resource management, industry, and transportation infrastructure, on regional, federal, and global scales (Fargionne et al., 2008; NRC, 2008; Searchinger et al., 2008).

Separate public agencies typically address these areas through independent operation. At a minimum, partnerships within the public sector are necessary to coordinate efforts to encourage a sustainable biofuel energy system. Such efforts in governmental agencies have begun: The Biomass Research and Development Board is a partnership co-chaired by the U.S. Department of Agriculture and Department of Energy and includes participation from 11 federal governmental agencies.¹⁰ Public and private sector cooperation could help address technological and infrastructural barriers to expanding biofuel production, as mandated in recent energy policies. Finally, civil society participation is essential for enacting consumer or behavioral change, and so partnerships may help address future challenges in promoting more sustainable transportation fuels. A more thorough understanding of the factors that make partnerships for sustainability successful will be useful for addressing these and other future challenges.

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¹⁰ <http://www.brdisolutions.com/initiative/pages/Board.aspx>.

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Appendix D

Outline for Partnership Case Studies

- I. The Context of the Partnership:
 - Descriptive title for the Partnership
 - When established, by whom?
 - Initial Goals and Objectives
 - Measures/Indicators of success identified at outset—implicit/explicit definition of “sustainability”
 - Any end date established?
 - Geographic focus
 - Partners: Who were the “founding” partners, what provisions were made for bringing in new partners, what new partners have become active as the partnership has matured. Might be useful to classify by sector: federal government, state government, academia, business, nongovernmental organization, other
 - Principal benefits that the partnership was expected to generate—If possible, classify partnership as one of the following five types:
 - 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.
 - Action-oriented and designed to focus conservation efforts on a particular region or issue.
 - Research-based efforts to spur innovation in a particular sector with implications for sustainability.
 - Focus on disseminating science-based knowledge and information for sustainable impact. Campaign-type partnerships that

promote good health practices (such as handwashing or use of insecticide-treated bednets) represent this category.

- Focus 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 which develop virtual communities (e.g., Partnerships Central) also belong in this category.

What is/was the core problem that led to the formation of the partnership? Does/did common definition or understanding of “the problem” at the outset lead to a common definition of “goal”? (Problem and Goal Definition) How do/did partners arrive at the definition of the problem? Are they all working on the same problem, or separate problems within a broader issue? How did/does the process engage the users in defining the problem?

II. Incentives

- Were there incentives other than “the problem” that led to the establishment of the partnership? (e.g., public policy on sustainability, prizes for winning something, necessity—at least as perceived by potential partners, cost-saving opportunities)
- What were the incentives that led individual partners to join? (e.g., leveraging resources, sharing risks and benefits, sharing scarce knowledge, access to information otherwise unavailable, legitimating some approach)
- Have the motivations for partners changed over time, as experience has been gained? Have some partners dropped out? For what reasons?
- What incentives do partners have to continue participating in the partnership?

What kept/now keeps partners up at night? (Major challenges) What were the major challenges that needed/need to be faced within the partnership? Were these challenges expected or unexpected?

III. Implementation Practices/Functional Analysis

- Planning: What approaches to planning the partnership were used at outset (formal/informal, written agreements or commitments/verbal, externally facilitated or internally managed, any intention at outset to revisit or revise); how long did initial planning process take; how have planning processes been revised over time)

- Funding: What was original partnerships funding plan (level of funding anticipated to be needed, what uses; how to be managed—pooled or other); Who contributed what? In-kind contributions valued? How has funding plan evolved?
- Timelines for action and accomplishment: How clearly defined; how often adjusted; reasons for adjustment
- Leadership or championship: Who took overall leadership for partnership, how was that person/organization selected; was effectiveness of leadership assessed by partners or by others; did leadership remain same throughout life of partnership, what caused changes
- Day-to-day activity: How fully do partners participate, are there rewards/sanctions based on level of active engagement, what kind of communication ensures that all partners are in touch with partnership activities
- Customer response and feedback: are people affected by partnership activity but not themselves partners providing feedback on the activities of the partnership; how is this feedback gathered and assessed
- Monitoring and evaluation: What procedures have been established to assess the partnership's success or failure? Have the original metrics been appropriate, adjusted, or changed altogether?

Who's running the show? (Program Management) *What organizational form was chosen for the partnership? Who is responsible for keeping partners focused and on task?*

How might this partnership be characterized? (Program Reputation) Could this partnership be described as a “results-oriented” and running like a “well-oiled machine?” How about “controlled chaos but productive?” What other descriptors might be more apt? Learning organization? An “exclusive club”? Fully participatory and synergistic? Slowed by free riders?

IV. Partnership Organization and Governance

- Initiation of partnership structure: What organizational form was chosen for the partnership? How was decision made to adopt the organizational structure chosen? Were other partnerships of a similar/different nature used as examples?
- Roles and responsibilities of partners: Are these clearly defined in organizational terms? Are they monitored? Can partners be ejected for not living up to expected roles or responsibilities?
- Governance: Does the partnership have a formal body such as a

Board or Executive Committee which provides regular oversight and leadership? How are the members selected? How effective have they been in assuring achievement of partnership goals and objectives? If the partnership does not have a formal board or executive committee, how is it governed? Who decides on expenditures of funds, the hiring or appointment of the partnership's manager or coordinator, agreement to bring in new partners, reporting to the partners, etc.

- What other approaches has the partnership used to assure accountability both of the partnership and of members of the partnership?
- Assets of partnership: If intellectual property or other assets are generated by the partnership, is ownership of the assets clear?

Where does the buck stop? (Accountability) How are partners held accountable? Was the partnership designed with this in mind?

Was this partnership to be a time-delimited project or an indefinite alliance? (Time as a Driver for Accountable Performance) Was/is an end of the partnership envisioned at the outset?

V. Assessment of Partnership

- Impact on sustainability. Did partnership meet (or is it meeting) its stated goals and, thus, achieve "sustainability" in some way? Were these achievements specific and measurable (was baseline data collected?) Were systems in place to monitor progress and made "mid-course" corrections? Do all/most members of the partnership agree that the goals could not have been achieved without the activities of the partnership? What specific action of the partnership is identified as "most responsible" for the partnership's successes to date?
- Appropriateness of the partnership approach in managing cross-sectoral issues and collaboration. How did the partnership foster cross-sectoral communication and working relationships? What factors made for effective collaboration and interaction among members? Did breakdowns occur, why, and what impact on overall partnership operations did they have?
- Benefits and costs to members. Were the anticipated benefits of the partnership to its members realized? Were unintended benefits (or costs) encountered? Which benefits were most important to individual members: for example, the ability to test innovative approaches and to share risk, the networking opportunities, sharing of technology and knowledge, capacity building. Were costs of

membership as anticipated? Or were they more burdensome than anticipated, for example, in terms of time, funding, loss of IP, loss of other opportunities, etc.

- Economic efficiency. How do members of the partnership rate it for economic efficiency? Was it “worth it” for all/most members?
- Replicability. Has the experience of the partnership led members to enter into, avoid, or change their involvement in other partnerships? What are the specific “partnership lessons learned” that members/leaders/champions are taking away from this partnership?

How are the partners keeping score? (Assessment) How does the partnership measure its impact? Are all partners focused on the same impacts? Were there unexpected outcomes or impacts? How many of the metrics used are measurable/quantitative and how many are soft, qualitative?

Are partners assessing their individual investments prior to re-investing? (Assessment of cost-effectiveness) How are they evaluating the “experience gained” in this assessment?

General Questions

- Are there distinct “classes” or types of partnerships (e.g., locally driven, entrepreneurial, and government-led) characterized by common features of success and failure?
- Are partnerships particularly effective in addressing sustainability challenges that directly affect multiple sectors (business, government, and academia)?
- Are partnerships particularly effective in validating the scientific merit of ideas?
- Are partnerships particularly effective in validating the expenditure of resources?
- Are there lessons to be learned about the mobilization of resources (financial as well as intellectual property) in partnerships for sustainability?
- What are the most important reasons for success or failure of the partnership? (based on interviews with customers and partner members)
- Are the partners satisfied? Did program meet their expectations? Would they do this again, expand current program? What changes would they make?
- Describe: role of leadership, funding, common commitment to program objectives, willingness to take risks, make changes when things don’t work (learning from experience)

