

# To Trust or Not to Trust: A Model for Effectively Governing Public-Private Partnerships

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In this article, we explain the critical role of trust in the effective management of public-private partnerships (P3s). Through a literature review of P3 management and a case study of developing and applying a social audit model to an agricultural biotechnology project in sub-Saharan Africa, we demonstrate how distrust undermines the effectiveness of P3s and the added value of building trust in such projects. The principles of the model and outcomes of improved transparency, management, and accountability in the project are described. We explain how the model and lessons learned from its application to the agricultural biotechnology project are transferable to effective management practices and trust-building in other P3s.

**Key words:** agricultural biotechnology, development, ethics, management, public-private partnerships, P3s, social audit model, trust.

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## Introduction

Public-private partnerships (P3s) for agricultural biotechnology, health, and various other sectors have proliferated with recognition of their importance and value to the effectiveness of technological development and research (Buse & Waxman, 2001; Reich, 2002; Spielman, Cohen, & Zambrano, 2006; Spielman & von Grebmer, 2006). Agricultural biotechnology P3s involve relationships between the public sector and private companies (usually multi-national companies recruited for the scientific and commercial expertise they can provide) and are most often funded by local agricultural organizations and private international funders (Ezezika, Thomas, Lavery, Daar, & Singer, 2009; Pinstrup-Andersen & Cohen, 2000). The advantage of P3s lies in their multi-faceted approach to development, which takes into account varied sources of innovation and a multiplicity of developers and users of the technologies. The culmination of resources, scope of reach, accessibility to technology transfer, and ability to mobilize end-user demands are among the other benefits of a P3 framework (International Institute of Tropical Agriculture [IITA], 2009).

For agricultural biotechnology, P3s provide an integrated approach for efficiently and effectively advancing agricultural innovation for communities where they are needed most (Spielman & von Grebmer, 2004; World Bank, 2007). However, a host of ethical issues arise in the management of competing interests and expectations of the partners within the P3s, as well as between the projects and the communities they aim to serve, which pose a complex set of challenges to the projects in terms of effectiveness and sustainability and

in regard to *trust* (Ezezika et al., 2009; Ezezika et al., 2012; Spielman et al., 2006; Spielman & von Grebmer, 2004; Spielman & von Grebmer, 2006).

Trust, defined as “a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviors of another” (Rousseau, Sitkin, Burt, & Camerer, 1998, p. 395) is paramount to effective governance and, in turn, success of a partnership. “Partnerships... can only be successful as long as trust between the partners can be established and maintained” (Osborn, 2000, p. 99). Distrust has been identified as one of the major challenges to the success of P3s (Edelenbos & Klijn, 2007); this distrust often stems from misconceptions by the public about the intentions of private-sector involvement (De Costa, Johansson, & Diwan, 2008) and from public and private culture clash within partnerships (World Bank, 2007). An inability to secure trust among partners of a P3 and between the project and the public can pose a great risk to the success of a P3 and ultimately can result in failure of the development initiative (Aerni, 2006; IITA, 2009). There is a need to understand the ethical issues behind these challenges to trust in order to determine and help establish best practices for improving trust and mitigating risk in P3-led development initiatives.

In this article we describe the critical and multi-faceted role of trust in the management, sustainability, and success of P3s based on literature regarding the management of P3s, including that which ascribes a linkage between trust and an effect on P3s. The articles reviewed draw primarily upon case studies, interviews, and surveys conducted about P3s. Through key exam-

ples from the literature, we demonstrate the value of pursuing and sustaining trust in the development, management, and governance of P3s, especially those involved in agricultural biotechnology.

We further illustrate how the challenge of building trust and the associated risk of project failure were recognized in an agricultural biotechnology P3 with humanitarian goals in sub-Saharan Africa (SSA)—the Water Efficient Maize for Africa (WEMA) project. We explain how, in response, a social audit model for trust-building was developed by an ethical, social, cultural, and commercialization (ESC<sup>2</sup>) team and applied to the WEMA project over three consecutive years. We provide a discussion of the observed and reported impact and added value of applying the model to the WEMA project; we also explain its utility and importance for managers and funders for building trust in other P3s with humanitarian goals.

### Significance of Trust in P3s

From our review of literature on the management of P3s, three important findings support our hypothesis that trust-building among project partners and between the project and the public is important for the effective governance and success of P3s: 1) trust is important in the initiation of P3s; 2) distrust undermines the effectiveness of P3s; and 3) trust helps to sustain P3s.

#### *Trust is Important for the Initiation and Early Phases of P3s*

According to our review, a foundation of trust at the outset of a partnership can ease the establishment of a P3 (Table 1).

Trust has been considered a “stakeholder relationship development factor” that can directly affect stakeholders’ motivation or involvement in the partnership and impact upon partner action toward project goals (Wilson, Bunn, & Savage, 2010, p. 85). Trusting relationships among project partners was found to be maximized by partners’ investments (both monetary and personnel), made in the beginning of a partnership as a result of less fear of project failure (Edelenbos & Klijn, 2007). Partners have been found to be more inclined to share information, opportunities, and resources with their peers in early stages of partnerships when they trust in their colleagues’ future actions (Gulati & Sytch, 2008). In addition, accelerated partnership development has been attributed to ‘competence-based trust’—a form of trust that is established on the basis of partners’

**Table 1. Importance of trust in the initiation of P3s.**

	Source
1. Factor for stakeholder motivation/involvement	Wilson et al. (2010)
2. Impetus for action toward project goals	Wilson et al. (2010)
3. Encouragement of partner investments (monetary and personnel)	Edelenbos and Klijn (2007)
4. Advanced commitment of partners	Edelenbos and Klijn (2007)
5. Earlier cooperation and resolution of problems	Gulati and Sytch (2008), Wilson et al. (2010)
6. Faster initial negotiation of contracts	Zheng et al. (2008)

potential skills and abilities, as opposed to their prior social relationships (Edelenbos & Klijn, 2007).

The literature suggests that stakeholders are more willing to cooperate within a partnership if they trust others involved in the project (Wilson et al., 2010). Establishing a dynamic of trust in the early stages of the partnership—in which the actions of the partners are predictable and reliable—can help build cooperation among collaborators (Gulati & Sytch, 2008). Initial negotiation and establishment of contractual obligations in the partnership can also be accelerated when there is existing trust or early established trust among the partners (Zheng, Roehrich, & Lewis, 2008).

#### *Distrust Undermines the Effectiveness of P3s*

Our review suggests that a low trust culture in P3s can lead to an increase in public sector suspicions in the private sector, lessening and weakening of partnerships, inefficiency toward project outcomes, shorter duration of collaborations, and potential for termination of partnerships (Table 2).

In a survey of key informants from P3s involving the Consultative Group of International Agricultural Research Centers (CGIAR) and multinational agricultural research firms, 40% of respondents believed that distrust, and suspicion as a result of negative perceptions between the public and private sectors, was a primary impediment to the formation of greater partnerships (Spielman et al., 2006). Trust is therefore essential for the initiation of such partnerships.

Public-sector suspicions in the private sector, as observed in a study on Indian health P3s (De Costa et al., 2008), was found to be a prevalent consequence of low levels of trust in the partnerships. Other consequences of a lack of trust, such as weakness and ineffi-

**Table 2. Consequences of distrust in P3s.**

Consequence	Source
1. Creates doubts of public sector about private sector's intentions and dedication to the cause	De Costa et al. (2008)
2. Reduced efficiency of P3 in terms of outcomes	Fourie and Burger (2000)
3. Lesser and weaker partnership	Smyth and Edkins (2007)
4. Shorter duration of collaboration	Jones and Noble (2008)
5. Can cease collaboration between parties	De Costa et al. (2008)

ciency, were evident in the literature (Fourie & Burger, 2000; Smyth & Edkins, 2007) and were said to lead to truncated collaborations or even outright termination of the partnership (Jones & Noble, 2008). For example, the demise of the Child Vaccine Initiative (CVI) was reported to be partially attributable to a high level of distrust between the private and public sectors (Muraskin, 2002). CVI was an effort by the World Health Organization, United Nations Development Program, United Nations Children's Fund, World Bank, and Rockefeller Foundation, and was meant to improve child health around the globe (Muraskin, 2002). Disputes over the importance of different aspects of the project led to friction between the contributing partners, according to our review. The private sector was seen as innovative but focused only on profit generation, while the public sector was considered to be overly bureaucratic and inefficient. This difference in opinions and objectives rendered the CVI unsuccessful in the achievement of its goals (Muraskin, 2002).

Due to the collaborative nature of P3s, distrust between partners appears to yield a weaker and less efficient overall partnership (Fourie & Burger, 2000; Smyth & Edkins, 2007). Distrust at the inception of a project is also said to harm successive phases of a P3, leading to its premature end, or, in extreme cases, immediate dissolution before project commencement (De Costa et al., 2008).

**Trust is Important for the Sustainability of P3s**

We observed that trust was not only important in the initiation of successful partnerships but also in their sustainability (Table 3). Partnerships that have a foundational layer of trust are likely to have a longer duration (Jost, Dawson, & Shaw, 2005). As a result, P3s with greater longevity are more likely to effectively address the desired goals of the project. Trust can mediate the involvement of staff and partners in project activities and aid in the creation of team dynamic, therefore

**Table 3. Importance of trust in the sustainability of P3s.**

	Source
1. Decrease opportunistic behavior	Erridge and Greer (2002)
2. Informal social control and knowledge dissemination between networks	Erridge and Greer (2002)
3. Increase length of cooperation/ partnership	Jones and Noble (2008)
4. Creation of social capital	Erridge and Greer (2002)
5. Fast identification of solutions to problems outside the contract	Barretta and Ruggiero (2008)
6. Mitigate discrepancies in uncertain circumstances	Barretta and Ruggiero (2008)
7. Easier renegotiation of contracts	Barretta and Ruggiero (2008)
8. Can encourage future collaboration	Jost et al. (2005)
9. Encourages investment of money and personnel by involved parties	Edelenbos and Klijn (2007)
10. Better and more efficient service from the P3	Ahmed and Ali (2006)

maximizing the length of involvement in the P3 (Jost et al., 2005).

Conflicts arising within partner contracts were found to be best mitigated by shared ideas and values built by trust (Barretta & Ruggiero, 2008). Through these shared ideas and values, common solutions (agreed upon by both parties) are formed with greater ease. This idea can be equally applicable to situations in which the outcome of a decision is ambiguous and the most advantageous solution is not evident. Furthermore, future negotiations within the contract, for compensation or additional benefits, were said to be better resolved with a background of trust supporting the decision-making process. For example, the CVI was short in duration due to disagreements and distrust among the partners (Muraskin, 2002). The lack of trust did not allow for the mutually beneficial solutions necessary for the continuation of the project to be reached. Although this initial partnership did not yield the trust necessary to continue the work of the CVI, the relationship, according to Muraskin (2002), facilitated the negotiations to form a new partnership, the Global Alliance for Vaccinations and Immunizations (GAVI).

The concept that trust could facilitate shared solutions to uncertain contractual problems is analogous to the ability of trust to mitigate solutions to unforeseen problems outside the jurisdiction of the contract. This, according to Gulati and Sytch (2008), stems from the tendency of partners to act in accordance with the pre-

dicted actions of the reciprocating partner, which arises from an understanding of their respective motives. When there is an agreement between partners to work to the advantage of everyone, altruism is encouraged, allowing the development of unbiased solutions to conflicts.

Organizations are often governed by institutional regulations that monitor the actions of the partners and utilize formally sanctioned punishments. We found that formal regulations can be rendered unnecessary because of the norms established through trust and reciprocity among project partners. In fact, in an evaluation of government policy in the United Kingdom and case studies of sample contracts set up within partnerships, trust was reported to decrease the opportunistic behavior of involved partners (Erridge & Greer, 2002). Our review suggests that trust also saves P3s both time and money, which would have otherwise been spent on monitoring the actions of the partners. The gains associated with trust and, conversely, the detriments acquired as a result of opportunistic behavior, appear to be part of a “self-reinforcing” cycle in which trust breeds trust in the sustainability of the partnership (Zitron, 2006, p. 55).

### Alongside Trust

Our review suggests that other important factors determine the success and sustainability of P3s, alongside trust. These include well-defined project concepts with clear roles and responsibilities of the partners (including financial and material contributions) and open communication. Clear contractual agreements prior to project implementation, concrete objectives, and strong risk monitoring and evaluation frameworks to ensure the P3 stays on course have also been found to play a role in the success and sustainability of P3s (Monaghan, Malek, & Simson, 2001). Passion for one’s work and integration of viewpoints from the public were also deemed influential in the success of a P3 (Jarvenpaa & Leidner, 1999; Rosenau, 1999).

Trust plays a role in facilitating each of these factors that work alongside trust. Trust is correlated with collaborative decision-making (Lewiski, Tomlinson, & Gillespie, 2006). In establishing a P3, it takes time to successfully set out roles; this allows trust to grow between partners through on-going observation of one another’s reliability and integrity. Trust is also linked to open communication between peers. Strong communication between partners early in project development has been found to increase trust between partners (Jarvenpaa & Leidner, 1999). Finally, P3s must elicit trust

from the public as the end-consumers of a product. Analyses of trust in P3s have shown that projects are more successful when they include the public voice (Teicher, Alam, & Van Gramberg, 2006). Many of the factors that affect project success are accelerated by trust, as it increases acceptance of vulnerability based on the actions of partners (Purdue, 2001).

### Trust in Agricultural Biotechnology and other Technology Development P3s

Our literature review findings suggest that there exists a need to focus on practices that foster a climate of trust in P3s, as well as additional factors for defining and monitoring the course of the projects. These findings resonate with those working on a large-scale agricultural biotechnology P3 with humanitarian efforts in SSA—the WEMA project. Efforts toward trust-building are ongoing among partners and stakeholders of the project to build trust and mitigate the associated risks to project success.

WEMA is a P3 that began in 2008 with the goal of developing drought-tolerant maize varieties using conventional breeding, marker-assisted breeding, and biotechnology to make available seeds, royalty-free, to smallholder farmers in SSA. Insect-resistant traits have since been included in the varieties. The partners of the project include the African Agricultural Technology Foundation (AATF); the International Maize and Wheat Improvement Center (CIMMYT); Monsanto; and the national agricultural research systems of Kenya, Mozambique, South Africa, Tanzania, and Uganda. The project has been funded by the Bill & Melinda Gates Foundation and the Howard G. Buffet Foundation. The first conventional hybrids, with improved drought tolerance, are slated to be available in 2014. WEMA faces issues of public mistrust that are uniquely associated with complex P3s that involve the development of genetically modified (GM) crops. There are ethical, social, cultural, and commercialization (ESC<sup>2</sup>) concerns related to the varied interests and priorities of partners in the project and the variety of viewpoints surrounding GM crops. Such concerns have led to diminished trust on the part of project stakeholders and the public, and in turn could pose a significant barrier to the achievement of WEMA’s humanitarian goals.

At the outset of the WEMA project, priority was set to build trust among the project partners and between the project and the public. This was crucial due to the complexity of P3s in regard to misconceptions about private-sector involvement, potential for public-private

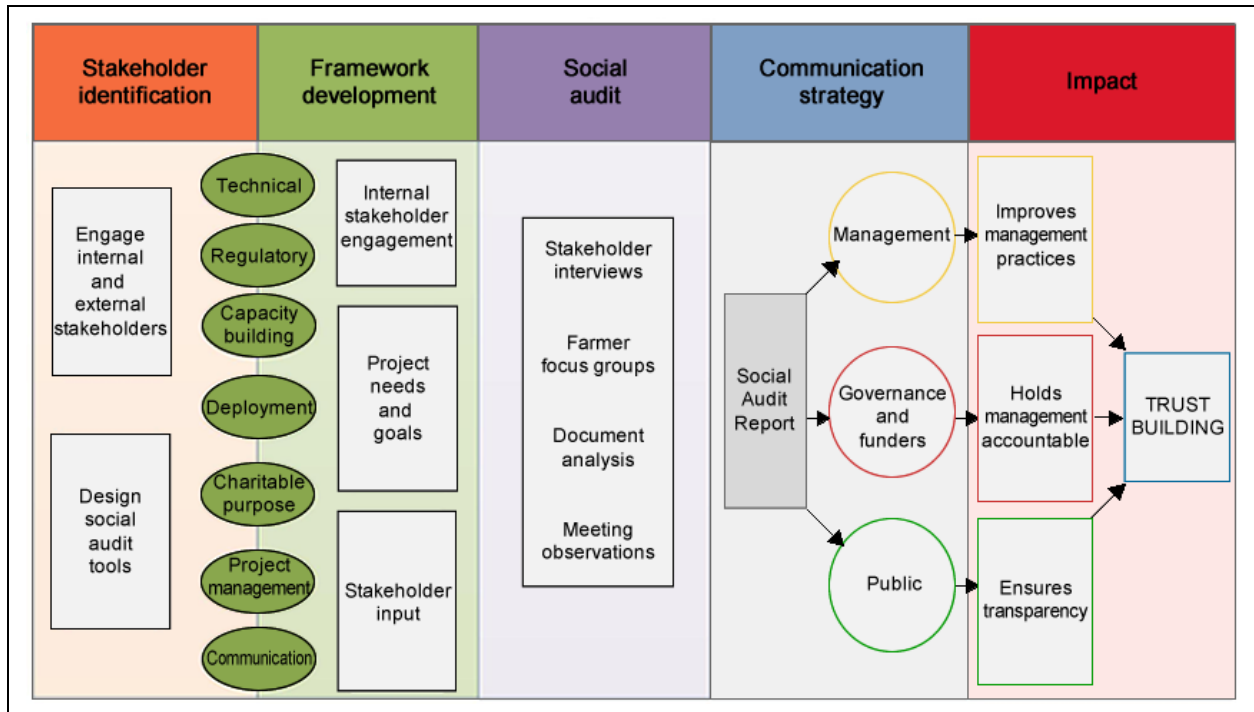


Figure 1. Social audit model for trust-building in P3s.

sector culture clash among project partners, and controversy around GM crops. Issues of acceptance of the technology by the public (Hyder, 2005; Naidoo, London, Burdorf, Naidoo, & Kromhout, 2008; World Bank, 2009), concerns around cultural and religious significance of indigenous food crops and farming practices (Shilla, Ismail, & Hauser, 2008), and health and environmental concerns around the technologies (Krattinger & Potrykus, 2007) are not uncommon for agricultural biotechnology P3s. It was recognized by the WEMA project that all of these factors present additional ethical challenges to trust-building. In response to these challenges, to the success of the project’s humanitarian goals, a social audit model for trust-building in P3s (Ezezika et al., 2009) was developed and applied to the WEMA project (Figure 1). This endeavor has uncovered ethical, social, and cultural issues in the project and helped to effectively build trust among the project partners and between the project and the public. In turn, contributions have been made to mitigating risks associated with trust in this P3-led, agricultural biotechnology development initiative in order to ensure effectiveness in the governance of the project and that the project’s humanitarian goals are met.

### The Social Audit Model

The social audit model, as applied to the WEMA project, involved the assessment of ESC<sup>2</sup> issues associated with the WEMA agricultural biotechnology initiative and a social audit service followed by public reporting of the findings through a comprehensive communications strategy (Aerni, 2006). Here, we extend beyond a description of the early stages of developing the model, as detailed in an earlier paper by Ezezika et al. (2009), and provide details on the communication strategy of the model. We discuss the utility and value of the social audit model for agricultural biotechnology P3s, based on its application to the WEMA project.

### Developing the Social Audit Model

The social audit model is intended to uncover and communicate ESC<sup>2</sup> issues a P3 to help foster improved management practices, accountability, and transparency, which in turn will help build trust among the partners of the project and between the project and the public. The intended outcome of applying the social audit model is to improve trust-building practices in the P3 and mitigate the associated risks to project success.

To develop the social audit model to apply to the WEMA project, an analytical framework, a quantitative questionnaire, and a semi-structured interview guide

**Table 4. Sample questions from the social audit questionnaire.**

1. What ethical, social, and/or cultural issues have been encountered in the technical work of the project?
2. Has sufficient preparation been made by the WEMA partners to address these issues if and when they arise? Please explain briefly.
3. What would you consider to be the important concerns and benefits of this project to [respective stakeholder group]?
4. Which of these concerns/benefits are being considered implicitly or explicitly in project planning and implementation? Please explain briefly.
5. Is the communication strategy effective in listening, learning, and making changes based on feedback from the public?
6. What potential commercialization issues do you foresee in the WEMA project, and have preparations been made by the WEMA partners to effectively address these issues if and when they arise?
7. Do you see any difficulties that may arise as this project advances? If so, how should they be addressed?
8. How has your knowledge on the WEMA project improved between the last social audit and this one?
9. What steps have you taken to improve your knowledge about the WEMA project over the last one year?
10. What steps has WEMA taken that have helped to improve your knowledge about the WEMA project over the last one year?

(that were in line with the intended goals of the WEMA project) were developed. Each analytical lens of the framework was chosen to represent one of the seven goals of the WEMA project—technical, regulatory, capacity building, deployment, governance, charitable goal, and communication.

Interviews were conducted with a wide range of stakeholder groups, focus group discussions with farmers were carried out, project reports were reviewed, and project meetings were observed. Qualitative and quantitative questionnaires were designed to uncover ESC<sup>2</sup> issues in the project, with some questions general and others specific to stakeholder groups (Aerni, 2006; Ezezika et al., 2009). (See Table 4 for sample interview questions.) The social audit tools and procedures were piloted with stakeholders in the WEMA project and the community and refined with feedback from stakeholders, the governing body of the project (AATF), and the project funders (Bill & Melinda Gates Foundation).

The social audit model is innovative; it can be instrumental in providing stakeholders and project beneficiaries with a voice and can help to mitigate potential ethical, social, cultural, and commercialization risks for project managers. The strength of this model is in its flexibility to be tailored to the specific needs of a project, and in its design, which includes the incorporation of input from the broader community and continuous improvement and refinement through feedback from project stakeholders.

### **Applying the Social Audit Model**

The social audit model was applied to the WEMA project over three consecutive years, using the refined audit tools to evaluate the project's performance, and contribute to improved transparency, accountability, management practices, and build trust. Viewpoints of 100

project stakeholders, internal and external to the project, were collected in each year from five countries in SSA (Kenya, Mozambique, South Africa, Tanzania, and Uganda). Stakeholder perspectives represented a wide range of stakeholder groups (including regional farmers' associations, researchers, non-governmental organization executives, seed company executives, regulators, and members of more than a dozen stakeholders' groups) whose trust in the project is critical to the success of the project in meeting its humanitarian goals. Stakeholders were selected using snowball sampling (a non-probability sampling based on recommendation of additional stakeholders from existing stakeholders in the study) and based on their knowledge of the WEMA project. This method of sampling was carried out to ensure stakeholders interviewed were capable of responding to questions related to the project partnership, project governance, and communication strategy (i.e., about 20-25% of the stakeholders were selected from the WEMA teams in each audit to best capture the dynamics of the P3). Stakeholders interviewed had varying opinions on the project and on agricultural biotechnology in general.

Following the audit interviews, the tools, methods, key findings, potential benefits, and concerns in the P3 were reported to project management, funders, and stakeholders, and recommendations were provided to the WEMA project teams. The recommendations in the report were made up of action plans set out to ensure the ESC<sup>2</sup> issues raised by stakeholders were addressed in the next project cycle and transparency, accountability, and management practices were improved, and in turn trust could be built. Some key findings that were reported included: overall ESC<sup>2</sup> evaluation of the WEMA project is 'good' and varies among stakeholder groups; communication with stakeholders has improved

**Table 5. Outcomes of the social audit model on trust-building in the WEMA project.**

Objectives	Activities and outcomes
<b>Mobilize voices of the public and people in the project</b>	<ul style="list-style-type: none"> <li>• Platform to share views about ESC<sup>2</sup> issues in the project.</li> <li>• Views accessible through communication of annual social audit reports.<sup>1</sup></li> </ul>
<b>Create transparency</b>	<ul style="list-style-type: none"> <li>• Views accessible through communication of the annual social audit reports.<sup>1</sup></li> </ul>
<b>Improve management practices</b>	<ul style="list-style-type: none"> <li>• Views shared with project management and project teams with recommendations for addressing issues raised in social audit reports.<sup>1</sup></li> <li>• Project management and the governing board sets out action steps for addressing ESC<sup>2</sup> issues raised.</li> </ul>
<b>Foster accountability</b>	<ul style="list-style-type: none"> <li>• Management plans shared publicly through distribution and online posting.</li> <li>• Expectations for implementation of management plans by all project partners, teams, funders, and public.</li> <li>• Issues raised are followed up on by WEMA governance and funders and through subsequent social audits of the project.</li> </ul>
<b>Align perspectives of partners and project with public</b>	<ul style="list-style-type: none"> <li>• Through the activities described above, the ESC<sup>2</sup> team helps foster cooperative decision-making and interactive practices in the project to effectively align the perspectives of the partners and project goals with those of the community it aims to serve.</li> </ul>

since the preliminary audit; stakeholders want transparency and input on the potential characteristics of WEMA maize; and there is perceived need for capacity building of national agricultural research and regulatory systems. Greater detail of the findings from the social audits of the WEMA project can be found on the AATF website, alongside WEMA management's responses to the reports<sup>1</sup> and outcomes of the trust-building efforts are described below.

### **Impact of the Social Audit Model for Trust-Building in P3s**

The aim of the social audit model is to facilitate improved transparency, management accountability, and management practices in the P3 to effectively build trust among the project partners and between the project and the public. Application of the social audit model in the second and third years of the WEMA project was regarded by WEMA project teams, management, and funders as effective in this regard. (See Table 5 for outcomes of the social audit model for trust-building in the WEMA project.)

The social auditing of the WEMA project has been deemed successful and rated as 'good' or 'very good' by stakeholders involved in the social audits—in terms of building trust among the project partners and between

the project and the public—through creation of a climate of accountability and transparency of ESC<sup>2</sup> issues.

Action steps, in line with key ESC<sup>2</sup> findings in the project, have been actively integrated into project plans by multiple project teams in each year the social audit has been implemented. These teams confirmed that the information generated through the auditing service has been useful for both lessons learned about WEMA's strategic initiatives over each year and for the planning process of next steps toward the successful continuation of the WEMA project.

Project management acknowledged and actively incorporated issues identified and recommendations made in social audit reports into team work plans. Some of these plans included strategies for communication with stakeholders, project transparency, and stakeholder input, as well as awareness building of the charitable purpose of the project through clear communication of intellectual property rights structure. Building capacity through improved regulatory approval and incorporation of national agricultural research systems representatives into project planning were also taken up by management to garner trust with a diverse group of stakeholders and maximize the benefits of incorporating the expertise of locally engaged organizations.

Public reporting on issues raised in the social audit reports and responses to the issues by WEMA project management created transparency in the project, as will the plans set out by project management for future project activities. The management team was held accountable to these plans by both the project funders and the stakeholders. Applying the social audit model enabled

1. See the three reports at <http://wema.aatf-africa.org/audit-reports/2011-social-audit-report>, <http://wema.aatf-africa.org/audit-reports/2010-social-audit-report>, and <http://wema.aatf-africa.org/audit-reports/2009-social-audit-report>.

the project to account for the ideas and concerns of all parties involved in the agricultural biotechnology P3 and ensured that these groups were all informed of the issues that arose and how they would be addressed in the project. The combination of accounting for all parties' viewpoints and disseminating the key findings of this information to all parties involved in the project provided transparency and accountability and helped to align the goals and interests of the various parties, where they otherwise may not have been openly communicated and negotiated.

Project stakeholders also responded favorably to their involvement in the social auditing process, providing feedback that expressed their appreciation with the "professional approach" of the social auditing and indicating that their knowledge of the project was expanded through the social audit, and perspectives on the project accurately reflected in social audit reporting. Stakeholders were grateful for how the social audits provided "openness" or transparency in the project. They expressed interest in social audits for other projects led by AATF and indicated that they would recommend the social-auditing service to other technology development projects looking to build trust to mitigate project risks and meet their humanitarian goals.

## Conclusion

Building trust in P3s is a complex endeavor, laden with ethical, social, and cultural challenges. These challenges are compounded in agricultural biotechnology development initiatives by scepticism that exists around GM crops and concerns regarding private-sector involvement, which were recognized and proactively addressed in the WEMA project agricultural biotechnology P3 with the social audit service. The process of applying the social audit model to P3-led development initiatives is to hone in on the underlying issues fostering and impeding trust-building in the P3 and to communicate this information to all public and private partners and stakeholders involved in the project, thereby helping to mitigate the risks to project success. Use of the social audit model for trust-building in the WEMA project has contributed to improved management practices and accountability and has helped ensure transparency in the project. This endeavor has set the stage for addressing the issue of trust (and associated risks) in agricultural biotechnology initiatives led by P3s with humanitarian goals.

Due to the flexibility in design of the model and ability to tailor the research and service tools to varying

project needs, the social audit model may also be gainfully applied to other global development P3s. We believe that leaders of P3s working toward technology development of all types, particularly in agriculture and health, should deliberately look for ways to enhance and develop trust in their partnerships and employ methods to enhance such efforts, such as social auditing, transparency indices, code of ethics, and so on. Trust-building activities and initiatives should start at partnership inception and continue for the duration of the partnership.

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