

Research in Partnership with Faith-Based NGOs: A Symposium

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Introduction: Three Papers on Research in Partnership with Faith-Based NGOs

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The symposium brought together three very different papers in terms of objectives, but with similar focus on NGOs. Highlighting models of effective partnerships between economists and NGOs, and discussing the potential contribution of collaborative applied economic research, are some of the main aims of this symposium. These aims are important given the increase in the number of faith-based NGOs over the last few years and also the expanding role of these organizations in international peace-building, agricultural, and international development. Unfortunately, research on faith-based NGOs' impact in developing countries, the replicability of their successes, and loopholes in design are not very common. This further emphasizes the need for more economic research with similar goals and focus as those of this symposium. This kind of research is especially relevant for Christian economists who have both an academic and faith-based interest in the activities of these organizations.

The first paper in this symposium, Brown et al., discusses the collaborative relationship between World Vision and research institutions. Based on a recent comprehensive synthesis (the Mortons Report), the authors outline strategic options and recommendations for organizations (either government or NGOs) working or planning against the current paradigm/approaches used to meet the needs of pastoralists, and suggest

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other alternatives. An important contribution of this paper is the review of the problems and limitations of the efforts of NGOs working with pastoralists in the horn of Africa, and lessons learned from research on pastoralism.

This part of the paper is educative both for academics and organizations working with pastoralist and other agricultural communities in developing countries. The lessons learned especially provide relevant information for academic researchers interested in this kind of partnership and raise questions that can spur further research.

There are several potential research questions that emerge from Brown et al. First, what are the potential interventions to address overgrazing and overstocking? This is an important question given that both overgrazing and overstocking are two big problems for pastoralists (in addition to aridity). Moreover, there is limited research on the extent, implications, and impact of these problems in the Horn of Africa, as well as possible strategic solutions. Another problem these pastoralists face, also with devastating effect in this region, but which may not get as much attention as aridity, is pests. More research on the economic impact of insects like tsetse, and what policies and strategic options can be put in place to attenuate the effects of these pests on the livelihood of pastoralists, is needed.

Leonard's article provides evidence that lessons learned from faith-based NGOs can be reproduced. The author draws evidence from a survey of health care professionals in Tanzania. One of the contributions of this paper is the innovative use of the Hawthorne effect in identification. The author finds that the practice quality of doctors in NGOs is significantly higher than in the public service, though distribution of ability is similar for the two organization types. He also finds that the average health care professional is not altruistic, but since NGOs are designed to encourage and reward effort, they succeed more with respect to practice quality. In addition he finds that changes in the organizational structure of facilities can have a large impact on the quality of care provided. The possible implications of these findings are that results of NGOs could be replicated in the public sector of the health profession, if similar modes of operation are adopted.

Leonard finds that the distribution of ability of health professionals across NGOs and public health centers are similar. He measures ability by training and education. A potentially interesting question for future research is if experience is distributed similarly across health organizations, and to what extent it affects ability. Another question that emerges from this paper is whether the main results hold only for physician assistants

and nurses, or whether they could be extended to medical doctors also. Both these questions could be interesting areas of future research with practical implications. Moreover, answers to both these questions may provide further support to the main inferences from this paper.

In McNamara et al., the theological underpinning for partnerships between academics and Christian nongovernmental organizations is highlighted. The authors present the case for research partnerships between Christian NGOs and academics. In addition, an overview of an ongoing partnership between a Christian NGO and academics is presented. The authors highlight the goals, strategy, approach, and road blocks in this ongoing process. In addition, some of the practical issues that arise in such partnerships, that both parties need to be aware of, are highlighted. This information is useful because opportunities arise for collaborations between NGOs and researchers, especially for those working in the field of agriculture and development. However, without foreknowledge of issues that may arise, such collaborations might end up without the output desired by either or both parties. Also in this paper, McNamara et al. discuss an ongoing collaborative project in India. The goal of the project is to investigate the links between food insecurity and health outcomes for HIV and AIDS patients. The authors discuss the different ways food insecurity is measured, and present preliminary findings. The India research looks promising from a policy and an academic perspective. However, as with any empirical paper, successful data collection and a clear identification strategy are important to answer the questions of interest and provide policy prescription.

From the three papers, certain themes emerge which I believe can stimulate further research and discussion. Faith-based NGOs may sometimes need to move beyond their present approaches to be more effective in attenuating poverty and ensuring sustainability. Second, it may be possible to replicate the success of faith-based NGOs in the public health sector. Lastly, research partnership between academics and researchers in faith-based NGOs could be rewarding but several roadblocks exist that both parties need to be aware of before embarking on such projects.

Given the results from these papers and the need for more research on this subject, the following research questions come to mind:

1. What is the return to formal education among pastoralists in Africa?
Can it be easily estimated and what are potentially confounding factors in deriving a consistent estimate?
2. Can the impact of market access (road construction) on livelihood among pastoralists in Africa be estimated?

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3. Do teachers in faith-based schools perform better than their peers in public sectors? If so, can teacher performance in faith-based school be replicated in the public sector?
4. Are faith-based organizations more effective in health service provision than in education provision in rural economies?
5. When should partnerships between faith-based NGOs and academic researchers be discouraged?
6. Are partnerships between academics and faith-based NGOs plagued with different roadblocks than partnerships with non-faith-based NGOs?

Some of the above questions are more relevant for academic research and discussion, others for policy makers and NGOs. However, these question are important and yet to be answered. ■

Pastoralism and Poverty: Research Informing Practice

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Abstract: *Efforts to address the challenges faced by pastoralists in the Horn of Africa have met with little success. Pastoralists continue to experience chronic food insecurity. The consequences of climate change mean that there is little hope for sustainable improvements in household well-being apart from a radical shift in strategy among members of the development NGO community. This paper briefly discusses the context of collaboration between World Vision and the research community and then describes the results of a state-of-knowledge study targeted at identifying strategic options for interventions intended to address issues of persistent poverty among Pastoralist populations in the Horn of Africa.*

Collaborative relationships have existed between researchers and development practitioners for a long time. Faith-based NGOs are no exception (Dean, Schaffner, & Smith, 2005). There is a growing recognition that development practice can benefit from the insights of applied research while, at the same time, research can be better informed through close collaboration with those working on the ground. In the area of agricultural development, for example, there is a lot to be learned from recent research in the area of development economics (Brown & Barrett, 2005).

As a Christian relief, development, and advocacy organization, World Vision¹ is dedicated to working with children, families, and communities to overcome poverty and injustice. With stewardship as a core value, World Vision endeavours to make wise use of the resources entrusted to it by donors. Part of this mandate is met by ensuring the application of “best practices” in whatever area the organization is involved. World Vision has a history of collaborating with university and research institutions. These collaborative partnerships have generally taken one of three forms:

Authors’ Note: *The authors wish to express their appreciation to the many participants at the two HARD (Horn of Africa Response to Drought) Round Tables held in Nairobi, Kenya in July and December 2006 as well as to those who graciously shared their insights as part of the state-of-knowledge study. The opinions expressed here are those of the authors and do not necessarily reflect the official views of either World Vision or the Natural Resources Institute. Email address: doug_brown@worldvision.ca.*

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1. research designed to assess the impact of project activities and the factors contributing to their outcomes;
2. collaboration in the field, particularly as it applies to farmer-centered experimentation with and evaluation of agricultural practices;
3. review of research results and incorporation of “best practices” related to problem analysis and project design into ongoing programming.

World Vision has had a presence in the pastoral and agro-pastoral areas of the Horn of Africa for many years. It has been a major player in the delivery of emergency relief as well as in the operation of development programs throughout the region. Addressing the recurrent episodes of food insecurity and child malnutrition and mortality in the Horn of Africa has created enormous challenges for World Vision and other Non-Governmental Organizations (NGOs), national governments, and partner communities. Of particular concern is the link between chronic famine and the number and severity of droughts in the region over the past two decades. Recovery periods between major climatic shocks appear to be getting shorter. Longer-term predictions on the impact of climate change on rainfall variability, occurrence of extreme weather events, temperatures, and evaporation add a new dimension to the problems.

World Vision’s Horn of Africa Response to Drought (HARD) team observed during the 2006 drought which hit the Horn of Africa (Ethiopia, Kenya, Somalia, Tanzania, and Burundi) that the international community’s response to the drought had been mainly focused on food aid while livelihood and non-food interventions had been limited. In reflecting on World Vision’s own efforts, they noted that, despite concerted and repeated efforts, over a decade of activity had, by and large, not resulted in significant sustainable improvements to livelihood and food security in the region. They observed that World Vision did not appear to have cost effective, sustainable, and easily replicable solutions that address livelihood security issues faced by communities, particularly pastoralists, in the region—a region where drought and extremes of climate are the norm rather than the exception. They also noted that World Vision has typically, although not exclusively, worked through more traditional development approaches, which have often encouraged settlement and rain fed or irrigated agriculture, rather than working within the pastoralists’ cultural context to ensure the continued viability of pastoralism itself as a sustainable and resilient livelihood strategy.

Noting that traditional emergency and development response mechanisms fail to address chronic needs that spike with each shock event, the HARD team decided early on in their work that there was a need within World Vision as well as in the larger NGO community for some reflection and strategic thinking around these issues. Recognizing that World Vision's own experience working with pastoralists was relatively limited, it became apparent that there was a need to research the current state of knowledge on pastoral development, particularly in the Horn of Africa, and especially as it related to livelihood security. The overall goal of the project was to provide strategic direction to World Vision's short and long term Relief, Development, and Advocacy programming in the Horn of Africa, with special emphasis on pastoralism. In addition to this, it was felt that these findings should be shared with the wider NGO community that they might benefit from the effort.

The Task

Recognizing that there were critical gaps in the response to the drought in the Greater Horn of Africa (Overseas Development Institute, 2006) and in order to get a better handle on the problem, the Africa Relief Office of World Vision organized the first of two round tables in the summer of 2006 to reflect on the problems presented by the drought that was under way at that time and identify areas for action. It was also recognized at that time that there were some knowledge deficits within World Vision and that there was a need to get a handle on the state of knowledge or "best practice" arising from recent research and the experience of other development NGOs.

It was recognized that there was a lot of good background research available and that one did not need to reinvent the wheel, so to speak. Rather, there was a need to collect and synthesize this in a form usable by development practitioners. There has been a lot written on pastoralism recently and the challenge was to sift through that information, separate the wheat from the chaff, and synthesize it into some key lessons applicable to the work of World Vision and, hopefully, to that of other development NGOs with an interest in the well-being of pastoralists in the Horn of Africa. The goal was not unlike that of the International Livestock Research Institute conference on Pastoralism and Poverty held June 27–28, 2006 in Nairobi (Little, McPeak, Barrett, & Kristianson, 2006), except that the target was development practitioners rather than policy makers.

World Vision established a Task Group composed of key personnel with an interest in this area and engaged a consultant to conduct a state-of-

knowledge study. The consultant was asked to identify what current research and practice is pointing towards in addressing the chronic challenges to livelihood security in the region, synthesizing lessons from current research and practice in terms of the underlying social, institutional, economic, and ecological causes as well as suggested and demonstrated elements of solutions. More specifically, the report was to provide a set of practical, actionable points to guide relief and development work in the immediate, intermediate, and long terms. It was intended to identify the essential elements of appropriate recovery, rebuilding, and development strategies to reduce vulnerability and improve resilience (of both ecosystems and institutions) prior to the next shock—in other words, better practices for working in support of pastoral livelihoods. It was also anticipated that the recommendations made in the report could have relevance to other stakeholders working in the Horn of Africa.

The report (Morton, 2007) was presented to and discussed by participants at a second Round Table held in December 2006. Participants included representatives from a number of international NGOs, government, UN agencies, media, and major donors, as well as representatives from World Vision offices in the region and in supporting countries.

Key Findings

A number of themes emerge from recent research into pastoralism and pastoral livelihoods as well as the practice or experience of other development NGOs. It is important those engaged in efforts to facilitate sustainable development among populations living in the pastoral ecosystems of the Horn of Africa keep these in mind. This section will summarize the essence of these emergent themes.

Relief-Development Continuum and the Concept of Drought Cycle Management

Relief and development ought not to be thought of as separate activities, but as existing along a continuum. Given the nature of the climate in the Horn of Africa and the nature of pastoralism, which is adapted to the vagaries of this climate, one should not be surprised that drought and flood occur with some regularity in the region. As a result, development efforts need to be carried out with an eye to the possibility of disaster in the future and, similarly, relief efforts need to bear in mind the impact they may have on future development activities. Seeing relief and development activities as part of a continuum of interaction with communities in pastoral areas is important for the success of

efforts to promote the long term sustainability and security of pastoral livelihoods. Drought Cycle Management (International Institute of Rural Reconstruction & Cordaid and Acacia Consultants, 2004) is an approach that integrates aspects of relief and development in a way that has the potential to build the resilience of pastoral livelihoods. While it is not a magic bullet, since it does not address all of the problems found in the Horn of Africa, it does provide a very helpful conceptual basis for thinking about drought and its implications for relief and development efforts.

Population Heterogeneity and the Nature of Poverty

The population living in pastoral areas is not as uniform as many think. It is important for development practitioners to recognize that there exists considerable heterogeneity. Although pastoralism still accounts for a majority of the core economic activity in the region (Little et al., 2006), mobile pastoralism is only a part of a diversity of livelihood strategies. There are three distinct groups of people living in the region: those who still practice mobile pastoralism, those who once pursued the activity but now are settled, and those who reside in arid and semi-arid areas but really never engaged in full-time pastoralism (Little et al., 2006).

It is important to ask the question: who are the poor we seek to assist? The highest rate of poverty in regions where pastoralism is the dominant economic activity occurs with those *not* involved in pastoralist activities (Little et al., 2006). Those with large herds or herds above the minimum threshold levels are less vulnerable than people who have become sedentarized—who have lost their livestock and are now trapped in low-return activities. There is also evidence that the nutritional status of the children of sedentarized pastoralists living in communities in pastoral areas is poorer than that among mobile pastoralists. This does not discount the fact that poverty does exist among pastoralists, but in regions where pastoralism does exist poverty becomes relative. The important point here is that appropriate strategies for dealing with poverty depend upon the nature and origin of the poverty itself and by ignoring this heterogeneity, efforts to assist the populations living in pastoral areas are less successful than they might otherwise be.

Little et al. (2006) point out the importance of understanding the dynamics of pastoral poverty since different types of poverty necessitate different sorts of interventions to deal with them successfully. Without going into the details of their discussion of the nature of poverty, it is important to note the difference between shock-induced, transitory, or stochastic poverty and chronic, structural poverty since the strategies

to deal with them are so different. Failure to make this distinction has resulted in a range of costly development failures—failures which arose out of a view of poverty that did not recognize such differences (Little et al., 2006). Those that are structurally or chronically poor are deprived of both assets and an income base and need long term assistance designed to help them overcome the obstacles that trap them in poverty. This is more than short term assistance such as food aid. On the other hand, transitory poverty occurs as a result of a shock-induced (i.e., drought) event. Poverty may exist until the shock has passed and they are able to rebuild their asset base again. They need short-term assistance to carry them over the hump and prevent them from falling into structural or chronic poverty (Little et al., 2006).

These issues are essential because they question the whole approach to relief and development in pastoral areas. Working with mobile pastoralists is not the same as working with sedentarized populations. Yet both groups live within these regions. Understanding the target population in pastoral areas is not as simple as identifying those who herd livestock. Likewise, the ability to distinguish between situations of transitory and chronic poverty is important. Projects that target pastoralists while in a period of transitory poverty may end up creating chronic poverty if they are not designed appropriately. On the other hand, efforts to assist the chronically poor through short-term food assistance are doomed to failure since they do not address the underlying issues that trap them in poverty. Proper understanding of the dynamics and variability of livelihoods and their causes is vital to success.

Environment: Climate Variability and Resource Management

Pastoralists live in an environment that is characterized by a highly variable and unpredictable rainfall regime. Mobile pastoralism is well adapted to this context. Efforts to reduce poverty in pastoral areas need to be based on an understanding of the unique biophysical aspects of ecological systems in the African dryland regions.

Rangelands used by pastoralists are characterized as non-equilibrium rainfall systems (Behnke, Scoones, & Kerven, 1993). Non-equilibrium systems have a high spatial and temporal variability of rainfall. Fodder adapted to these highly variable rainfall regimes is fundamentally very resilient, having the ability to rapidly recover when the rain does arrive. However, because the rainfall is temporally and spatially variable there is a heterogeneous distribution of resources. For these reasons the ecological integrity of the system is driven more by rainfall than by animal population

pressure (Morton, 2007). This is not to say that grazing pressure is without impact on productivity, just that it is not the only factor. Care needs to be taken with the spatial and temporal distribution of livestock and their impact on both rangeland productivity (quantity and quality) and on off-site and downstream impacts of the livestock and associated human populations that may arise through management decisions.

The most viable livelihood strategy within a system that has this much variability is one that can adapt to this extreme environmental variation. Mobile pastoralism is such a strategy. A system of traditional land tenure is a way of facilitating livestock movements under these environmental conditions (Morton, 2007).

Livelihood Strategies in Pastoral Areas

The existence of a diversity of livelihood strategies in regions where pastoralism is the dominant activity is not always out of choice. People are often pushed out of pastoralism as a livelihood because there is no other option for survival (Barrett, Bezuneh, & Aboud, 2001). As livestock are lost, mobile pastoralism is no longer a viable option. Former pastoralists congregate around small towns and take up menial tasks through informal employment, petty trade, or labor migration as other options fail to materialize.

Here it is necessary to make a distinction between diversity of livelihood strategies and multiple strategies. A loss of one livelihood strategy in exchange for another strategy is not necessarily diversification. Maintenance of preferable strategies while gaining access to other strategies creates resilience when shocks do occur. There is great diversity of livelihood strategies in these regions, but it is individual pastoralists who have multiple strategies available to them that are less vulnerable to external shocks. This type of livelihood diversification is central to pastoral development. Those that have large herds may have increased flexibility to invest in trade, transport, real estate, and natural resource production (Morton, 2007). This livelihood diversification can complement existing livelihood strategies well.

Education is an essential means for creating diversification in the long term (Morton, 2007). Little, Aboud, and Lenachuru (2004) showed that in the Baringo district of Kenya an increase in education also resulted in higher income and better risk management strategies. However, the difficulty is that formal education necessitates sedentarization. Education must be re-evaluated so that creative solutions are found to work within the context of the environmental and livelihood strategies.

Encouraging diversification can also be accomplished through markets. Pastoralism continues to be of economic importance to national economies. However, there is still limited market access for products from regions where livestock production is the dominant economic activity. There is poor access to cross border trade, a need for relaxation of veterinary restrictions on livestock movement, niche markets for higher value products, market infrastructure, market information provision, and grassroots facilitation of community trader linkages (Desta, Gebru, Tezera, & Coppock, 2006). With increased market access, those living in pastoralist regions will receive better value for their product than currently exists, while simultaneously promoting diversification of livelihood strategies.

It is important to maintain an emphasis on reducing vulnerability and increasing resilience. Even with improvements that may arise through livelihood diversification and improved market access, the environmental fragility of the region remains. Therefore, one must always be mindful that environmental shocks will occur. Management in accordance with this awareness must result in the coupling of development activities and emergency relief in order to mitigate against future risks. Drought Cycle Management (International Institute of Rural Reconstruction & Cordaid and Acacia Consulting, 2004) does this, in part, by integrating early warning systems, contingency planning, and response with interventions ranging from development activities to food relief and which are matched with the appropriate stage of the drought cycle (Morton, 2007). Being able to identify the appropriate stage and intervention according to the livelihood of the respective regions is essential. For example, in the 2005 drought in the Horn of Africa, NGOs failed to intervene in livelihoods of pastoralists. Instead the focus was on “saving lives,” and not “livelihoods” (Overseas Development Institute, 2006). The response options that governments and NGOs had at their disposal were delayed because of the lack of focus on livelihoods. Lives may have been saved but livelihoods were lost and this becomes another example where a situation of transitory poverty could turn into chronic poverty.

Governance Arrangements and Institutions for Natural Resource Management

Poor governance is closely associated with the multiple marginalizations of pastoralists: environmental, economic, political, and socio-cultural (Lesorogol, 1998). The inability of governments and NGOs to understand the dynamics and viability of livelihoods in pastoral areas

has often led to inappropriate interventions and policies. Ultimately, marginalization results in increased vulnerability among pastoralists.

An increase in vulnerability of pastoralist livelihoods is, in part, a consequence of government policies that have limited access to key natural resources, such as water and land (Overseas Development Institute, 2006). Government policy has often ignored the fact that pastoralism is an economically viable livelihood strategy in the Horn of Africa. In some cases, governments have made it official policy to sedentarize populations of pastoralists. Pastoralists also see the encouragement of sedentarization as a government ploy to create more political and administrative control. Because participation of pastoralists in government is limited and policy making is often driven by the private sector, there is poor governance in pastoralist regions. Better governance for pastoralists might include experiments in several areas: community-based organizations, traditional authorities, decentralized local government, and producer and trader organizations.

Local institutions, which have traditionally facilitated management of pastoral resources, seem to be weakening. The fabric of traditional authority and its ability to manage traditional grazing lands is deteriorating as pastoralists compete among themselves for water and pasture, as populations move and newcomers lack respect for traditional decision-making institutions, and as the private sector and government take up valuable rangeland for cropping, ranches, commercial farms, mining, and national parks. Reinforcement of local institutions—including social capital and traditional coping mechanisms—is an important component of Natural Resource Management.

Encroachment on valuable grazing lands and a continual lack of voice in public forums to address these problems has brought increasing conflict in pastoralist regions. An increase in armed conflict has brought insecurity to some regions. As a result they remain inaccessible to pastoralists and, therefore, unused at the same time that more secure areas experience overpopulation and significant environmental degradation (Little et al., 2006). The conflicts that have resulted from external influences have now filtered down to more localized regions, creating a very complex situation.

The successes and failures of working with these various local institutions in different regions emphasizes the fact that a solution is not easy. However, an improved governance structure must not address these different approaches in isolation, but as a part of the bigger picture.

Strategic Options and Recommendations

Five principles and four priority sectors emerge from recent research and practice. These should be kept in mind when addressing the needs of pastoralists in the Horn of Africa. These are foundational concepts that ought to permeate all activities.

Cross-Cutting Principles

Local problems, local solutions: While it is possible to make some broad-based generalizations about pastoralism in the Horn of Africa, there is a huge variation between and within pastoralist societies and between the different political and economic contexts they find themselves in. The heterogeneity found between and within pastoralist groups and those living in pastoral areas as well as their social, ecological, and economic contexts must be recognized. Needs and potential solutions may differ from one region to another, from one ethnic group to another. It is important for programming to explicitly consider these differing problems and potentials; there are few, if any, one-size-fits-all solutions.

Geographic boundaries are problematic: A strict geographically-bounded approach to working in pastoral areas is problematic given that pastoralism involves complex relationships among people, institutions, and resources across time and space. A more systematic approach is needed, one which is able to involve stakeholders scattered in space who use resources at different times, if we are to ensure that changes to management of a local resource do not have a negative impact on people and other resources that are outside of the geographic bounds we normally confine ourselves to.

Holistic and integrated approach: Given the complex realities of pastoral livelihoods, traditional sectors of development action cannot be pursued in isolation: there is a need for a holistic and cross-sectoral integrated approach to development efforts.

Operate at different levels: Given the nature of many of the issues that affect pastoralists, it is essential that development efforts be made at, and coordinated across, multiple levels—from the local community to the national (and international) levels. Development must incorporate aspects of policy advocacy in the community approach so that there is better representation at national levels. However, advocacy on behalf of community-level development will not be enough if pastoralists are left out of the process. Pastoralists must be granted space to be involved in their own advocacy.

Form partnerships: Organizations (such as World Vision) with limited experience working with pastoralists should strengthen linkages with their more experienced peers in the development community. Stronger networks should be established and built into partnerships so that resources and knowledge can be shared. Community based organizations in pastoral regions should also be granted space to grow independently.

Priority Sectors

Natural Resource Management: Natural Resource Management remains a key sector in working with pastoralists. It is important to emphasize the establishment of institutional frameworks for effective land-use planning or management. Experience has shown that land tenure and other land-use planning issues cannot be resolved through a sole emphasis on either new exogenous institutions or traditional institutions. Experience shows that these institutions need to be combined together for successful land-use planning (Morton, 2007). Reinforcement of local institutions, including social capital and traditional coping mechanisms, is an important component of Natural Resource Management. World Vision has been working with Holistic Management International² in Kenya on a pilot project to promote better management of pastoral ecosystems at the local level and should continue to promote this, carefully evaluating its social and ecological impact.

Other forms of resource management that support pastoralist livelihoods are improved livestock feeding technologies and better use of niche resources such as tree fodder and tree pods. Promotion of irrigated fodder production might be investigated, but only in such a way that it did not crowd out traditional uses of riverine resources. Technologies targeted at poor, sedentarized populations in small towns might be considered. In each case, one needs to ensure the inclusion of appropriate environmental safeguards. Finally, facilitation of better trade links between those in need of fodder with those producing it might be considered.

Drought Cycle Management: Increased resilience to drought is critical to efforts to reduce poverty in pastoral regions and among pastoralists in particular. The concepts of Drought Cycle Management can make a significant contribution to these efforts. The essential point is that there is a need for improved institutional capacity to both plan and implement appropriate development, mitigation, and relief interventions as communities move in and out of drought. It also means that NGOs (World Vision included) need to confront and deal with institutional separations between relief and development within their own organizations. More use

can be made of the early warning systems and contingency planning that is available in countries such as Kenya and Ethiopia. In countries like Somalia, where there is minimal government coordination, partnership with other NGOs is important.

If interventions during droughts are to complement development activities, then focusing on livestock will be fundamental. For example, destocking, feed distribution, and emergency livestock vaccination in times of drought, if carried out on a sufficient scale, will go a long way to reducing the number of mobile pastoralists whose livelihoods are unable to recover from shocks and who subsequently end up in chronic poverty. On the other hand, it is also important to take into consideration the differences within pastoral communities when designing both mitigation activities and local institutions for drought management since the poorest will require different forms of assistance during periods of drought, for example. It is also important that interventions be designed in such a way so as not to detract from or upset existing support mechanisms.

Livelihood diversification: Livelihood diversification is central to pastoral development. However, diversification does not necessarily mean a change in livelihood strategies, but rather a focus on multiple livelihood activities. Any livelihood diversification activities must be assessed with regards to their sustainability in the socio-cultural, economic, and ecological dimensions. Locally adapted, context-specific choices need to be based on a diagnosis that is both participatory and market-aware. There is a need for leadership in networking and mutual learning between NGOs and donors in the area of livelihood diversification.

Education: Finally, the surest route to diversification is education. Education is also the most challenging. A paradigm shift in the approach to educational development requires designing a system that is mainstreamed into the national system but is compatible with mobility, settlement patterns, patterns of child involvement in herding, and cultural preferences of pastoralists. Education, especially where the need is expressed from pastoralists, must be creative and willing to go beyond traditional boundaries and models.³

Lessons Learned from the Process and Conclusions

Pastoralism as the dominant economic activity in an unpredictable environment is a natural strategic choice. In a region where there is a non-uniform spatial and temporal distribution of resources (i.e., water, grazing land) traditional approaches to development adapted to sedentarized agricultural contexts are problematic. Approaches that encourage rain fed

agricultural production may actually expose people to greater risk than pastoralism in these regions since they are not adapted to the highly variable spatial and temporal distribution of precipitation. Options for agricultural production that attempt to control the unpredictability of rainfall through irrigation may, in fact, reduce the viability of pastoralism since they may encroach on existing grazing areas and result in reduced access to valuable grazing land for pastoralists. Irrigation schemes may be more relevant if they support activities such as fodder production.

The current development paradigm also focuses on a geographically bounded area. Development in these regions must work towards operating within flexible boundaries that occur across districts and countries. Facilitation of development among people whose livelihoods have adapted as a result of the same environmental constraints is essential to sustainability.

Even though severe land degradation and unpredictable climate are at the root of drought and flood and their increasing severity, the problems caused by and the solutions to the resulting poverty are much deeper. Vulnerability is not only a result of environmental constraints but also a result of multiple feedbacks in which a specific drought event can be the final trigger to livelihood collapse. These multiple feedbacks are affected by population heterogeneity, governance arrangements, institutions, and livelihood strategies and they can be better understood through an analytical understanding of livelihoods throughout the region.

Therefore, the increased severity of droughts and floods in the Horn of Africa cannot be proactively addressed only by attempting to predict climate variability and mitigating against possible disasters, but also focusing on the fundamental underlying mechanisms that have led to the current vulnerability. Using Drought Cycle Management within the context of the livelihoods framework is an important step towards appropriate intervention. If Drought Cycle Management operates within the livelihoods framework for both sedentarized populations and mobile pastoralists then there is potential to avoid and eliminate chronic poverty in these regions.

An element of Drought Cycle Management that World Vision and other NGOs need to address is the relationship between emergency relief and sustainable development activities. There is no need to have such rigid boundaries between relief and development, but to view relief as a part of the development continuum and in fact, if used strategically, relief can be a powerful tool in kick-starting the process of sustainable development.

Relief and development interventions should move towards an approach

that focuses not necessarily on one's ability to control the environment but on its resilience. The greater the resilience of the environment the more likely the ecological and social systems will be able to absorb a shock and recover as well as to adapt to change. A healthy, resilient ecosystem allows for pastoralism and other livelihoods to exist, but as livelihoods are "pushed" to the extent that they compromise a system's ecological integrity, both the ecosystem and the livelihoods of those who depend on it will fail. Therefore, relief and development programming should focus on ecosystem health in conjunction with creating sustainable livelihoods.

Lastly, advocacy should work more closely with both relief and development programming activities in developing local institutions that will be able to voice concerns that impact their livelihoods. It is important to advocate for institutional change and better governance within the Horn of Africa. This includes not only government institutions as they relate to pastoralism but also the private sector and its impact on governance and decision-making. It is also important to invest in the social capital (the local formal and informal institutions, interpersonal social networks, shared community values and trust) that is so important to the survival and well-being of those living in pastoralist regions. Furthermore, World Vision and other NGOs can act as a bridge between institutions, to link the "bottom-up" approach to the "top-down." Creating a dialogue between various groups will allow for greater accountability and an increase in access and control over resources that livelihoods depend upon.

To summarize, there are several key messages arising from the research:

- **Be proactive:** drought and flood are normal expressions of climate in the Horn of Africa and proactive planning with communities can play an important role, particularly in the design of activities which can prevent or reduce their severity and long term consequences;
- **Build resilience:** relief and development activities can play a significant role in reducing vulnerability of livelihoods and ecosystems if they are targeted at (re)building resilience of pastoral ecosystems and appropriate diversification of livelihood strategies;
- **Take account of heterogeneity**
 - populations in pastoral areas and, more specifically, the poor, are not a homogeneous group: assess, plan, and target appropriately;
 - populations and resources are non-uniformly distributed: ensure that programming does not further aggravate this non-uniform distribution and increase the pressure on local carrying capacity by encouraging populations to concentrate;

- spatial and temporal heterogeneity in the distribution of grazing resources means that pastoralists may rely on far-flung resources such as dry season grazing reserves: care needs to be taken that these remain accessible to them;
- **Reinforce local institutions:** the importance of well-adapted, functional local institutions cannot be underplayed: a community-empowerment approach which builds social capital, encourages local coping mechanisms, and facilitates community-based management of resources is important;
- **Employ best practices:** learn from and apply principles related to Drought Cycle Management, Holistic Resource Management, surface water management, soil and water conservation, etc.

Reflection, analysis, and synthesis go a long way towards discerning appropriate strategies and directions in development work. There is a lot to be learned and gleaned from the work of research institutions and that of other development practitioners. Similarly, there is a lot to be learned through the effective involvement and participation of the people themselves. While this paper has focused on the relationship between research into the connection between pastoralism and poverty, it is important to recognize that our true target audience, those we truly wish to assist in the path towards life and life in all its fullness, are the people themselves who live in pastoral areas. This paper has not attempted to discuss transformational development itself as a process of facilitating positive change, of empowering communities, of helping people to help themselves. This is taken as a given—as “best practice” in the area of development process. The “how” of development practice is critical to success (Brown & Barrett, 2005), but beyond the scope of this paper.

Endnotes

- 1 Motivated by the Christian faith, World Vision is dedicated to working with the world’s most vulnerable people, especially children, to improve their well-being. World Vision serves all people regardless of religion, race, gender or ethnicity—serving them through activities such as emergency relief, education, health care, agricultural and economic development, and promotion of justice. Established in 1950 to care for orphans in Asia, World Vision has grown to embrace the larger issues of community development and advocacy for the poor in its mission to help children and their families build sustainable futures. We provide hope and assistance to approximately 100 million people in nearly 100 countries.

World Vision's mission focuses on human and social transformation. World Vision employs a three-pronged strategy of development programming, humanitarian response, and advocacy. Projects and activities which promote sustainable household livelihoods and, in particular, sustainable agricultural development make up an important part of the work World Vision supports in communities around the world. Through these activities, and many others, World Vision helps communities help themselves.

- 2 For more information on Holistic Management see: <http://www.holisticmanagement.org/>
- 3 There are three other sectors which, while not in the top four mentioned above, are nevertheless important. One area of importance is the building of roads for better market access. A second is expanding livestock water supply through surface water management. Lastly, World Vision should work towards generating solutions on working with invasive species.

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Do Faith-Based NGOs Represent a Replicable Example For the Delivery of Public Services? An Application to Health Care Delivery in Developing Countries

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Abstract: *In this paper we examine the evidence that faith-based NGOs can provide a working example of a service delivery organization in a developing country context. Though it is well known that such organizations can provide high quality care, and in particular can serve as highly cooperative collaborators for research, it has not been generally shown that the lessons learned from such organizations are replicable. We show that for health care, and in Tanzania, the faith-based organizations succeed because they motivate the doctors under their employ to work hard. Though there is evidence that some doctors are extraordinarily and intrinsically motivated, these doctors are as likely to work in the public service as they are in faith-based NGOs.*

Nongovernmental organizations (NGOs) play an important role in many developing countries and provide a large proportion of public services such as health care and education (Berman et al., 1995; Berman, Nwuke, Rannan-Eliya, & Mwanza, 1995; Gilson et al., 1997; McPake, 1997).¹ There is considerable evidence that many NGOs provide significantly better services than do their public counterparts and that the average NGO facility (school or clinic) is superior to the average public facility (Gilson et al., 1997; Leonard & Masatu, 2007, 2008b; Leonard, Masatu, & Vialou, 2007; McPake, 1997; Mliga, 2000; Reinikka & Svenson, 2004). Their important contribution to human capital accumulation demands attention by itself, but much recent research on NGOs has focused on their flexibility and therefore their use as laboratories for experimentation (Dean, Schaffner, & Smith, 2005; Miguel & Kremer, 2004). In what is rapidly becoming a gold standard for research, some NGOs allow the researcher to control the implementation and timing of proposed reforms to create a randomized controlled experiment. Such research allows for rigorous investigation of potential reforms and improvements.

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For NGOs to represent useful laboratories for experimentation, it must be true either that NGOs are not fundamentally different from other service providers (that lessons are replicable) or that NGOs can successfully deliver more services (that NGOs are scalable). However, many if not most NGOs in developing countries focused on health care and education are faith-based organizations. The fact that these organizations and the motives of their leadership are explicitly religious may invalidate either or both of the above assumptions. The results of controlled experiments may not be replicable if proper implementation relies on the assistance of NGO staff who are fundamentally different from staff in all other organizations and NGOs themselves may not be scalable if they rely on small teams of close knit individuals. Thus, it is important to ask whether the superior services provided by NGOs and the gains seen in policy experiments with NGOs result from flexible organizational structures that can be imitated, or from organizations composed of self-motivated or altruistic “volunteers”—something difficult to imitate.

In this paper, we examine the evidence for the replicability of NGOs using data on doctors practicing medicine in the Arusha region of Tanzania. These doctors work for various organizations, including public and private facilities and five faith-based NGOs (the Lutheran, Roman Catholic, Seventh Day Adventist, and Church of Gospel International churches, and Ithna Asheri Mosque.²) The study measured the ability (the capacity for quality) and the practice quality (the actual quality delivered) of doctors—in particular, the gap between ability and quality. We show that doctors who work in NGOs are not different from doctors who work in the public service; the abilities of doctors in NGO facilities are the same as the abilities of doctors who work in the public sector. However, the practice quality of doctors in NGOs is significantly higher than that of doctors in the public service. In addition, there is evidence that some doctors are different from the average doctors in that they are motivated by altruistic or professional values. However, in Tanzania at least, these doctors do not work exclusively in faith-based NGOs; they are almost as likely to be found in the public service. Notwithstanding the presence of these altruistic doctors, the average doctor in either NGOs or the public service does not behave in an altruistic fashion. For these doctors, NGOs succeed because the organization is designed to encourage and reward effort, whereas the public service does not. Overall, these results suggest that the success of NGOs can be replicated because it does not depend on staff who are fundamentally different from staff in the public service.

In addition, we review the potential for methodological innovation in the study of the motivation of agents who work for NGOs, the private,

or public sector. In particular, we found that our study of the behavior of doctors had a significant impact on their behavior; when doctors know they are being observed they change their behavior. This impact is particularly striking in our study of doctors because the researchers were also doctors. In a setting such as medicine, where professional and ethical standards are part of all training, this peer-scrutiny has a particularly strong effect on behavior. Because this effect is temporary, we were able to observe the behavior of doctors as they reacted to this peer-scrutiny as well as when they were no longer reacting to the presence of the research team. The differences between the behaviors of doctors under normal circumstances and their behaviors when they face peer-scrutiny allow us to speculate on the ulterior motives of doctors. Professionalization in medicine is designed to encourage doctors to treat patients as they themselves would like to be treated: to hold the interests of the patients paramount. This is exactly the same behavior that an altruistic or intrinsically motivated doctor would exhibit. Thus, when our research team arrives, doctors behave as they would if they cared only about the interests of patients. This quality, therefore, reflects the natural capacity or competence of a doctor as well as the fact that they are exerting significant effort. The gap between this behavior and normal behavior is therefore a measure of just how motivated the doctor really is. Thus, we will argue that it may be impossible to research NGOs without impacting their behavior, but that if the researcher can measure behavior (or outcomes) with and without peer-scrutiny, the differences between these two behaviors (or outcomes) can reveal important details of an organization's effectiveness and motivation.

1 Empirical Setting and Methodology

The data used in this paper were collected over a period of two years from October of 2001 through March of 2003. Thirty-nine health facilities in the rural and urban areas of Arusha region were visited twice over this two-year period.³

1.1 Measures of Quality

The research team used direct clinician observation (DCO) to measure the actual performance of doctors with their regular patients. DCO measures compliance with Tanzanian protocol and is designed to be sensitive to the limited resources available in the facilities we survey. Every doctor visited was trained in protocol and had the resources at his or her disposal to follow it. Protocol requires history-taking (such as asking the patient the duration of the illness or whether diarrhea is accompanied by vomiting)

and physical examination (such as taking the patient's temperature or auscultating the chest). With the DCO instrument, a doctor on the research team sits in on the examined doctor's consultations. For each consultation, the observer fills a protocol checklist designed to match patients presenting with fever, cough, or diarrhea. For other conditions, there is a more general history-taking protocol and one physical examination protocol item.⁴

In addition, each of these doctors was also evaluated using vignettes, which are case-study patients presented by an actor. Vignettes have gained increasing popularity as a tool for quality evaluation both in developing and developed countries (Das & Hammer, 2005, 2007; de Geyndt, 1995; Epstein et al., 2001; Kalf & Spruijt-Metz, 1996; Koedoot et al., 2002; McLeod et al., 1997; Murata, McGlynn, Siu, & Brooks, 1992; Murata et al., 1994; O'Flaherty, Lerum, Martin, & Grassi, 2002; Peabody, Rahman, Fox, & Gertler, 1994; Peabody, Gertler, & Leibowitz, 1998; Peabody, Luck, Glassman, Dresselhaus, & Lee, 2000; Tiemeier et al., 2002). There are many possible ways of implementing a vignette; we use the unblind case study with an actor. There are two researchers present: a "patient" and an examiner. The examiner, after introductions, never speaks; he only observes. The "patient" presents herself as a patient would, entering the room from outside and leaving after the consultation. She describes her symptoms and answers questions as a patient would. It is explained to the clinician that he must do physical examination by posing questions. The patient then answers the question verbally. For instance, if the clinician says "I would take the patient's temperature," the "patient" would say "the temperature is 38.5." The examiner then fills a checklist of the expected inputs, including expected history-taking questions, physical examination items, and health education points. Each clinician was tested in their ability for six typical cases: malaria, pelvic inflammatory disease (PID), diarrhea, pneumonia, flu, and worm infestation. For the purposes of evaluating the differences between ability and practice quality, our work focused on the malaria, diarrhea, and pneumonia vignettes because they correspond well to categories in the DCO instrument. 80 doctors were observed directly and evaluated with vignettes representing a total of 928 consultations.

Additional data were collected in urban Arusha in 2005, using the retrospective consultation review (RCR) instrument (see Leonard & Masatu, 2006). This instrument uses the same checklist as the DCO instrument and is filled by interviewing patients who have just left the consultation. The RCR questionnaires were administered to 320 patients at 11 facilities in urban Arusha in Tanzania. 211 of these patients visited one of the 12 clinicians directly observed by the team and the remainder

visited clinicians at the same facilities who were never observed. On average, we have data on 6 consultations before the team arrived and 11 after we arrived. For consultations that were also observed by the research team, Leonard and Masatu (2006) show that the results from these two instruments are well correlated.

1.2 Doctors and Organizations

The doctors in our sample include nurses of various specializations, clinical assistants, clinical officers, assistant medical officers (AMOs), and medical officers (MOs). Clinical assistants have an elementary school education and three years of medical training. Clinical officers traditionally have O level education and two years of medical training. AMOs are clinical officers with two additional years of training. MOs have both an A level education and five years of university-level medical training. Nurses are not supposed to diagnose, but in the rural areas they are frequently the only health personnel present and they do diagnose patients in these circumstances. Most doctors in the sample, as in Tanzania, work in the public service in government-run health facilities. In addition, there are seven other organizations delivering care in the area: one parastatal hospital (owned by the government but operated as an independent entity), one private facility, and five faith-based NGO organizations operated by the Lutheran, Roman Catholic, Seventh Day Adventist, and Church of Gospel International (COGI) churches⁵, and the Ithna Asheri Mosque.

1.3 Measures of Decentralization of Authority

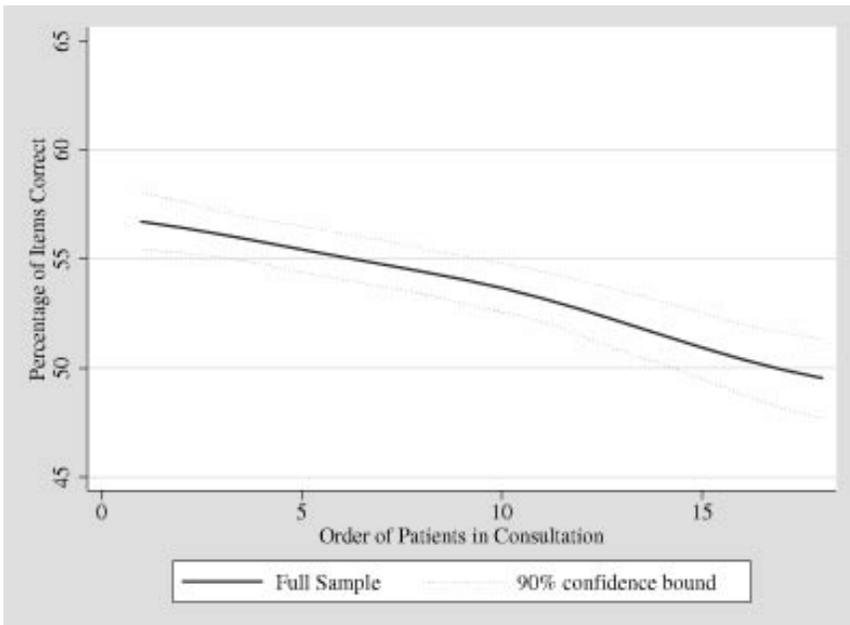
Leonard et al. (2007) introduce the degree of decentralization in decision making authority as a proxy for motivation. The index of decentralization is derived from a series of qualitative variables collected by Mliga (2000) during a study of the management structure of health organizations in Tanzania, including the facilities analyzed in this study. The variables used to create an index of decentralization include: a dummy variable indicating whether the chief of post can hire and fire personnel; the level at which salaries are set (national / regional / local); the degree to which the chief of post can (or must) use local funds to pay salaries and buy medicines; and the level at which choices about staffing are made (national/regional/local). The index is derived from factor analysis of these four variables (Leonard et al., 2007). The index varies by organization, as well as across facilities within organizations, but does not vary within facility. Examining facilities by degree of decentralization puts NGO facilities on a scale between private facilities and public facilities, solely

in accordance with the organizational structure of the facility. To the extent that this index helps to explain the quality of care provided across public, NGO, and private facilities, it suggests that management, not extraordinary staff, explains the differential quality of faith-based NGOs.

1.4 The Hawthorne Effect

One of the more striking features of the data is the steady decline in the quality of care provided by most of the doctors over the period that the research team observed their consultations. Figure 1 shows the average impact of this dropoff. Quality, as measured by percentage of items required by protocol that are actually implemented, falls by about 5 percentage points (10%) over 10 to 15 consultations.

Figure 1: The Hawthorne Effect on Quality



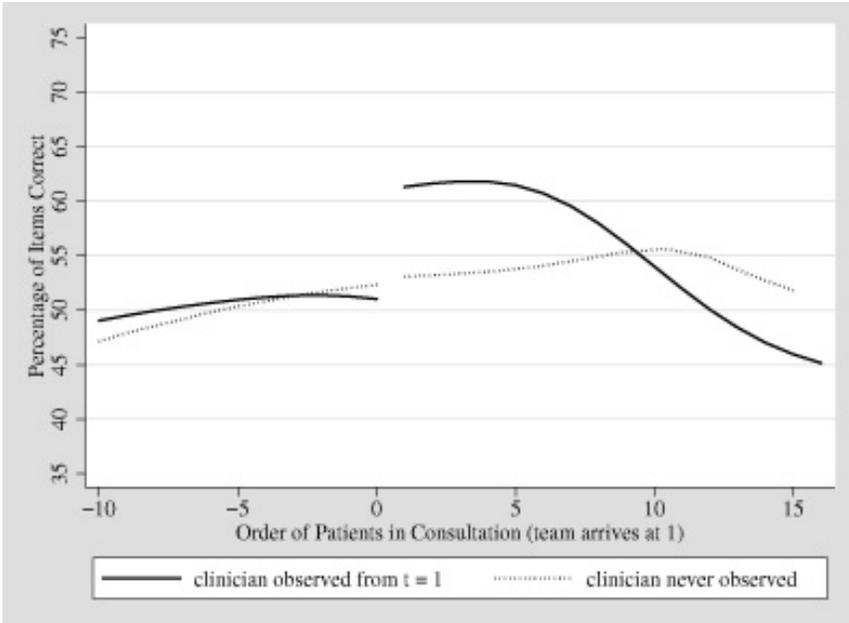
The figure shows smoothed average percentage of items required by protocol as measured by the research team doctor present in the consultation. This quality measure is graphed against the order of consultation, from the moment the research team arrives. The solid line shows smoother average percentage of required items that were provided and the dashed lines show the upper and lower bounds of the 90% confidence intervals (derived from a bootstrap with 500 samples.)

This dropoff is due to a temporary Hawthorne effect⁶: quality is falling from an abnormally high level caused by the arrival of the research team towards the normal level of quality. Leonard and Masatu (2006) document the full pattern of the Hawthorne effect with a small sample of doctors practicing in the Arusha region in Tanzania. They measured the quality of a consultation using a patient exit interview and showed that this instrument is a good approximation of the data on quality collected by doctors on the research team. Because they used a patient exit survey, they could collect data for three types of patients: patients who had consultations before the team arrived at a facility, patients consulted after the team arrived whose consultations were observed by the research team, and patients consulted after the research team arrived whose consultations were not observed by the research team. Patients in this third group were seen by doctors who were not evaluated by the research team, but who practice at facilities where other doctors were evaluated. Leonard and Masatu (2006) validate the Hawthorne effect by showing that quality increases significantly when the team arrives. Figure 2 shows the pattern of quality as estimated from patient responses for observed and unobserved doctors. For doctors who were observed, figure 2 shows a significant jump in quality when the team arrived. However, for doctors who were never observed, there is no significant change in quality. Figure 2 also shows that the Hawthorne effect is temporary; quality rapidly returns to levels similar to those found in the absence of the research team.⁷

The temporary duration of the Hawthorne effect allows us to observe differences in the behavior of most doctors. In the smaller sample for which data was collected before the arrival of the team, the size of the Hawthorne effect can be seen in the gap between behavior before arrival and behavior right after the team arrives. For the larger sample, for which there is no data before the team arrives, the size of the Hawthorne effect can be seen in the fall in quality as the Hawthorne effect wears off. Leonard and Masatu (2008) show that this gap is similar to the gap between ability as measured by vignettes and practice quality. Thus, the Hawthorne effect encourages doctors to display their best effort; doctors who routinely practice at levels below their best display a much larger gap, and doctors who routinely practice at levels that are close to their best display a smaller or non-existent gap.

1.5 Heterogeneity and Altruism

In our studies of doctor behavior, we found that behavior for diagnostic inputs (such as history-taking and physical examination) is systematically different than behavior for health education and communication. The

Figure 2: The Full Pattern of the Hawthorne Effect

The figure shows smoothed average percentage of items required by protocol as measured from patient exit interviews performed immediately after the consultation. The dashed line shows percentage provided for patients seen immediately before and after the research team arrives at a facility who visited a doctor who was never directly evaluated by the research team. The solid line shows the percentage provided for doctors who were observed by the research team starting at $t=1$.

latter involves explaining treatments and diagnoses to patients, giving them information about the typical causes of the illness, and behavior modifications that can reduce the chance of future illness. Health education is an important part of all consultations and all doctors are trained in its use. However, unlike diagnostic effort, it appears that organizations do not exert effort encouraging health education, even when they do exert effort to encourage diagnostic quality. Despite the lack of organizational encouragement, some doctors do provide high levels of health education, suggesting that they are different than other doctors.

Figure 3 shows three clinicians who represent three types of behavior that we observe in the data. Clinician 33 (leftmost) exhibits high and constant physical examination, but rapidly falling health education. He provides health education only for the first few observations. Clinician 32 provides

low and falling levels of both physical examination and health education. Clinician 81, on the other hand, provides high and constant levels of health education as well as physical examination. There are no doctors who provide high health education but low physical examination, suggesting that doctors who care to provide health education will automatically be driven to provide physical examination, though the inverse is not true. Note that, if we examine only diagnostic quality (physical examination), there are only two types of doctors (clinicians number 81 and number 33 are very similar). Thus, looking at health education reveals a second dimension of provider behavior.

If there are altruistic doctors in the study—doctors who always act in the interest of their patients—they will provide health education to their patients. Thus, doctors who provide high and constant levels of health education (such as clinician 81), could be altruistic, but doctors who provide low and/or falling levels of health education, are clearly not altruistic (such as clinicians 33 and 32). In this way, we use patterns of health education to categorize doctors as “potentially altruistic” and “not altruistic.” Importantly, describing doctors as potentially altruistic does not mean that they are altruistic; there are many reasons why doctors provide high levels of health education that may have nothing to do with altruism.

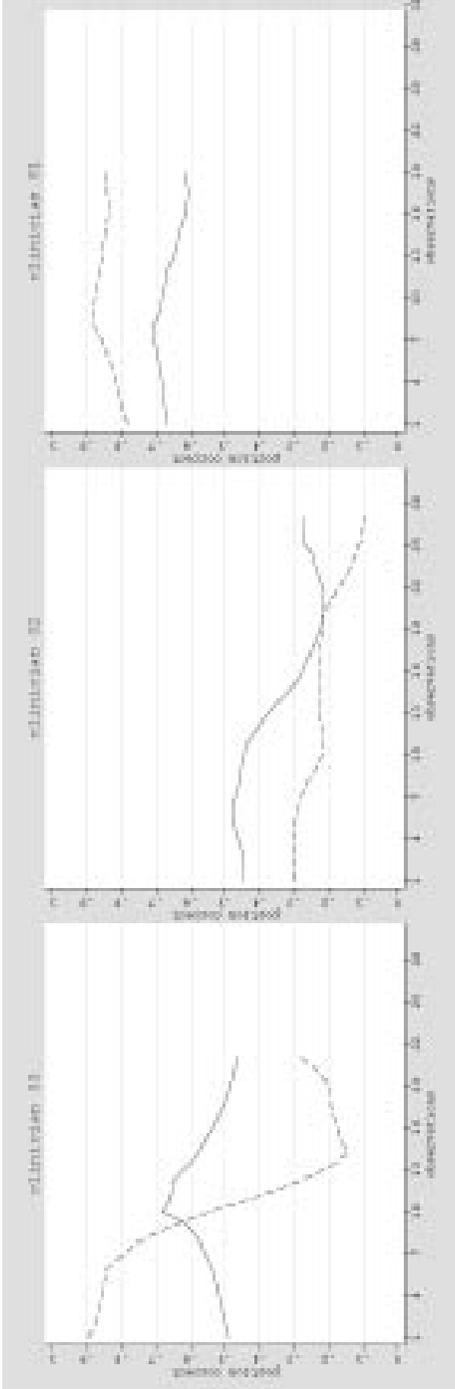
Leonard and Masatu (2007) categorize doctors following the intuition advanced in figure 3, using objective methods to make the assignment. The provision of health education is predicted in a probit model with random effects at the doctor level, a doctor specific intercept and slope (with order of consultation), and patient characteristics. All doctors with a statistically negative slope (a fall in quality over observations) were assigned to “not altruistic.” Doctors who exhibited both a positive (or flat) slope and an intercept that was above the median were assigned to potentially altruistic. Approximately 25% of the sample is defined as potentially altruistic in this manner. Assignments are made without reference to ability, cadre, organization, or provision of either physical examination or history taking.

2 Empirical Findings

2.1 Distribution of Ability

Despite the fact that all doctors practicing medicine in Tanzania are trained to be able to diagnose and treat the common medical conditions reported at health facilities, competence in the treatment of these conditions

Figure 3: Three Examples of Clinician Behavior on Physical Examination and Health Education



The dashed line is health education and the solid line is physical examination. The smoothed lines shown represent the change in the number of physical examination and health education items answered correctly as a percentage of possible items. The lines are derived from scores controlling for patient characteristics, using a local average regression with an Epanechnikov kernel and a bin width of 6 observations.

is disturbingly low. NGOs do not escape criticism on this front. In fact, since NGOs are more likely to hire doctors with less training, and training is positively associated with competence, many NGO facilities display low levels of competence. Leonard and Masatu (2007) show that the biggest gap in competence in Tanzania is between rural and urban facilities, with urban facilities generally displaying much higher levels of competence. In addition, the gap between rural and urban competence is almost exactly the same for NGO and public facilities. The fact that competence is lower in rural facilities most likely reflects the fact that it is difficult to get doctors with more training to locate in rural areas. The evidence suggests that both NGOs and the public sector face the same difficulties. In Tanzania, doctors in the public and NGO service are trained in the same medical schools, and our data suggests that, at least as doctors, they are similar.

2.2 Distribution of Practice Quality

On the other hand, the distribution of practice quality is different from the distribution of competence (or ability). Leonard and Masatu (2005) show that the gap between ability and practice quality is relatively large for doctors as a whole: the average doctor does significantly less for his regular patients than he does for the case study patient, even when these two patients are very similar. However, the size of this ability-practice quality gap varies across locations and organizations. The gap between rural and urban quality remains for practice quality, but it is significantly smaller for NGOs than it is for the public sector (Leonard and Masatu, 2007). In general, doctors who work in NGOs provide higher quality care than doctors in public sectors, even after controlling for ability (Leonard et al., 2007).

2.3 Making the Case for Practice Quality

The current enthusiasm for the use of vignettes demonstrates the increasing popularity of measures of competence in health care, particularly in developing countries. Das, Hammer, and Leonard (2008) discuss the recent scholarship on quality in developing countries and suggest that the current state of knowledge is so low that important gains can be made simply by understanding the distribution of competence. This is particularly important to the study of the emerging private market, because these doctors choose where to locate their practices and there are important associations between competence and location that we do not yet understand. However, in Tanzania, both the public sector and the NGO sector are engaged in roughly the same activities: providing reasonable quality care to poor and rural populations. Moreover, they appear to make

the same choices with respect to the competence of their providers. This suggests that practice quality, rather than competence, is more interesting to the investigation of health care quality in NGOs in Tanzania.

Additional evidence of the importance of practice quality comes from examining the relative importance of policies to increase training (raising competence and therefore practice quality) and policies to increase motivation (raising practice quality without raising competence). Five years of additional training increases the competence of the average doctor by one standard deviation, and increases the probability that he or she would correctly diagnose the illness of a case study patient by 5 percentage points. However, practice quality (what they would actually do) increases by much less and the probability of correctly diagnosing an actual illness increases by only 1 percentage point (Das, Hammer, & Leonard, 2008). Policies that directly address practice quality (rather than competence) are more likely to have a real impact on health outcomes.

2.4 The Role of Decentralization in Practice Quality

Leonard et al. (2007) examine the difference between the ability of doctors, as measured by vignettes, and the practice quality as measured by direct observation. They find that the location of decision making authority has important implications for the difference between these two measures of quality. In particular, doctors who work in facilities with decentralized decision making authority practice at higher levels of quality than doctors who work in facilities with centralized decision making authority. Leonard and Masatu (2008b) examine the same patterns, but using the change in quality from the Hawthorne effect to measure the difference between ability and practice quality. They find that, as with the difference measured by vignettes, doctors who work in facilities with decentralized authority exhibit a much smaller gap in quality over the course of observations.

2.5 Heterogeneous Doctor Types

Leonard and Masatu (2008a) examine the gap between ability and practice quality, controlling for two types of doctors: those who are potentially altruistic and those who are not altruistic. Not surprisingly, potentially altruistic doctors are superior to other doctors both in ability and in practice quality. Importantly, for these potentially altruistic doctors, there are no differences in either ability or practice quality across facilities as measured by the index of decentralization. On the other hand, the gap between ability and practice quality varies significantly across organizations for doctors who are not altruistic. It is not the case that potentially altruistic doctors work in different types of organizations from other doctors.

21% of doctors in the public sector are potentially altruistic compared to 30% of doctors in NGOs.

3 Discussion and Conclusion

3.1 Policy Implications

In this setting, the success of NGOs appears to be replicable, at least in the sense that NGOs manage to encourage normal doctors to provide high quality care. Thus, the evidence suggests that the same doctors who are currently working in the public sector would provide higher quality care if they worked in NGOs. Whether the public sector could achieve the same results as NGO organizations is still open to debate. The structure of public service makes systematic reforms unlikely, but there are intermediate solutions to improve quality. First, the public service can contract out many services to NGOs (Gilson et al., 1997; Leonard, 2002) effectively using NGO management capacity to improve the quality of public sector doctors. Gilson et al. (1997) suggest that in those settings where such policies have been tried, the quality of public sector doctors seconded to NGO managed facilities has improved. Second, the public sector can provide funds directly to NGOs and expand the current coverage of NGOs. Since this would require hiring additional doctors, it is important that we were able to establish that NGOs know how to induce high quality care for normal doctors, and are not reliant on a small group of exceptionality-motivated doctors. Third, NGOs can expand their coverage by franchising their name and therefore management structure to private doctors. In Tanzania, where such franchising has been legally encouraged, the only organizations that have embraced the practice are those that do not have any services of their own to offer. Thus, there appears to be some reluctance on the part of NGOs with a traditional public good provision agenda to expand in this direction, though improved legal structures might address some of these concerns.

The degree to which decision making authority is decentralized is an important aspect of management in NGOs. However, this is not the only difference between NGOs and the public service, and considerably more research is necessary before suggesting that decentralization would improve the quality of care in the public sector in Tanzania. Indeed decentralization has often had disastrous results (Bossert, 1998).

3.2 Methodological Notes on the Study of Faith-Based NGOs

One of the more pleasant aspects of studying NGOs is that the researcher often shares some fundamental values and/or interests with the officers

and staff of the NGO. This is particularly the case in faith-based NGOs as studied by researchers with similar motivation. However, this common interest is likely to affect the research, and if the researcher is not careful, it could lead to falsely optimistic results. Naturally, all researchers must be careful of making subjective evaluations of organizations when there is such a strong disposition to find positive impacts. However, the danger of over-optimism extends even to quantitative and objective analysis because the mere presence of the researcher can change the behavior of the subject.

The Hawthorne effect is stronger if a doctor is being observed by another doctor than if the doctors are being observed by “lay” researchers (van den Hombergh, Grol, van den Hoogen, & van den Bosch, 1999). Thus, shared motivation, training, or ethics can create a demand for quality during the study. The temporary duration of the Hawthorne effect in our studies is probably a result of the fact that researchers were trained not to give feedback, which may have slowly changed the way the subjects understood and responded to the research. Thus, we believe that the presence of an outside researcher who is explicitly interested in the role of faith-based organizations will induce a quality response, even if the researcher is careful. The only way to reduce the possibility of the Hawthorne effect is to be completely neutral and passive. However, most researchers (this author included) find that the interaction with the subjects is at least as informative as the objective research design and should be reluctant to forgo this experience. The objectives of neutrality and deeper understanding are at cross purposes.

In our work, we did not eliminate the Hawthorne effect, but instead found two ways to integrate it into our study, and in the end revealed more about behavior than if we had eliminated it. We integrated the Hawthorne effect by examining doctors for long enough that they grew used to increased scrutiny, and by collecting data on the behavior of doctors before we arrived at the facility. Thus, we were able to observe both “normal” and peer-scrutiny induced quality. Peer-scrutiny induced behavior is a good measure of the capacity of agents to perform tasks because it reveals the difference in quality across subjects who are providing maximum effort. The gap between normal and peer-scrutiny behavior, in turn, reveals the importance of organizational incentives as well as intrinsic motivation or altruism. For those activities monitored and regulated by the institution, a smaller gap between normal and scrutiny-induced behavior demonstrates superior organizations. For those activities that are not monitored or directly rewarded (but that remain important), a smaller gap demonstrates the presence of intrinsic motivation.

Endnotes

- 1 The average NGO probably contribute little to the direct provision of public services. Barr, Fafchamps, and Owens (2005) show that, in Uganda, most NGOs are small, underfunded, poorly organized, and focused on topics such as advocacy. However, some NGOs are considerably better funded and ambitious. In this paper, we focus on NGO presence in important services and thus focus on this latter type of NGO.
- 2 Ithna Asheri is a Shia branch of Islam, and the largest school of Shia thought.
- 3 Two facilities visited in the first round were closed by the time we visited in the second round.
- 4 For further details of the study, see Leonard and Masatu (2005) and Leonard et al. (2007).
- 5 The COGI facilities are actually private facilities that have franchised the church's name, allowing them to practice care under a different tax status. Kanji, Kilima, and Munishi (1992) document this common pattern and suggest that facilities that are supervised by an NGO that does not operate any independent health facilities are subject to no medical supervision or scrutiny from the franchise organization and therefore can be considered private facilities. Therefore, the COGI facilities are better characterized as private facilities, not NGO facilities as we mean them in this paper.
- 6 The Hawthorne effect refers to a situation in which an individual's behavior changes when they realize they are being observed. It is characterized by a positive but temporary change in some measurable behavior in a situation in which there was no deliberate attempt to affect behavior (Benson, 2000; Mayo, 1933).
- 7 Leonard and Masatu (2006) use regression analysis to verify the significance of the change in quality before and after observation, the gradual fall in quality as time passes for observed doctors, the unchanging quality before the team arrives, and the unchanging quality for doctors who are never observed.

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Research Partnerships Between Faith-Based NGOs and Academic Researchers: An Example from Food Security and HIV and AIDS Research in Delhi, India

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Abstract: *A divide commonly exists between Christian development practitioners and academic researchers, making it difficult to collaborate and engage in potentially illuminating research projects. While solid reasons exist to explain the difficulties in linking academics and NGOs, partnerships offer the potential benefit of the generation of knowledge that can both inform development practice as well as change modes of thinking in scholarly communities. Further, we argue that such partnerships offer the possibility of a way of doing research that is distinctly Christian and thus can be a witness to peers in the development community as well as in academia. This paper presents a theological basis for a research partnership, details some of the challenges faced in building such a partnership, and describes an example of one such partnership between staff of the Emmanuel Hospital Association in India and researchers from the University of Illinois at Urbana-Champaign.*

Among Christians interested in engaging the world, practitioners and academic researchers often segregate themselves into camps that have little to do with each other. University-based researchers can explore the “bigger picture” while failing to address the needs of practitioners. In turn practitioners, feeling that research has little use for them, can ignore potentially illuminating scholarship. Partnerships between academic researchers and Christian nongovernmental organizations (NGOs) provide a means to bridge this divide. Such partnerships offer the possibility of the generation of knowledge that can both inform development practice as well as change modes of thinking in scholarly communities. Furthermore, such partnerships offer the possibility of a way of doing research that is distinctly Christian and thus can be a witness to peers in the development community as well as in academia. Despite the potential of research partnerships between academic researchers and NGO staff, relatively few examples exist that have been documented and reported in the academic literature. This paper serves to describe and report on an example of one such partnership.

This paper illustrates such a partnership in health economics. First we will address the theological underpinnings for such a partnership. Then

we will address the practical aspects. We illustrate these practical aspects by describing a model involving partnership between health practitioners from the Emmanuel Hospital Association of New Delhi, India (EHA) and university-based researchers from the University of Illinois at Urbana-Champaign (UIUC). We present an overview of our research project, which has the aim of measuring the prevalence of food insecurity among patients in an HIV and AIDS treatment and care program in New Delhi, India, and discovering the impact of food insecurity on health outcomes of the patients. We conclude the paper with some observations on partnerships based upon our experience to date.

1 A Rationale for Research Partnerships Between Christian NGOs and Academics

As Christian researchers in the social sciences, what is our role? What is our purpose for working? Nicholas Wolterstorff (1983), in his book *Until Justice and Peace Embrace*, points to an important aspect of working as Christians. Speaking of the Calvinist's perspective of calling and occupation, Wolterstorff notes that the Calvinist "saw his occupation as something through which to exercise his obedience" (p. 16). This is in contrast to the "medieval" view of "remaining in that role" as what is to be done in obedient gratitude. Whether Wolterstorff is fair in his labeling, this is an important distinction to make. What we do in our occupations is just as important as—or more important than—the fact that we are in the roles, or even that we work in these roles to the best of our ability. The actions we take in our occupations are of utmost concern: "One has to see to it that one's occupation serves the common good rather than simply assuming it does."

Thus our occupations are intricately linked to the work that we do to further manifest God's kingdom in this world. However, we are not all called to the same work (Rom. 12:4). Each of us in the church is given a different calling, but one which is to reinforce, lift up, and enable the other parts of the church in their work. Our work is not for ourselves, but for the good of the body, the bringing of shalom to the very un-peaceful world, and ultimately, we pray, for God's own glory.

In this view, the participation of researchers with practitioners is our way, as those called to research and practice, of building each other up. Not only are we to encourage each other in our work, but enable each other to carry out the respective tasks God has called us to do more effectively.

Practicalities and Programmatic Value

Since participatory research needs to be others-focused, the overarching practical aspect is how to keep it this way. Thus a basic issue is deciding who will benefit from the research findings. The primary benefit from research cannot be simply another publication for the researchers, but must address the roles practitioners play in engaging the world. For example, if the participation is with health care workers, will the research enable them to better care for their patients? What specific steps will be taken to ensure that the opportunity for research to inform practice actually occurs? One means to strengthen the possibility of research informing practice is to involve a practitioner directly on the research team. We have chosen this structure for our research project.

An important issue which could prove hurtful to current and future relationships is publication authorship. Will the practitioners as well as the researchers be properly acknowledged on any publication as co-authors? There are clearly situations in which this may not be appropriate, but it would be better to err on the side of appreciation for the work of the practitioner than to risk misunderstanding and hurting the practitioner. Authorship is often a difficult subject, but one that needs to be addressed ideally even before the research begins.

A related issue is that of who owns the research. If the research is survey-based, will the practitioner be able to keep the surveys? Will they have ultimate say in what happens to the direct product of the research?

Often practitioners see the need for research activities. Thus a pertinent question is: If the practitioners are interested in building up their capacity for research, will they receive training which they could utilize for future research, program development and monitoring, and impact assessment activities of their own? Instead of making it necessary for the practitioners to work with outside researchers for every project, the researchers should work towards enabling the practitioners to conduct independent research. This consideration may not apply to every situation, but it cannot be ignored if researchers truly have the good of the practitioner in mind.

Since the research must enable the practitioner as he or she engages the world, issues arise with how research affects this engagement. In the case of health economics, researchers must think through how research and care build on each other. For instance, what if the research leads to the finding that someone is HIV positive or food insecure? Should the researchers alert the practitioners? Are the practitioners in a position to care for this person? Will the research truly benefit the practitioner, or will he or she simply be overwhelmed with the new work which the research has brought to light?

Thus, research in partnership with NGOs has the potential to serve and support evidence-based practice and programs. It can also assist the NGO in making a contribution to the formulation of public policy, if that is an organizational objective. Through involving NGO staff in the research process itself, research can serve to build skills in enquiry and problem formulation, data gathering and analysis, and communication. Lastly, the knowledge gained from research conducted *in situ* represents something of inherent worth as an informational public good. This can benefit the NGO, the communities it directly serves, as well as people around the world.

The difficulties in practical issues often stem from the differences between the environments and mindsets from which practitioners and researchers work. In general terms, NGOs work to deliver a program, act concretely, function under a set of organizational policies, value information for its contribution to the program, and communicate with program staff, the community, and donors. Academic researchers think more broadly and abstractly, value knowledge creation for its own sake, and target audiences such as disciplinary peers, policy makers, and donors (Roper, 2002). Given these differences, Garrett (2004) points out the need to identify shared interests between researchers and NGOs in the specific generation of new information and knowledge. To spot these shared interests, it is important to realize that different levels of the NGO may have very different values on knowledge creation and research-based information (Garrett, 2004).

In our project, bridging the NGO/academic researcher gap has been facilitated by EHA's organizational commitment to publishing (for its senior staff) and its previous experience in doing research in partnership with university-based researchers. EHA presently has a Memorandum of Understanding with a unit of Monash University in Australia and has had numerous short-term visitors on research projects at its facilities. In addition, a number of the senior medical staff and leadership of EHA maintain an interest in research, and EHA has recently established a research unit to conduct in-house studies of publishable quality.

2 The Research Partnership

The NGO Partners: EHA and the Shalom Program

The collaborators in this project are researchers with EHA and UIUC, as well as practitioners involved with the Shalom Program, Delhi. EHA is the largest non-government provider of health care in India, with 23 hospitals and 30 community-based projects in 13 states of India. EHA's comprehensive health services integrate essential clinical services with primary health care and community-level engagement in order to address

the health priorities of people in rural areas. Established in 1970, EHA has a thirty-five year history of holistic work. The primary focus of EHA is to provide care for the poor, who account for approximately thirty-five percent of the population of seven million that EHA serves. EHA serves this population through health, development, HIV/AIDS, and disaster programs, and investing in the health and well-being of the poor. EHA works in partnership with the communities, governments, and community-based organizations and NGOs both nationally and internationally to deliver services effectively and efficiently.

Each hospital of EHA is a separate registered charitable society which has entered into a Deed of Incorporation with EHA and each other. EHA's diverse clinical services include obstetrics and gynecology, ophthalmology, general and family medicine, pediatrics, general and pediatric surgery, urology, dentistry and diagnostic services including clinical laboratories, radiology, ultrasonography, and gastroscopy.

Over the last 30 years, EHA has developed considerable expertise in managing hospitals both in towns and remote locations of rural India. It developed its first master plan for the development of these hospitals in 1970. In 2001, EHA undertook a strategic review of its entire organization and developed master plans for each of its hospital units. Besides these steps forward, EHA has been constantly working towards developing financial systems and infrastructure, including buildings, medical equipment, and human resources development. EHA has undertaken a number of operations research projects and has a number of staff trained in healthcare management, financial management, and health economics. It has also acquired expertise in computerized hospital management systems.

Shalom Delhi is an HIV/AIDS program of EHA that provides medical care and home support to a diverse group of patients from Delhi and neighboring states. The project's mission is to provide continuum care to those infected with HIV and support to their families. The medical care is provided in Shalom's facilities to outpatients and inpatients by a team of two doctors and a number of dedicated nurses. In addition to the usual patients, Shalom provides medical support to inmates of a drug rehabilitation center and an orphanage with HIV-positive children. The home care program provides compassionate support to families affected by HIV/AIDS, and provides food and money when needed. In order to provide even greater support to families affected by HIV/AIDS, Shalom is active in mobilizing churches to care for a few of these families. In addition to these areas, the project is involved in education and prevention, providing training for workers from other NGOs as well as offering a multi-week class for the children of HIV-positive parents.

The EHA and UIUC Research Project on HIV/AIDS and Food Security

One model for researcher-practitioner partnership is that of the cooperation between researchers from UIUC and medical practitioners from EHA. The goal of the project is to study food security and its relationship to health outcomes among those who are living with HIV/AIDS. The partnership entails regular communication between the parties regarding the progress and results of the survey. The survey was written from input by both parties in order to ensure its relevance to the situation of Shalom and its patients. One UIUC graduate student worked directly with a Shalom staff member to gather the surveys and keep the EHA and UIUC researchers apprised of the progress and difficulties in the data gathering process. Shalom has retained all the survey forms; UIUC researchers can take and analyze the data only in electronic form. While several drafts of papers have been completed and are under review at medical and social science journals, future publications are envisioned with varying degrees of contribution from each of the research partners in journals that speak to their expertise. In addition, it is hoped that Shalom will be able to use the survey data to better inform the project regarding the future direction of food assistance programs.

To investigate the links between food insecurity and health outcomes for HIV and AIDS patients, the study uses a prospective cohort analysis with a survey that includes information from the respondent as well as information from the medical chart. The survey is fielded twice in order to gain measures of changes in health status and food insecurity along with other covariates over a six-month period. The research protocol and the survey instrument have been approved by the Institutional Review Board at UIUC as well as the Research Board of EHA. While we had originally hoped that the first wave of the survey would have between 300 and 400 respondents, we ended up with about 250 respondents. The second wave of the survey will be fielded after a period of about six months, during a subsequent clinic visit of the respondents to the first wave. The survey was available in both English and Hindi and was offered in the preferred language by a trained enumerator.

A key lesson that has been learned thus far is that communication between the researchers and practitioners is very difficult. Part of this difficulty arises from the distance that separates the two. The distance determines email as the primary form of communication. In India, however, access to an internet connection is not guaranteed, and so the amount of time between emails can be quite substantial.

Another part of the difficulty in communication arises from the differing backgrounds of the two groups participating in this research.

The researchers are economists, whereas the practitioners are trained as physicians. A result of this difference is that the two come to the research with differing ideas of what “research” entails. The physicians have experience with research that involves treatment groups and control groups, whereas the economists have experience with research that controls for factors with regression analysis. These differences create misunderstandings and communication barriers when discussing the proposed methodology for the project. For example, each has different ideas regarding the time frame of the study, in particular the second round of the survey.

3 HIV/AIDS and Food Security Research Overview

HIV and AIDS in India

According to the latest Indian National AIDS Control Organisation/UNAIDS estimates (UNAIDS, 2007), India has approximately 2.5 million people living with HIV infection. The majority of the infections are found in six states, mainly in the south, west, and northeast. While the epidemic appears to have declined slightly in the south, there is no evidence to suggest such a decline in the north (UNAIDS, 2006). Thus, the challenge of HIV/AIDS cannot be underestimated.

A key source of infection appears to be transmission from regular sexual partners who acquired the disease from paid sex. As a result, a significant proportion (38.4%) of the infection is occurring among women (National AIDS Control Organization, 2006). HIV prevalence rates among paid sex workers are high, at least in certain portions of the country. Injecting drug use also plays a significant role in transmission, particularly in portions of northeast India and in major cities (UNAIDS, 2006).

The first report of HIV in India came in 1986 when a few female commercial sex workers in Chennai were tested positive. The initial response was rather lethargic, and it took a year for the National Aids Control Programme (NACP) to be launched. The initial activities included some sero-surveillance, screening of blood products, and health education. There was no clear strategy and the whole response was inadequate in scale to the problem. Since then two phases of the NACP have been completed and currently the Government is implementing the third phase (NACP-III).

The NACP-III 2006–2011 has just been launched and is designed around a number of key principles. First is the Three Ones Principles promoted by UNAIDS to encourage countries to develop one single national mechanism for AIDS co-ordination, one national AIDS strategy, and one monitoring and evaluation framework for AIDS responses.

Another principle of NACP-III is participatory planning, which includes the involvement of stakeholders in the design process to increase the ownership across the various sectors of the society at all levels.

The NACP-III broad thrust areas include: building on the gains of the NACP-II and reaching out to the district and sub district level; priority for prevention and strengthening care, support, and treatment; increased focus on vulnerable states and northeast states; improving service delivery; and mainstreaming and partnership.

In addition to the government responses to HIV/AIDS, the NGO sector has focused on three approaches: prevention strategies; care, support, and treatment; and cross-cutting strategies.

NGOs involved in prevention have adopted a number of interventions ranging from general awareness building campaigns to targeted interventions focused on the risk practices of commercial sex workers, injecting drug users, truckers, and migrant workers. The focus has been on prevention of sexually transmitted diseases, condom promotion, sexual health, and a wide range of communication strategies.

Under the care, support, and treatment interventions, many of the NGO efforts have been in the area of counselling. Various forms of counselling services have been offered—supportive counselling, family counselling, and crisis counselling. Some of the NGOs have provided treatment for opportunistic infection, and only a few NGOs have gone on to provide anti-retroviral therapy (ART) and Preventing Mother to Child Transmission of HIV (PMTCT), largely over the past five years. Some agencies have provided nutritional support, especially for widows and orphans.

The cross-cutting strategies that NGOs have been involved in are varied. Cross-cutting strategies attempt to address the underlying socio-economic and cultural factors that provide the environment for the rapid spread of the HIV infection. Many NGOs have been involved in women's empowerment programs and in those that deal with gender issues. These include interventions like women's literacy, self-help groups, and adolescent girl programs. Others have looked to deal with migration through various livelihood initiatives. There have been rights-based approaches focusing on the rights of People Living with HIV/AIDS (PLWHA) and also women's rights seeking to address the problem of gender disparity. Some workers have tried to work with female commercial sex workers seeking to empower them. For example, the Sonagachi Project in Kolkatta has met with some success (Jana, Rotheram-Borus, & Newman, 2004).

Many programs have focused on harm reduction in areas of high numbers of people with substance abuse, especially in the northeast of India. These include strategies like needle exchange programs. The

Shalom project that was initiated by EHA has caught worldwide attention and provided a model for other NGOs. The involvement of PLWHAs in the planning and implementation of HIV-AIDS programs in India has been a more recent trend.

Food Security and HIV/AIDS Care and Treatment Research

Much of the increased attention to nutrition in the context of HIV and AIDS at the present time is being driven by the reality of HIV and AIDS in resource-poor countries with relatively weak care and treatment programs, chronic poverty and malnutrition, and limited access to anti-retroviral treatments, particularly for second-line drug regimens. Previous research has illustrated that HIV positive patients or patients with AIDS often also have macro and micro nutrient malnutrition. For example, Semba and Tang (1999) report that HIV infection can lead to nutritional deficiencies through a decline in food intake, malabsorption of nutrients as well as increased nutrient use and excretion of nutrients due to the illness.

The nutritional deficiencies can have drastic consequences. Semba and Tang (1999) note poor nutrition may hasten the onset of AIDS. Likewise, Beisel (1996) reports nutritional status affects the immune response to HIV infection, and poorer nutritional status is associated with poor clinical outcomes for patients. Biesel (1996) further notes the similarity between the immune suppression caused by malnutrition and the HIV virus.

The adverse health outcomes experienced by those with HIV/AIDS can often be attributed to weight loss and wasting. Piwoz and Preble (2000) note that “[e]ven relatively small losses in weight (5 percent) have been associated with decreased survival in people with AIDS and are therefore important to monitor....” Attempts to counteract wasting have focused on appetite stimulants, hormone treatment, and various dietary supplements and nutritional counseling (Piwoz & Preble, 2000). However, many of these therapies are expensive and less is known about the effectiveness of such interventions in resource-poor settings. One significant exception is the research into nutritional supplements offered by Catholic Relief Services to some households in Zambia. Using a quasi-experimental study design, Egge, Campbell, Senefeld, Strasser, and Lovick (2007) report a significant improvement in the physical and mental quality of life measures of PLWHA, as well as some anthropometric measures, which they attribute to the nutritional supplements.

In addition to the problem posed by weight loss and wasting, malnutrition can cause a deficiency of micronutrients, which can also have a marked affect on health status. A number of studies have examined

the link between variation in micronutrient nutrition and health status for PLWHA. However, in their review of nutrition in the context of HIV/AIDS, Gillespie and Kadiyala (2005) find that variations and limitations in study designs have made drawing conclusive findings from the existing HIV micronutrient studies difficult.

While much research has focused on nutrition and health outcomes at the micro level, at the level of macro nutrition, food security indicators, and dietary intake, the research base reported in scientific journals is sparse. Food insecurity is defined as the limited or uncertain availability of nutritionally adequate, safe foods or the inability to acquire personally acceptable foods in socially acceptable ways (Anderson, 1990).

One exception to the general paucity of research on food insecurity is a survey conducted in 1998–99 among patients in the British Columbia HIV/AIDS drug treatment program (Normen et al., 2005). The study utilizes the Radimer/Cornell questionnaire to obtain a measure of food insecurity among 1213 respondents from this patient population. The analysis revealed that 52% of the respondents were classified as food secure, 27% as food insecure without hunger, and 21% as food insecure with hunger. That means that “in HIV-positive individuals, the occurrence of food insecurity was nearly 5 times higher than in the general Canadian population.” This leads the authors to recommend additional research to identify both effective programmatic responses based upon social or nutritional interventions as well as the factors that determine food insecurity and hunger among HIV-positive individuals. To our knowledge, however, there are no studies in the journal literature that examine the prevalence of food insecurity among people with HIV/AIDS in the global South or in contexts with high levels of chronic malnutrition, such as South Asia or Sub-Saharan Africa.

While there are notable exceptions such as those seen above, there is generally little research on food assistance and food security among those with HIV/AIDS. Thus, Egge and Strasser (2006, p. 306) argue for the importance of building an evidence base regarding the contribution of food assistance and food security to the quality of life and health status of people living with HIV/AIDS. They also lament the “paucity of studies addressing targeted food aid (TFA) to people living with HIV/AIDS and almost complete lack of documentation on measuring the impact of food aid on PLWHA” (p. 307). Furthermore, they note the need for practical assessment tools to measure the impact of TFA on households and nutritional outcomes for PLWHA and the fact that such assessment tools are not “widely available” (p. 307). Egge and Strasser detail a number of

anthropometric measures that an assessment framework might include and they highlight the need for additional indicators beyond the anthropometric measures, such as ART adherence, diarrhea prevalence, and quality of life, among others.

Measuring Food Insecurity

As indicated by the definition above, food insecurity represents a very complex issue, and has been measured in many different ways. In order to more fully capture food security as well as to allow comparison across measures, we included three different measures of household food security in the survey. Each of the measures was developed by the USAID-funded Food and Nutrition Technical Assistance (FANTA) Project of the Academy for Educational Development. The measures were developed to meet the need for a simple yet rigorous way to evaluate the impact of USAID Title II programs.

The first measure in the survey is the Household Food Insecurity Access Scale (HFIAS). The HFIAS is an adaptation of the U.S. Household Food Security Survey Module (US HFSSM), which is an eighteen question survey that elicits responses describing the behaviors and attitudes of respondents relating to different aspects of the food insecurity experience. Field testing the US HFSSM approach in developing nations, and using and adapting the revised versions in developing nation contexts, resulted in a nine question survey covering three aspects of the food insecurity experience. The three domains covered by the HFIAS are: anxiety and uncertainty about household food access; insufficient quality; and insufficient food intake and its consequences (Swindale & Bilinsky, 2006a).

The HFIAS asks respondents to recall how often in the past 30 days their households experienced a particular dimension of food insecurity. First a response is elicited based on whether the household experienced the dimension at all. If it was experienced, the enumerator follows up by having the respondent choose whether the dimension was experienced rarely, sometimes, or often. Rarely is defined as once or twice in the past 30 days, sometimes is defined as three to ten times, and often is defined as more than ten times. The answers can then be summed to yield a score, or the household can be placed in one level of food security (food secure, mildly food insecure, moderately food insecure, and severely food insecure) based on the responses to certain questions (Coates, Swindale, & Bilinsky, 2006).

The second measure of household food security is household dietary diversity. The Household Dietary Diversity Score as developed by FANTA consists of a 24-hour recall of the different food groups which were

consumed by the participant or any other member of the family. Using the input from EHA staff, we adapted the food prompts to the north Indian context. We did not restrict the question to food prepared and eaten in the home or by household members outside the home, which as Swindale and Bilinsky (2006b) point out might overestimate the household's dietary diversity. An indicator can be computed by simply summing the number of food groups, yielding a maximum score of 12.

The last measure of household food security is months of inadequate household food provisioning. The respondent is asked to recall whether there were months within the past 12 months in which they did not have enough food to meet the family's needs. If so, the enumerator follows up by asking about which months the household experienced these shortages. Then the enumerator asks about the strategies the household utilized to obtain food during these periods of shortages within the past year.

4 HIV/AIDS and Food Security Research Project

Study Survey

The survey was fielded during an encounter with a Shalom program patient at the clinic in Delhi or during a home-based care visit. The survey instrument first gathered data from the medical record concerning medical information such as the date of the initial diagnosis, anthropometric data, stage of illness, CD-4 count (if available), antiretroviral drug therapy use and history, and a description of opportunistic infections. Then the study participant was asked a set of questions regarding his/her living situation, economic and social situation, food security status, mental health status, and health status. The food security questions used were the Household Food Insecurity Access Scale, the Dietary Diversity Score, and the recall of food shortages over the past year. The survey took roughly 30 minutes of the participant's time to field.

Preliminary Results

The fielding of the survey began in April 2007, and through mid-June 2007 a total of 80 completed survey forms were available for initial analysis. The preliminary results reported here should thus be viewed as qualitative results which point to phenomena that a greater sample size may bear out or may change.

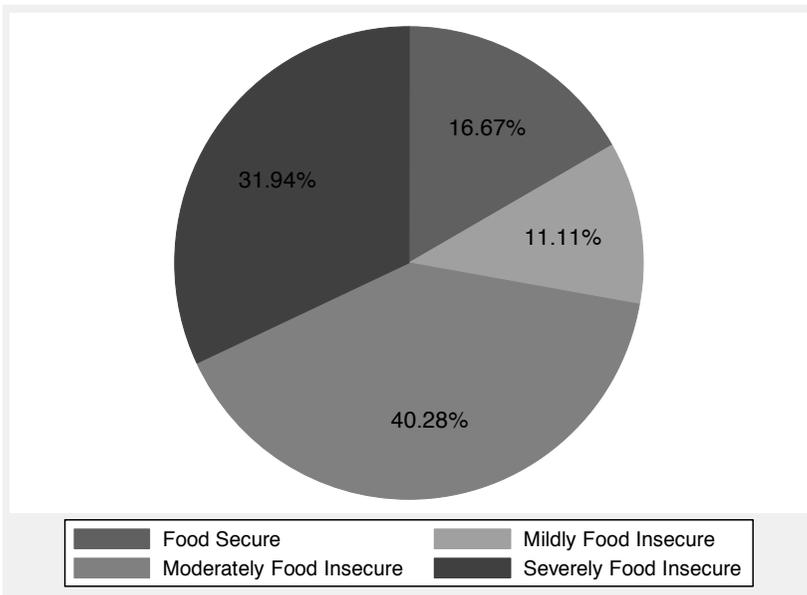
Regarding the Household Food Insecurity Access measures, recall that respondents are categorized into one of four groups depending on the responses to the nine questions. Figure 1 shows the distribution of the initial respondents into the four food security classes. Of the 72

respondents with sufficient information to complete the Household Food Insecurity Access (HFIA) measure, 23 (32 percent) fell into the Severely Food Insecure Access group, and another 29 (40 percent) were classified into the Moderately Food Insecure Access group. The remaining 28 percent fell into the Mildly Food Insecure Access group (11 percent) and the Food Secure (17 percent) group.

While the classifications utilized here are different from those employed by Normen et al. (2005) in their study of food insecurity among HIV-positive individuals in British Columbia, Canada, these preliminary results appear to indicate a significant level of food insecurity among the patients surveyed. A simple regression of the Household Food Insecurity Category on the asset index variable (measured as the sum of 11 possible assets a household might own) showed a negative (and statistically significant) relationship between an increase in assets and the severity of food insecurity.

Depression and mental health status constitutes an important dimension of health status for people living with HIV and AIDS. To measure mental health status and depression, we include the questions for the K-6 depression scale on the survey. Answers to the six questions use a five point scale, with the larger value representing more severe indications of mental illness. To score the summary measure, one simply sums the

Figure 1: Household Food Insecurity Access for 80 Delhi HIV and AIDS Patients



responses to the six mental health questions. A cutoff value of 13 or greater is used to indicate mental illness. Among the 76 usable observations in this preliminary data, roughly 45 percent fell in the range of 13 points or greater.

A simple linear regression of the K-6 non-specific serious mental illness scores (with values ranging from 0 to 21) on the Household Food Insecurity Access indicators reveals a positive (and statistically significant) relationship. The K-6 measure has been developed for use in population surveys to screen and identify the prevalence of serious mental illness and it has been applied internationally (Kessler et al., 2003). Thus, higher levels of food insecurity are associated with higher scores (greater frequency of a score in the depressed range) on the K-6 scale. This positive effect of food insecurity on depression for people living with HIV and AIDS remains when the Asset Index variable is added to the regression. This suggests a hypothesis of a unique protective aspect of food security on the mental health status of program clients, in addition to the protective effect of higher assets. While investigating this hypothesis and other related hypotheses regarding the specific role of food security in the treatment and care of persons with HIV and AIDS waits for the entire study data to be collected, the hypothesis does appear important for those policy makers interested in evidence regarding the provision of targeted food assistance to people with HIV and AIDS.

The questions regarding food shortages revealed that 16 of 76 respondents (21 percent) reported having at least one month in the past year without enough food. In terms of the 24 hour recall question on household dietary diversity, of 76 respondents answering the questions, 40 percent reported someone in the household consuming six items, and an additional 25 percent reported someone eating 7 items. Only 16 percent of respondents reported someone eating 5 or fewer food commodities or groups. Further analysis will be needed to assess the specific food commodities eaten and their frequencies among this population. This information may allow nutritional assessment for the overall balance of the dietary intakes of the respondents. In addition, it may be possible to test Engel curve relations between income (asset levels) and the intake of specific food groups used in the dietary diversity scores.

5 Conclusion

Conducting research in a partnership between NGO practitioners and academic researchers is not easy. The environment that an NGO such as EHA's Shalom program operates in is inherently difficult. Nonetheless, a research effort, if value is seen from all of the partners, can potentially

yield information and knowledge that can affect development or health practice as well as generate a scholarly contribution. Our collaboration has identified a research question where the answer may contain implications for EHA's programming in the area of HIV and AIDS, as well as to national and international food policies in the context of HIV and AIDS. In addition, enquiry at the nexus of food security and HIV and AIDS may yield a scholarly contribution to the literature on nutrition and HIV and AIDS.

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