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The Road to Financial Sustainability

*How Managers, Government, and Donors in Africa
Can Create a Legacy of Viable Public and
Non-Profit Organizations*



Lynn Ellsworth



Technical Paper No. 85
January 1998



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***Productive Sector Growth and Environment
Office of Sustainable Development
Bureau for Africa
U.S. Agency for International Development***

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*How Managers, Government, and Donors in Africa
Can Create a Legacy of Viable Public and
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Lynn Ellsworth

(This paper is a product of the Sustainable Financing Initiative of USAID and SPAAR at the World Bank, prepared under contract to Abt Associates through the Agricultural Policy Analysis project, Phase III.)

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Foreword

In the past decade, The U.S. Agency for International Development (USAID) has been challenged to scrutinize the effectiveness and impact of its projects in Africa and make needed adjustments to improve its development assistance programs. Structural Adjustment programs have been adopted by many sub-Saharan African countries — often with reluctance — and some significant economic development progress has been made.

As donor agencies face severe cutbacks and restructuring, and less assistance becomes available to developing countries (not just in sub-Saharan Africa), new ways must be found to channel declining resources in their most effective and productive uses. Donor agencies like USAID, therefore, are increasingly looking to institutional arrangements in the agriculture and natural resources management sectors to sharpen competitiveness, with agriculture as the dominant sector of sub-Saharan African economies and the potential catalyst for generating broad-based, sustainable economic growth.

The USAID Africa Bureau's Office of Sustainable Development, Productive Sector Growth and Environment Division (AFR/SD/PSGE) has been analyzing the Agency's approach to the agricultural sector in light of a renewed focus on impacts and recent experiences of sub-Saharan African countries. This publication reflects some of these efforts.

This publication is part of a Sustainable Finance Initiative (SFI) Series.* The intent of this publication series is to make information and lessons more broadly available regarding innovative financing mechanisms and sources. The audience for the SFI series is practitioners in Africa, including USAID Field Missions, African organizations attempting to develop new mechanisms, African funding agents, and other donors, as well as firms and individuals providing technical assistance to these groups.

* A list of the anticipated publications in this series can be found on the inside front cover of this report.

The SFI makes available, in traditional print form as well as electronic versions, this publication as well as several others. The primary purpose of this series is to provide those interested in sustainable finance with a set of information resources that:

- describes the principles and tools of sustainable finance;
- provides up to date examination of case examples of sustainable finance;
- reports on meetings that discuss sustainable finance; and
- presents SFI program activities and results.

The SFI is a joint effort of the World Bank, USAID, and two bodies grouping donors, African, and international NGO partners — the Special Program for African Agricultural Research (SPAAR) and the Multi-Donor Secretariat (MDS). The SFI aims to help build capacity through focusing on African agriculture and natural resource management agencies. The SFI works with these African agencies to help create new — and more sustainable — mechanisms and sources of funding for national needs and initiatives.

To make this publication series most effective, the documents are written not only to accommodate the point of view of the African institutions undertaking sustainable finance programs, but also from the viewpoint of governments, potential funders, and other stakeholders. Thus these publications can be used as part of the efforts of agriculture and natural resources management institutions to build coalitions and to inform stakeholders about the “art of the possible” in sustainable finance.

David A. Atwood, Chief
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Bureau for Africa
U.S. Agency for International Development

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This paper was sponsored as part of a stock-taking exercise by the Sustainable Financing Initiative (SFI) of USAID and the World Bank's Special Program for African Agricultural Research (SPAAR). The intent was to reflect upon SFI experience to date with assisting African agricultural research and natural resources management institutions to develop alternative sources of funding, and to elaborate more clearly the necessary elements of a strategy to make a successful transition to a more sustainable funding base. Analytic and technical assistance for SFI is provided by USAID through the Agricultural Policy Analysis Project, Phase III (APAP III), for which Abt Associates Inc. is the

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Executive Summary

This paper provides a conceptual framework and a course of action to create more effective, financially sustainable organizations in Africa. Natural-resource management and agricultural research and transfer organizations are used as examples throughout the paper, but the framework is applicable to many kinds of organizations, including universities and non-profits. It is grounded in an eclectic theoretical and empirical literature that emphasizes the importance of competition and the proper incentive environment to nurture organizational performance.

At the heart of the paper is a Road to Sustainability that managers of organizations can follow to gain credibility with stakeholders and enhance their competitiveness in a new environment of funding scarcity. Since organizations do not exist in a vacuum, the success of these organizations in becoming sustainable will also depend on how African governments and foreign aid donors restructure the incentive environment in which the organizations are operate. Hence, parallel roadmaps for these two players are also proposed.

The Road to Sustainability encourages organizations to embark on a program of rehabilitation of four kinds of capital: physical and financial; social; intellectual; and organizational.

Supporting actions from African governments are also necessary. These actions range from reforming legal codes around public-interest organizations to fostering communication and public debate so that interest groups can flourish and better participate in the governance activities of organizations that affect them. Other suggested actions include participating in regional initiatives to establish organizational performance and accountability standards, streamlining the regional research and development (R&D) sector, and support for new competitive funding mechanisms in partnership with foreign aid donors.

The section on the role of foreign aid suggests that donors can: pool limited resources into competitive funding mechanisms that function on a continent-wide and regional basis; help define continent-wide standards for accountability and organizational performance; and use new competitive funding mechanisms to reward good institutional performance. Donors can also channel more of their declining foreign aid budgets to these funding competitions which should include partial endowments to the organizations that perform best across Africa.

Glossary of Acronyms and Abbreviations

AMACOM	American Management Association
APAP	Agricultural Policy Analysis Project
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
CEO	Chief Executive Officer
CILSS	Comité Inter-Etat de Lutte Cendre la
CODESRIA	Pan-African Social Science Research Council
FASB	Financial Accounting Standards Bureau
FAO	Food and Agricultural Organization
ICIPE	International Centre of Insect Physiology and Ecology
IDRC	International Development Research Centre
IER	Institut d'Economie Rurale (Mali)
IFPRI	International Food Policy Research Institute
ILEIA	Institute for Law External Input Agriculture
ISNAR	International Service for National Agricultural Research
ISRA	Institut Senegalais de Recherche Agricole
KARI	Kenyan Agricultural Research Institute
NESDA	Network for Environmentally Sustainable Development in Africa
NGOs	Nongovernmental Organizations
NRM	Natural Resource Management
ODI	Overseas Development Institute
OECD	Organization for Economic Cooperation and Development
R&D	Research and Development
SACCAR	Southern African Centre for Cooperation in Agriculture Research
SPAAR	Special Program for African Agricultural Research
SFI	Sustainable Funding Initiative

Introduction

THE PROBLEM: ORGANIZATIONS THAT DEPEND ON FOREIGN AID ARE UNSUSTAINABLE

Anyone who has managed or tried to help a publicly supported or non-profit organization in Africa knows what it is like to wonder about the organization's future, especially when 80 to 95 percent of its budget is funded by foreign-aid money (Hill 1995; ASARECA 1997a). Participants in the build-up of these organizations witness all the imported physical and human capital and ask a disquieting question: what will happen after the last project renewal?

We now know the answer: too often, nothing happens to these organizations except slow deterioration. Even university campuses have fallen to ruin for lack of funding by national governments and citizens once the foreign-aid donors leave.¹ The problem is so ubiquitous that it is now a stereotype in Africa. It fuels anti-foreign-aid activists who point to these failures as examples of why tax payers in the north should cut foreign aid. The situation is as true for nongovernmental organizations (NGOs) and environmental organizations as it is for knowledge organizations involved in natural resource management, research, and technology transfer: foreign aid has rarely provided a base upon which to build organizations that will exist for the next generation. Rarely has foreign aid set in motion a sustainable process of nation-building and economic growth. Too often, it creates unsustainable situations that nobody intended, from distorted labor markets to overscaled organizations to frightening levels of debt—problems that do not dance to a tune set by the economic possibilities and opportunities of the local economy.

¹ Foreign-aid donors also refer to foundations and NGOs whose primary function is financing projects in developing countries.

These are worrisome but not hopeless problems, and can be looked at from many angles. This paper looks at them from the point of view of a public-interest organization and the main actors supporting it. A public-interest organization is defined as any non-profit or quasi-governmental organization operating with public funds to provide goods and services in the broad public interest. This paper ignores the case of many wonderful organizations that provide social welfare services.

This paper explores what three groups can do to create sustainable organizations. First, there are the managers of African organizations who want to create an institutional legacy for future generations. Second, there are African leaders and senior managers who work inside government agencies and are looking for a way to work toward the same goal. Third, there are many foreign aid donors, both in agency headquarters and field offices, who want to use foreign aid more effectively to promote sustainable organizations in Africa and elsewhere. This paper can be used as guide to how to start right now, even if the reader is not in a position to move millions of dollars overnight.

TRADITIONAL SOLUTIONS ARE INADEQUATE

Common solutions to the problem of an organization's dependency on foreign aid suggest that somebody else should pay for the organization or that new, previously untapped, sources of money ought to be mined. These arguments are reviewed below.

Nobody disagrees with the idea that African governments should fund public-interest organizations, especially those the private sector has little interest in, such as organizations involved in agricultural research, primary school education, preventive health care, or roads (Sarr 1996). The problem with this argument is that African governments say they are too short of

cash (Ellsworth 1994). It is hard to argue with government representatives on this point, for their budgets do rise and fall depending on economic growth. What happens when economic growth and prosperity do not materialize and African governments grow poor?

In the case of research organizations, Pardey (1995) points out that the problem now is not how to bully cash-strapped African governments into maintaining an infrastructure of research organizations that is too large, but how to right-size the organizations to make them fit the current realities. The assumption behind this theory is that once the organizations are right-sized, governments will be more willing to assume the burden of supporting them. But there is plenty of evidence that not all governments in Africa are equally interested in providing for the public good, be it in research or anything else, and that much funding is lost to large-scale corruption and inefficiency. This is a fair point and some donors say foreign aid should be conditional on the correct use of this wasted and diverted money.

But such arguments dodge fundamental questions: What would the organizations that now depend on foreign aid look like without foreign money? Why should even the most public-spirited of African governments pay for them? After all, even rich governments have tough choices to make among sectors, lobbies, problems, and citizens' needs (Bretton 1996; Bromley 1989). Even the best public-interest organization may not necessarily be the clear winners when governments have to choose what to fund (Gage 1996b; Brinkerhoff 1996).

Another argument is that the private sector should pay for the organization. In the case of research organizations, those who promote this point of view argue that research managers should work hard for lucrative, unspecified deals and projects with corporations (Weatherly 1996). Others suggest that research organizations can sell many more of their skills and technology to the private sector (Dorm-Adzobu 1996; Buringuriza 1996; Kalaitzandonakes 1996; Adoum 1997; Alhassan 1996). It is hard to disagree with these arguments, for every source of revenue should be tried and the private sector must be obliged to do something for the public good. But common sense and reality argue that this source is unlikely to contribute much to

the long-term sustainability of public-interest organizations in Africa.² Why? Because in most cases the private sector is still weak, and even when it is not, their interests do not lie in funding public-interest research of questionable profitability. This approach, it is argued, would cut back substantially on technology generation for smaller players (Roth 1987).

Here are some supporting facts. The World Bank reported recently that Africa captured only one out of every twenty dollars available from private capital flows to developing countries, a figure that indicates weakness in the private sector. In addition, even in Latin America, with its wealthier economies and greater record in attracting private investment in research organizations, the private sector has not been very generous. Companies prefer to organize their research internally and will pay only for research that can be completely privatized (Echeverria 1996), an observation entirely consistent with experience in Africa (Hauffe 1996).

Another solution often proposed for research organizations is that farmers should pay for their research and extension organizations (or their own NGOs, etc.) with special self-managed taxes, levies, or cess funds (Gilles 1997; Ameur 1994). This is a good idea, but the problem with this argument is that it does not deal with a *new* source of money. In those areas where farmers prosper from cash crops (coffee, tea, cotton), they already finance private R&D and extension (as in the cases of the Zimbabwe Agricultural Research Trust or Kenya's export cess funds; FAO/SPAAR/KARI 1994). Fairness is also an issue in Africa. Where wealthy farmers are not so organized, they are heavily taxed both directly and indirectly already. Also, consider the majority of cash-strapped farmers of rain-fed food crops. Most studies show that this category was

² The author is not arguing that the private sector will not or cannot invest in public research. It is just unlikely to be a major source of funding. South Africa is one of the major exceptions to this point, but then South Africa is a major exception to most general statements about Sub-Saharan Africa. While South Africa does have much to offer the rest of the continent, other countries in Africa face geographic, climatic, and resource constraints fundamentally different from those in South Africa. For a concise statement of South Africa's geographic "exceptionalism" see William Hance's *The Geography of Modern Africa* (New York: Columbia University Press, 1975).

taxed to the point of oblivion—for decades—with unfavorable terms of trade and policies that treated them like unlimited supplies of labor (Wharton 1969). This was so much the case that, despite reform of misguided development theories of the 1960s, 1970s, and early 1980s, small-farmer advocates worry that reforms are too few and too late. In many places, soil and forest resources are now sufficiently threatened that an agricultural surplus from sustainable cropping systems is not possible (Cleaver and Schreiber 1994). Hence, small farmers of rain-fed food crops are likely to be unwilling to pay for an organization whose contribution to their wealth has not been proven.

In other places, dedicated taxes—such as an airport tax on foreign tourists—have from time to time generated sustainable sources of revenue, although the lobbying and jockeying about who should benefit from such taxes is considerable (Hooten and Hatzios 1997; ODI Briefing Paper on Aid 1996; Global Environment Facility 1996). Many countries might benefit from such taxes for their public-interest or non-profit organizations, especially if their tourist sector is expanding or some other source of economic growth is emerging and there is a high willingness-to-pay among the group that is to be taxed.

Some foundation grant-makers in the United States argue that citizens overseas should follow the American middle class example and make charitable contributions to their favorite organizations. In Africa, advocates of this view most often have South Africa in mind and are unaware that Africans in other countries already contribute heavily to informal, local charitable networks (Ellsworth 1986). Also, the American example may be exaggerated. Private contributions in the United States make up only 18 percent of non-profit budgets outside the pure welfare and charity sector and this private giving depends strongly on a favorable economy (Salomon 1992). Saying Africans should follow this example also misses the point that Africa is far poorer than even the poorest rural areas in the United States and that the amounts people can give are much smaller.

Some research managers say that American and European foundations and NGOs should pay for those organizations suffering a funding crisis. To the extent that foundation endowments are at an all-time high, this statement is not unreasonable, but upon examination,

it is shown to be wishful thinking. The northern foundation sector simply does not have the capital or the willingness to pay for organizations in Africa. When they do, applicants have no clear procedures for access to the grants; allocated funds are embarrassingly tiny; and screening criteria and priorities change far faster than in the more traditional foreign aid sources. Besides, the few large foundations that have mandates that allow them to work in Africa already do offer funding and their marginal contributions are a tiny drop in a large bucket. As for the northern NGOs, few are any more sustainable than African organizations. Most are either too small to make a difference or too dependent on foreign aid to be of much use. Some even compete directly with African organizations for foundation and foreign aid money.

Yet another frequently heard idea is that financial mechanisms such as endowments could support R&D, universities, or NGOs. This is not a bad idea at first glance. Partial endowments provide much-needed stability for a knowledge organization. But even if partial endowments are useful, where would the organizations get the massive amounts of capital they need? The answer to this leads right back to the door of foreign-aid agencies and African governments, the only two actors who deal in figures large enough to even consider the idea. However, even if they wanted to endow, these agencies would not be able to partially endow every potentially useful organization in Africa (using the \$20 endowment for every \$1 of available resources ratio). The endowment idea more properly belongs with arguments about how to make existing foreign aid and government spending more efficient and effective.

Some organizations have had success in working with northern partners to negotiate and finance debt swaps that liberate resources, usually in local currency (Dunn 1995; Kaiser and Lambert 1997; Venitz-Blesse et al. 1997). Where marketable debt exists, this works well, but most organizations will need considerable help in developing powerful allies and stakeholders who can lobby governments and other decision makers to use debt-swap funds for sustainable financing of public-interest organizations. It is good that the possibility exists, but it also means there is consider-

able competition among sectors and organizations to profit from this resource.

Another view is that foreign-aid agencies should stop complaining and just continue to give money to Africa because Africa somehow deserves these transfers from the rich north. This view ignores realities in the north, where there is no widespread agreement that the rich should give to the poor. Foreign-aid donors face a declining willingness inside their own countries to pay for foreign aid (Wessel 1997). Northern taxpayers have been prey to arguments that foreign aid is a waste of money and an exercise in futility, so that official foreign aid is being cut back nearly everywhere. The World Bank notes that grants and low-interest loans to the poorest countries fell by an inflation-adjusted three percent in 1996 (Wessel 1997). The failures of foreign aid have contributed to this problem. Foreign-aid agencies and their advocates badly need success stories in Africa to stabilize funding, let alone to reverse the cutbacks. After all, everyone wants to be part of a success story, as shown by the exception South Africa has been to this willingness to pay among foreign aid donors and private sector investors.

WHAT IS TO BE DONE THEN?

The above review does not support the idea that there is a lot of untapped revenue out there, although some sources, especially cess funds, dedicated taxes, and debt swaps, need to be used more often wherever they are feasible (Finance for Development 1996), and any opportunities for corporate philanthropy must be seized upon. On the other hand, the review does suggest that right-sizing will be inevitable for many organizations, and that managers and chief executive officers (CEOs) of knowledge organizations have more to gain by making their organizations into success stories around which funding can be mobilized than they do by chasing mythical untapped sources of revenue. It also suggests that organizations cannot give up on foreign-aid donors and African governments, who are still the main players. But organizations need to be more realistic and accept the fact that as funding tight-

ens up relative to the glory days, much greater scrutiny will occur, and more donors will get tougher.

The situation implies that organization managers in Africa will have to take the lead and engage in a number of activities, none of them mutually exclusive. They will need to do the following.

- Reform their organizations to make them effective and accountable. This includes participating in efforts to harmonize and streamline work with similar organizations on a regional scale and making sure the organization is working in the most appropriate “niche.” This will allow organizations to better compete for ever-scarcer foreign-aid funding and will increase the likelihood of obtaining local support from national funding sources.
- Cultivate local stakeholders and client groups and produce better products for them so clients become willing to help the organization lobby the government for a greater share of tax revenue.
- Reduce costs, and where the nature of the research product permits, install cost recovery measures.
- Invest in some realistic enterprises, on the basis of serious business plans, and avoid investing in hastily designed, low-profit enterprises that have scant hope of generating significant cash flow (T-shirt sales or sales of milk from research herds, for example). The key warning here is to prevent unqualified staff from wasting time going toe-to-toe with private entrepreneurs who can easily beat them.

Since donors and governments remain important, there is much they can do with their significant resources. First, national governments can create an appropriate enabling environment for their quasi-public and non-profit organizations (Rukuni 1996). They can reduce corruption by setting up fair legal systems that enforce contracts and dispense justice in a way that gains local and international credibility and allows all sectors (private, public, and civil) to flourish. They can sponsor national and regional strategic reviews of specific sectors (such as rural research and R&D) in search of ways to avoid duplication, cut costs, and increase effectiveness. They can cooperate with donors in the creation of competitive funding mechanisms and ask donors to convert project aid into long-

term institutional support and partial endowments for the best organizations. They can also create tax incentives that support giving to the non-profit sector.

Second, foreign-aid donors, by virtue of their size, numbers, and continent-wide operations, can establish fair playing fields for organizational funding across the continent so that funding favors regional centers of excellence that serve regional markets. They can channel funds away from classic project allocation systems and into sustainable funding mechanisms for the benefit of the best-performing organizations. Donors can cooperate to set higher performance standards for public and non-profit organizations. They can make greater use of competition to systematically reward good performance in organizations and give priority funding to countries that use public resources in fair and accountable ways. Most importantly, they can reserve partial endowments as rewards for the best organizations, not the best themes or problems.

WHAT THIS PAPER PROVIDES

This paper provides:

- A conceptual framework that supports the proposed course of action. The framework is based on a review of literature in economics, institutional analysis, institution building, management, and organizational development.

- A ten-step program of action called the Road to Sustainability for managers of African organizations to follow if they want their organizations to be among the success stories of Africa. The Road is concrete enough that it gives a way to assess, evaluate, and monitor the progress of organizations that seek long-term sustainability.
- Explanations of what African governments can do to enhance the prospects for organizations in their countries.
- A list of feasible initiatives that foreign-aid donors can undertake to create incentives that nurture sustainable organizations and reward the best. The key points are the establishment of high, continent-wide performance standards for organizations; the introduction of large-scale continent-wide and regional competitive funding mechanisms that pool donor funds; and greater reliance on these mechanisms to allocate partial endowments for organizations that have successfully traveled the Road to Sustainability.
- Suggestions for how the Sustainable Financing Initiative (SFI) can expand its activities to promote debate on organizational sustainability.

The examples used throughout the paper will refer to knowledge or R&D organizations and public extension services for agriculture, but the ideas apply just as well to natural resource management organizations, park services, universities, and NGOs.

1. Conceptual Background to the Course of Action

THE RULES OF THE FUNDING GAME STRUCTURE ORGANIZATIONAL PERFORMANCE

The framework starts with Douglass North's views on institutional development. In his Nobel Prize acceptance speech of 1993, he made the following observations that apply to the case at hand:

Institutions are...made up of formal constraints (rules, laws, constitutions), informal constraints (norms of behavior, conventions, and self-imposed codes of conduct), and their enforcement characteristics. Together, they define the incentive structure of societies and specifically economies....

...If institutions are the rules of the game, organizations and entrepreneurs are the players.... Organizations are made up of groups of individuals bound together by some common purpose to achieve certain objectives.

The organizations that come into existence will reflect the opportunities provided by the institutional matrix. That is, if the institutional framework [rules of the game] rewards piracy, then piratical organizations will come into existence; and if the institutional framework rewards productive activity, then organizations—firms—will come into existence to engage in productive activities. (North 1996)

In North's view, organizational, institutional, and economic change is the incremental result of individuals altering their behavior based on constantly shifting perceptions about what constitutes their self-interest. Self-interest, in turn, is based on subjective models of cause and effect people use to interpret events and situations. These are called mental models. They are subject to learning and thus change over time. This means that one can create change by changing people's ideas, by helping them learn. However, learning does not occur in a vacuum; it too requires some competition to occur, especially among organizations.

North notes that while idle curiosity will result in learning, the rate of learning will reflect the intensity

of competition among organizations. Competition, reflecting the ubiquitous scarcity, induces organizations to engage in learning to survive. The degree of competition can and does vary. The greater the degree of monopoly power, the lower is the incentive to learn (North 1996).

These ideas and a review of the organizational-development literature inspire the following applications of North's observations. First, the rules for obtaining funding from foreign-aid donors and from national governments form a significant part of the incentive environment for public organizations and NGOs (Ostrom 1995). These rules can be both formal and informal, spoken and unspoken (Eggertsson 1990). They define what constitutes a "credible commitment" to an organization that performs well and what constitutes a "credible threat" to an organization that does not (North and Weingast 1989). Poor performance can then be seen as an acquired behavior that reflects an incentive environment that rewards piracy, incompetence, or political loyalty and punishes or ignores good performance (Williamson and Masten 1995). It also reflects the lack of incentives for learning (Watkins and Marsick 1993). To change anything then, these "perverse" incentives have to be removed before better performance is possible (Harris 1995).

Next, incentives to improved organizational performance must exist at both the individual staff level and in the larger environment in which an organization operates (Hakes 1994; Foss 1995). Incentives are both carrots and sticks, rewards and sanctions. While, at the macro-level, they are largely financial (funding levels) and legal (regulatory agencies and predictable enforcement of contracts within the court system), at the individual level they include many non-financial incentives and ways of working that allow knowledge workers to function at high levels of productivity and motivation.

Finally, competition among organizations is a key determinant of organizational performance levels and is essential to encourage effectiveness (Hannan and

Carrol 1992). Competition among organizations can be healthy and there are many ways to create, monitor, and support it (Israel 1987; Sjostrand 1993). Competition affects both what the organizations win and how they win it. This is true for all levels within an organization as well as among organizations (Wilson 1995). Competition also requires a large enough pool of competitors to make the competition effective, hence regional and continent-wide applications of the principle are suggested in this paper. In the case of publicly-supported organizations, competition is for funding, staff, and prestige. Those who provide money to these organizations have a leading role in creating or hindering effective competition among them.

WILLINGNESS TO PAY FOR ORGANIZATIONS ALSO MATTERS

Stakeholders' willingness-to-pay for an organization's existence depends on several factors.

- Their general level of prosperity. The more wealthy individuals believe themselves to be, the more willing they are to allocate their money to goods that cannot be completely appropriated by an individual.
- The cost-efficiency of a publicly-supported organization and its success in delivering useful products that stakeholders value.
- The existence of alternative uses of their money, typically, to buy similar products elsewhere (Curtis 1991).

The implication is that the use of public revenue for mechanisms such as debt swaps, partial endowments, and dedicated taxes will require the active support of many stakeholders who must be rallied to the cause and convinced of the value of the organization (an example is what environmental activists accomplished with the Global Environmental Facility). This is not easy to do, because stakeholders use tough-minded, self-interested economic and political assessments of the products of an organization when fixing a value to them. This means that simple public relations and marketing of an organization with theoretical ideas about its potential value is unlikely to lead to a reliable willingness to pay among stakeholders. The

good news is that if an organization's effectiveness is real, its products are of high quality, and its worth is empirically evident, stakeholders tend to pledge support easily.

ORGANIZATIONAL SUSTAINABILITY DEFINED

What is a sustainable organization anyway? Sustainability is a tricky idea, awkwardly applied to organizations. Is it about money or capacity? A businessman might say that his company is sustainable if it can generate enough cash flow from sales to cover its operating budget and replace its fraying capital without subsidy. This is useful but it does not explain how to achieve sustainability.

Serageldin says that "sustainability is to leave to future generations as many opportunities as we ourselves have had, if not more" (Serageldin 1996) and urges us to examine various forms of social and human capital when considering sustainability. This defines the concept of sustainability itself and leads to consideration of inter-generational issues, but still does not provide a guide to action for sustainable organizations.

Foundation donors consider an organization to be sustainable if it has diverse funding sources, so that if one or two left the scene, no great harm would be done to the organization's capacity to continue its work (Court 1988). This is more applicable in the United States, where a great variety of fund-raising options are available to an NGO to reduce its dependence on foundations. But what if money from other donors is not reliable either, as is the case in institutions in developing countries, which may have many donors, most of them foreign?

Brinkerhoff and Goldsmith (1990) propose that organizational sustainability "is the ability of an organization to produce outputs that are sufficiently well-valued so that enough inputs are provided to continue production." This definition is more useful, for it considers value and the links an organization to suppliers, clients, and funders. This paper combines this definition with the inter-generational notion that Serageldin advocates, and puts the emphasis on action.

Thus, sustainability for organizations is defined as *the creation of recognized value for stakeholders, so that they continue to provide financing sufficient to allow for inter-generational creation of that value, while at the same time husbanding the existing capital stock so as not to jeopardize its use by future generations.*

FOUR KINDS OF ORGANIZATIONAL CAPITAL TO CONSIDER

With a definition of sustainability in mind, let us look at the idea of capital stock. How does it apply to a publicly-supported organization? Following Serageldin (1996) and Quinn (1996), capital will be divided into four interdependent categories. The first is *tangible capital assets* such as financial endowments, buildings, libraries, trucks, or computers. The second is the *intellectual (or human) capital* dedicated to creating the organization's products. Third is *social support capital*, which consists of both goodwill and the economic and political support that the organization has generated among its existing and potential constituents. It is reflected in widespread willingness to pay for the organization among ordinary citizens, elected officials, and potential donors. Last, there is *organizational capital*, a more nebulous term, but useful. It refers to the value to society of having an organization successfully and competitively occupy a product "niche."³

The niches available to an organization depend on the opportunities the economy and legal environment are producing. It takes a sharp, creative eye to notice new niche opportunities. Organizational capital can be described as the in-house, non-transferable, site-specific knowledge and internal systems that allow an organization's staff to be nimble, quick, and cost-efficient in defining a niche, producing products for it, and maintaining its efficiency so competitors cannot steal it. This form of capital cannot be taken away by individual staff if they leave and it disappears if an organization is folded and no competitor or new organization takes its place.

³ Recently, writers discussing "intellectual capital" have combined intellectual, social, and organizational capital and lumped them together as intellectual capital, a mistake in this author's view. See Stewart 1997.

Organizations that abuse any part of their capital stock risk self-destruction. If they are destroyed and nobody takes up the niche, the waste is immense. It forces future generations to recommit the four kinds of start-up capital all over again if they value the product that the defunct organization once produced. Some economists wish to ignore this start-up capital and to assume away "sunk costs," but in the real world, sunk costs and start-up capital are rare commodities that must be fought and paid for with sweat and blood and whole lives of work. Why waste it?

The idea of sustainability can be applied to each of these kinds of capital. *Sustainability of capital assets* refers to the on-going maintenance, reinvestment, and replacement of physical and financial assets so they are not "used up" either by use, abuse, or inflation and remain available for future generations. The term implies a realistic maintenance and amortization fund that extends the useful life of physical assets for as long as possible and tries to attract new capital to keep up with technological advances.

Sustainability of human intellectual capital means the organization tries to recruit the best possible staff and sustain them at competitive levels of productivity with on-going reinvestment in their skills and competence. The supply of intellectual capital available to an organization does not depend just on salary levels but on its social support capital and on society's investment in the education of its future work force. (Replacement of intellectual capital is a major problem in Africa, where the educational infrastructure has been deteriorating.) Factors that may proxy sustainability for this capital might be staff turnover in an organization, education levels of in-coming staff, national literacy rates, investments in maintenance of staff skills, and the effectiveness of internal incentive systems that reward staff productivity, creativity, and problem-solving.

Sustainability of social support capital refers to the efforts of the organization's management and staff to keep its stakeholders (such as clients, tax payers, donors, government) happy and supportive of the organization's work. This is not easy, for the attitude of these outside stakeholders might best be described as "what have you done for me lately?" Social support capital is easily dissipated, even in prosperous

times. For example, foreign-aid agencies in the north rely on public perception of the good they are doing to keep congresses and parliaments and national assemblies voting to contribute to their budgets. One criterion for choosing CEOs of publicly-supported organizations is their ability to cultivate and build social support capital for the organization.

Sustainability of organizational capital refers to the on-going measures taken to ensure that the organization is greater than the sum of its parts and competitively occupies its niche. Organizational capital is embodied in the organization's management, its uniquely adapted way of doing things. Since this kind of capital is not easily measurable, a proxy for its sustainability can be the quality and effectiveness of policies and procedures to improve internal management systems of the organization, particularly those that define and create the organization's products and niche, and that supply on-going knowledge about clients' wants and needs.

STAKEHOLDERS

The term "stakeholders" originates from the notion of shareholders of a private company. In the case of publicly-supported organizations and NGOs in Africa, it means those people who have a direct interest in the organization's existence, at least enough interest so that they pay for the organization through donations or by purchasing the products.

If the government contributed money with tax revenue, the government authorities who allocated resources to the organization would be stakeholders. In this case, all taxpayers could also be considered indirect stakeholders. In a large and generous definition of the term, we might even include the staff of an organization as a category of stakeholder. Stakeholders can change over time as an organization develops new products, seeks new clients, or solicits donations from new sources.

In Africa, potential stakeholders with a willingness to pay for a natural resource management or agricultural research and transfer system are government agencies that allocate financial resources to the budget each year; civil service staff members employed

in the organization; foreign-aid donors; direct users of the "product," such as farmers in the case of an agricultural research institute or tourists in the case of a national park; private companies who sponsor a line of research they find useful to their enterprise; and intellectuals not in the civil service.

Each type of stakeholder will have different interests in the existence of an organization and each one's willingness to pay for an organization will vary (Curtis 1991). To demonstrate these differences, we examine the case of an agriculture research and extension organization. Who are its stakeholders?

National governments in Africa have a long tradition of support for research. They have been key stakeholders for R&D organizations. At independence, they inherited an elementary research and extension infrastructure for agriculture and natural resource management. In the relative prosperity of the 1960s and early 1970s, the research infrastructure benefited from a great period of expansion (de Wilde 1967).

The evidence suggests that African governments have tried to maintain their share of investment in this crucial area of public good even during tough times. A recent review of the data suggests that: "Sub-Saharan Africa was spending more in the mid-1980s per researcher (be it in terms of total, operating, or salary costs), or per dollar of Agricultural GDP [gross domestic product] than all the other parts of the developing world except Latin America and the Caribbean" (Beynon 1997) A good part of this support came from governments. From 1961 to 1985, Sub-Saharan African governments spent money on agricultural research at an annual growth rate of 4.7 percent; this rate stagnated around 1980, the same time as the general economic crisis began to be felt on the continent (Beynon, et al. 1996).

The same study notes that, excluding Nigeria, African government expenditures on agricultural research rose by 31 percent between 1981 and 1991.⁴ By the late 1980s and early 1990s the economic boom wound down and hard times hit even the most prosperous of research organizations. Donors had to step in. Pardey (1995) concludes that since the crisis, "Donors have become dominant and increasing sources of

⁴ These data disguise considerable variation between countries, making generalization inaccurate.

support for agricultural research in Africa, their share of total agricultural R&D funding grew from 34% in 1986 to 43% in 1991.” Again, this disguises considerable variation in spending, since some African governments supply as little as five percent of the agricultural research and extension budget and the rest comes from foreign donors (ASARECA 1997a).

The data suggest that the problem of donor contributions “crowding out” government contributions to the organizations’ budgets may not be widespread (though it may still exist). Government willingness to pay for R&D may rise when good economic times return, and crowding out may apply only to particular countries. The problem then may not be absolute levels of funding or crowding out, but the effectiveness of the money and of the organizations receiving it (Beynon 1995). A key issue is how an organization reaches an appropriate size and scale after a sustainable level of funding is determined (Pardey 1995b).

But why do African governments give money for agricultural and NRM research at all? Some argue that governments allocate resources based on cost–benefit criteria and a goal of promoting long-term public interest, hence agricultural R&D should receive a share of allocations because rates-of-return studies show high returns to this public investment (Alston and Pardey 1995c; Oehmke et al. 1997). This view is a bit too idealistic for this author. Most observers suggest that the lobbying power of various stakeholders and the overall amount of available tax revenue has more to do with the distribution of government tax revenue among sectors than ideals about public goods (Bretton 1996; Knudsen 1990).

The power of lobbies brings us to other stakeholders, such as *farmers and the R&D civil service*.

In countries where farmers represent an effective lobbying force around profitable cash crops, such as coffee, cotton, cocoa, meat, palm oil, tea, or tobacco, governments are responsive and allocate the funds needed for R&D and extension (examples are pre-independence Zimbabwe or Botswana’s meat export industry). If government does not step in, these prosperous farmer groups often use money to organize their own private research and extension services (as in the case of Kenya’s tea and coffee farmers or Ghana’s industrial palm oil producers).

In countries where farmers are not yet an effective lobby, as is often the case in countries dominated by medium- to small-scale farmers who produce rain-fed food crops, research organizations are often treated by government as places to dispense job patronage for the educated sons of farmers who have “made good” and left farming altogether, but still have loyalty to the sector. This is not an unreasonable position of governments who, after all, have their own survival to contend with. In these cases, the loudest lobby for continued funding to R&D organizations is thus the R&D civil service itself. This is a lobby with many urban connections that does not take lightly the idea of downsizing. In many countries, this group has succeeded in getting government to provide at least enough cash to pay salaries. At first glance this power seems positive. But it is not a good situation, for in these cases neither government nor the R&D civil service can be depended upon to be concerned about an organization’s effectiveness or the quality of research results. The consequence is that governments are in an awkward political position if they need to right-size research organizations to a scale more compatible with new budget realities, for doing so can alienate a very vocal and important constituency of the status quo, the R&D civil service. In countries in this situation, the road to sustainability will be more difficult.

A common prescription for this situation is to include farmer lobbies in making organizations more accountable for results (Wuyts-Fivawo 1996). This is a fine theory, but farmer lobbies do not just appear because we want them to. And as shown by the painful cases of the recent “farmer movement” in West Africa and the older co-op movement, these lobbies do not necessarily have any interest in R&D, nor do they necessarily represent ordinary farmers, and financial support from donors tends to destroy their social support capital among ordinary farmers. In the author’s view, a better prescription is to promote changes in the environment that would enable small-farmer lobbies to emerge and flourish on their own. Allowing independent rural radio and TV to exist would be a good start, as would investment in rural primary school education.

Still other stakeholders are *foreign-aid donors*, who allocate funds for African R&D based on the strength of their own stakeholders (ODI Briefing Paper on AID 1997). Inside these agencies, comparative allocations

also depend on the ability of internal staff to make the case for funds in the face of competition from other sectors. Typically, justifications for investment in rural R&D are based on the idea that agricultural research is a public good that will eventually produce gains in productivity and benefit entire countries by contributing to food security. In the 1960s, this argument worked very well. Donors contributed generously to the expansion of public sector R&D organizations, an expansion linked to a view among donors that national government was the only viable economic actor capable of undertaking economic development in Africa.

Donor-funded expansion continued in the late 1970s (particularly in the training of scientific staff) and into the 1980s in the hopes of duplicating the Asian green revolution. After the structural adjustment crisis, donors filled in the gap left by cash-strapped governments, if only to protect the initial investment. Some research organizations in the mid-to-late 1980s even benefited from a giddy spending spree. The period saw the creation of three new international agricultural research centers, all with a substantial focus on Africa (Beynon 1996). Resources also arrived in the form of long-term “support projects” to specific research organizations.

As noted earlier, such giving has deteriorated in the late-1980s and mid-1990s. Cutbacks are now the norm. But this does not mean that we should dismiss foreign-aid agencies as important stakeholders. The real amount of money they manage is still very large (Beynon 1996; Pardey 1995) and most local representatives of foreign-aid agencies are still looking for successes. Funds often do follow performance. Thus, an effective organization can, if it uses its funds effectively, find itself with many generous foreign-aid donors even in a world of cutbacks (as in the case of the Grameen Bank in Bangladesh). However, as stakeholders, donors now have a greater interest in effectiveness than they used to.

African intellectuals have a substantial stake in the existence of knowledge organizations. “Intellectuals” refers to post-secondary school teachers, university faculty, diploma-bearing researchers, and the educated managerial elite of the country aside from R&D civil service. The intellectuals’ primary economic in-

terest is in the existence of work places where their professional skills can be used to good ends.

It is the author’s experience that their interests lie in the functioning of universities, but, to the extent that universities have productive associations with national agricultural and NRM institutes, this group also has a stake in R&D organizations. It is a group whose contribution is still untapped. Historically, this group has limited its public involvement to supporting labor unions that make salary and job protection claims rather than to creating public-interest lobbies. However, with the arrival of indigenous NGOs on the scene, many public-spirited intellectuals have channeled their creative and managerial skills to this sector. Including them as stakeholders for the R&D sector is a feasible challenge for research managers.

Private companies, both foreign and local, might also have an interest in paying for agricultural and NRM institutions. First, they might do so to promote an image of corporate responsibility to local clients and regulatory agencies. This potential source of revenue should not be neglected or exaggerated. Corporate interests are similar to those of wealthy farmers: they are occasional buyers of research products. In the best-case scenario, they are sponsors of very particular, short-term research projects that benefit the company directly (such as the case of Monsanto in Kenya).

Companies also employ research staff for short-term consulting assignments.⁵ In Ghana, a stakeholder survey showed that larger private companies viewed the agricultural research institute as ineffective (Hauffe 1996), so they created their own independent agricultural R&D divisions to work on products that can be privatized and thus create revenue for the company. This example is not to say that private companies should not be courted, even in Ghana. As potential stakeholders, they would introduce a laudable market orientation to the R&D agenda and would likely contribute some financial resources. But reality suggests they would not necessarily be willing to pay for an organization they do not directly control, nor would their interests and product orientation overlap with

⁵ This hiring has a negative effect on the R&D organization as the consultant is no longer working on a public research program and the earnings are not turned over to the organization.

those of poor and mid-level farmers or with a larger national goal of food security.

The *citizenry at large* also has a stake, though one that is less well-defined than the other groups. Their interest varies by the extent to which research products contribute to general growth, prosperity, food security, and a stable natural resource base upon which growth can happen. However, the emergence of a public-spirited NGO sector that channels the enthusiasm of ordinary citizens has yet to take place, despite the fantastic proliferation of African NGOs. Most of these NGOs are extremely localized self-help and charitable groups or are funded entirely by international donors as executing agents for donor-designed projects, thus their usefulness as representative stakeholders is limited. Their donor support also limits their social support capital outside the donor-dependent sector, which means that for many African NGOs, as soon as their foreign funding dries up they tend to disappear. However, despite the transience of local NGOs, ordinary citizens with genuine civic feeling may be found here and there who would be willing to serve on governing boards of R&D organizations and help lobby for more effectiveness and more funding.

In conclusion, most knowledge and research organizations in Africa do not have a full and varied group of stakeholders with a governing role over the organization. The potential for greater stakeholder involvement is large and still unexplored. The vast majority of research organizations are still governmental organizations, responsible to a ministry and structured like any part of the civil service. While there has been a laudable effort in some countries (such as Mali, Kenya, and Madagascar) to create a legal framework that makes research, knowledge, and NRM organizations more independent and to create stakeholder councils that have some governing role, much remains to be done in cultivating greater stakeholder involvement outside the two biggest players, governments and foreign-aid donors.

KINDS OF PRODUCTS ORGANIZATIONS PROVIDE

Readers may be unfamiliar with the idea that information, research results, or biodiversity are “products,” so elaboration is in order. With two concepts, “subtractability” and “excludability,” economists classify products into four categories: public, private, toll, and common-pool. Subtractability refers to a physical characteristic: does one person’s use of the product mean there is less of it for others to use? Information announced on a radio is not very subtractable; more than one person can profit from it. On the other hand, a tomato is very subtractable: if someone takes a bite, there is less of it for others to eat.

Excludability is a more difficult concept. It too is a physical quality of a product. It asks whether something can be done to the product to prevent others from using it and to enforce exclusive property rights over it. For example, if people buy a piece of land, can they put a fence around it so nobody else can use it? Excludability depends on the existence of technology (fencing or a locked box) that allows people to appropriate the product for themselves. It also depends on the legal institutions of property rights and enforcement that support claims for exclusive use. For example, is there a structure established to respond to complaints when one farmer’s cattle trespass onto another’s field? Will that authority assign jail time for such infractions? If so, there is a high degree of excludability.

Common pool products are those that are difficult to keep people from using but that diminish if one person takes some (forest land and game inside a national park, clean water, a fishery, mangoes along the road, a grazing commons, etc.). These products have a low level of excludability but a high level of subtractability.

Products that have low excludability but high subtractability are called *club* or *toll* goods. Examples might be a toll road, a fee-charging health clinic, etc.

Completely private products are highly excludable in that it is easy to prevent someone else from using it once you have it, and highly subtractable in that if you buy it first, there is less or available for others. Examples are tickets to a 40 seat movie theater, or a

fixed number of tomatoes that farmers bring to a market to sell.

Note that excludability and subtractability depend on technology, rules, and enforcement. They rely on the surrounding legal institutions and depend on the transaction costs of enforcement, itself a site-specific variable (Harris-White 1995). Many of the problems organizations have in attracting funding is that they have poorly defined “the nature of their product”. Environmentalists, for example, need to examine biodiversity as a common-access good and determine how to present it as such. Some suggest privatizing it altogether, some want to make it a toll good, and some want it to be a pure public good. Research organizations tend to see their product as a public good, a concept that has its own problems as noted below.

THE DIFFICULTY WITH PUBLIC GOODS

Products with low subtractability and excludability are typically thought of as public goods. The usual argument is that, since the private sector has no important incentive to produce them, the public sector will need to provide financing (Alston and Pardey 1995). Even if the private sector does produce the goods, it will not produce the “optimal” amount. Supporters of research, university, and NRM organizations in Africa have made this argument for a long time (Oehmke et al. 1997), but it is weak.

The difficulty with this argument is that what constitutes a public good and how much to produce of it are not *theoretical* questions. There is no such thing in the real world as a “neo-classical optimum amount” of a public good. Which products will be classified as public goods and how much of the product will be produced are *empirical* questions that vary from society to society. Interaction between government, legal institutions, and local lobbies will determine how goods are placed on the public, private, toll, or common-access spectrum. This means that societies’ rules and physical, cultural, and historical settings will determine outcomes of public-good provision (Klitgaard 1994). These rules are those that recognize some claims over others; condition access to information on the activi-

ties of the various claimants on resources; enforce property rights and the willingness to use those powers. Rules are influenced by the cultural values of ruling elites and their relative power bases and the existence of effective lobbies that push for change (Eggertsson 1990; Gymah-Boadi 1990). The general level of national prosperity also matters, as does leadership. For example, King Hassan II of Morocco, with one set of public resources, has ideas about what should be a public good and how much of it should be produced. His ideas are very different than those of Kabila in Zaire. Ideology matters too. French socialists have ideas about public goods that are very different from those of American political conservatives.

Another difficulty with the common argument to “fund research because it is a public good” is that, at the field level, research is not a public good anyway. Heavy transactions costs have already turned the products of national parks, R&D organizations, and extension services into toll goods (Blarcom et al. 1993).

R&D organizations provide a good example. First, there are usually large costs involved in accessing the information an R&D organization can produce. A farmer has to spend time and transport money to find the researcher or extension agent as well as to pay for training and visiting the worker’s transport. Then the farmer must spend time questioning the researcher or extensionist and “pay” the researcher to come look at the farm (and in many places the farmer has to feed the visitor). Not every farmer has such resources; therefore, in practical terms, only those who can afford these costs will pay them, creating a toll-good situation. In the case of national parks, only rich foreigners can afford to experience, say, Kenyan biodiversity, hence it is a toll-good for most people.

In the R&D case, the more that government assumes the transaction costs of sharing R&D knowledge, the more it becomes a public good. But even if information is provided free and researchers and extension agents have the resources and orders to visit hundreds of farmers, the costs to a farmer of actually using the knowledge and information may be so high that the advice becomes a private good (buy the seed, buy the fertilizer, buy the animals for pulling the tractor, buy the equipment). All of these expenditures occur before the farmer can try the suggested technolo-

gies or advice, which may not work anyway outside the field station or without constant researcher presence. The problem is that very few R&D organizations produce low-cost management advice unrelated to the use of high-external inputs. For example, the extension service in Zimbabwe often promoted effective technologies, but only a tiny percentage of small farmers had the financial and physical endowments to make use of the information (Eicher 1995).

Reliance on the public good argument obliges us to make shaky contentions that successful research products will generate economic growth, food security, or that elephants are just beautiful, so everybody needs them and if we invest in them everyone will be better off, possibly even richer.⁶ Political leaders also know that successful research products in rural R&D have been so rare that they are justifiably skeptical of the public good argument.

SUMMARY OF ELEMENTS OF SUSTAINABILITY

With the preceding concepts in place, we can see that, to achieve sustainability, an organization needs to build and cultivate all four types of capital: physical (including financial), intellectual, social, and organizational. The chance that organizational leaders can do all this depends on two factors: (1) their own managerial skills and creativity in articulating a powerful, forward-looking vision that inspires staff and stakeholders; and (2) the the opportunities, rewards, and sanctions that the economic, political, and legal environments present to the organization's senior management group and staff (Menard and North 1997).

Let us consider for a moment as a given the dependence on the surrounding incentive environment and look at organizations that have achieved stability over generations, often through important endowments and regular public transfers from tax revenues year after year. These successful organizations have much in common (Tushman and Anderson 1997; White 1990; USAID 1997).

- They are consistently effective in identifying new clients and producing a supply of products that those clients want, need, and are willing to pay for (with either private money or public tax revenue).
- They are sufficiently accountable and cost-efficient so that their product does not lose out to competitors and their social capital is not diminished through scandal, defective and inferior products, arrogant managerial behavior toward stakeholders and staff, or financial mismanagement.
- They produce products with a high enough quality, reputation, and value so that they can mobilize financial transfers from their clients and benefactors and attract new, loyal stakeholders.
- They maintain their physical capital so that it lasts across generations and is not "spent down."
- They develop multiple sources of funding, some of it even from unsubsidized businesses that channel profits to the organization.
- They explicitly try to beat their competition by attracting and maintaining the best staff capable of producing the best product, often doing so incrementally, building on small successes.
- They document and tout real accomplishments and do so to lobby, nurture, and cultivate their stakeholder base and maintain public commitment to the organization.

These characteristics will be used to examine the specific case of extension services and rural R&D organizations in Africa.

2. The Case of Agricultural Research and NRM Organizations

RESEARCH PRODUCTS

Common advice given to R&D organizations and extension services is to turn more of their products into toll or private goods (Macklin 1992; Umali and Schwartz 1994; Knudsen et al. 1990; Carney 1995; Farrington 1995, Beynon 1995; Hubbard, 1995; Pray 1995). A typical list of such products includes theoretical and applied knowledge of physical, environmental, ecological, and social processes; practical advice on forest, crop, soil, vegetation, and water or watershed management; practical engineering technologies for cultivation, storage, and processing of farm products; advice on using tools and machines; varieties of seeds and protocols for their use; theoretical and applied knowledge about animal health and growth; advice on management of animals to increase physical output; theoretical and practical knowledge about product markets and economic conditions, including policy advice; advice on financial aspects of technologies and farm management; transfer of knowledge to a new generation; and analytical and problem-solving skills.⁷

To implement the recommendation of transforming public goods into toll or private goods, R&D organizations need to plan strategically. The first step is to assess their own comparative advantage for producing products by reviewing their strengths, weaknesses and past successes compared to similar national and regional organizations. This exercise will narrow down the list of the products they can competitively develop. The next step is to categorize potential users of their research products and gain a notion of users' ability to pay for the products (Khurana and Rosenthal 1997). The third step is to arrange the products for those users along the public-private-toll-common-access spectrum. Finally, the R&D organization will install a logi-

cal variable-pricing plan for non-public good services, prices which will be mostly cost-recovery in nature rather than profit producing. Such a pricing plan assumes, of course, that the organization knows what it costs to produce its goods and services. If it does not know, it will have to install high quality fund-accounting software for financial management and revise its chart of accounts and financial procedures so that these costs are accessible.

The last strategic planning step allocates staff level of effort for each product development activity (Brynjolsson et al. 1997). This last decision is politically determined by the strength and weaknesses of each client category and influenced by budget realities.

CHALLENGES

All that planning sounds hard, but it is straightforward, and national research organizations have made great progress in recent years in making product development, research objectives, and priorities more coherent by using a variety of planning methods promoted by Special Program for African Agricultural Research (SPAAR) and International Service for National Agricultural Research (ISNAR) (Weijenberg et al. 1993 and 1995). Some organizations have also greatly improved their internal management systems (Spencer 1995). However, despite scattered research successes, self-assessment by researchers, senior managers and donors to research organizations in Africa remains very critical of R&D organizations (see Frameworks for Action published by SPAAR; USAID/RCSA 1996; Jain 1989). A typical list of challenges facing research organizations is outlined in the box below (Rukuni 1996).

The root of the problem is that organizations have not as a group been able to produce enough high-value research results that farmers want or can afford to use and that are environmentally appropriate (ILEIA 1992; ICIPE 1991, Weijenberg et al. 1995, ISNAR 1995). Many reasons have been given for this.

⁷ Less tangible results of the existence of a successful research infrastructure include a national problem solving capacity, food security, and having in place an economically and ecologically sustainable way of life for the majority of the population.

- The organization and structure of research has been based on out-dated bureaucratic or green-revolution models. This means that in many places a scattering of experts across ministries whose work is unconnected despite related mandates in fisheries, credit, livestock, phyto-chemicals, export crop promotion, market or crop research, and forestry. Few experts work together on a cohesive research program. Research staff who are gathered together tend to be regrouped into crop institutes that try to generate high-yield varieties (often considered a futile task in rain-fed cropping systems). Where parastatals were formed to regroup these specialists, the parastatals suffered from so much inefficiency and mismanagement that they were dismantled under structural adjustment.
- Research priorities have not always been targeted to national or international market opportunities, to the most beneficial agro-ecological farming systems, or to middle income farmers who have a financial capacity to invest in agricultural innovation. Research has been dominated by a plant breeder's agenda, reflecting the power plant breeders obtained after the Green Revolution. This power has been increasingly questioned in Africa (Sanders 1996).
- The determination about which research organizations benefit from generous funding is not yet based on regional and continent-wide considerations of comparative research advantage. Thus, a research organization specializing in an ecologically-deprived region can be very large, while another organization in an ecologically-productive region hardly exists. Some of this has been due to political factors (Guinea, Nigeria, Zaire), but a large part of this problem has been due to reticence on the part of African governments and foreign aid donors to plan allocations on a regional and continent-wide basis.

Now that foreign-aid resources are declining, many foreign-aid donors wonder why they should continue donating to organizations that produce few results that farmers can use or that cannot gain greater financial support from their governments (Collion 1996).⁹ Governments have similar responses.

SOLUTIONS AND VISIONS OF THE FUTURE

Faced with poor research results and the dismaying list of problems and their causes, professional researchers and international research managers have not been slow to propose changes. Reform movements are active and healthy. There are many views about what should be done, depending on the weighting given to various causes of the problems.

A large group argues that the criticism and list of problems has been too severe, that research organizations have had good successes. This group concedes that reform is needed, mostly in areas of management and accountability. Some would argue that most of this reform has already taken place in work sponsored by the Frameworks for Action promoted by SPAAR. The only problem is how to find "new, as-yet-untapped sources" of money for the sector. Others agree with this point, but are skeptical that significant untapped sources of money exist, and point out that problems would be solved if only the national governments would fund research in the broad public interest, especially for small food-crop farmers. There is no alternative, they say. After all, research has shown good rates of return according to various economic studies. Small farmers of food crops cannot afford to pay for research, so government must do so. Proponents of this solution express great frustration that African governments do not agree with such reasoning and wonder what arguments can persuade them to finance research. Some despair and just urge research organizations to sell more of their research services to the private sector. Echeverria et al. sum up a vision for the sector that this group would agree to:

[National agricultural and NRM research organizations] will have to be able to significantly diversify their sources of funding away from annual government appropriations. This new open [organization] will have substantial capacity in research entrepreneurship, a more decentralized management style, and fewer but higher quality and better paid scientific staff. They will be able to sell many of their services (at full cost) to different agents. Thus, while producing largely public goods, the new [organizations] will be closer to the private sector with respect to organi-

zation, management, and employment practices. (Echeverria et al. 1996)

A second group of reformists attacks with great persuasiveness one of the core causes of the problem: the method and organization of research. They say it must be vastly more client-responsive and structured around Africa's own ecologies. This group proposes that researchers must "go green," focus on incremental improvements to ecologically sustainable farming systems, and build on indigenous knowledge. They say that researchers must get onto farmers' fields to do far more trials and tests with farmers and that farmers must be treated as active participants in the process of hypothesis generation and testing. This group promotes participatory methodologies, inter-disciplinary team-

work, and restructuring of the research systems to accommodate these new methods (such as mergers of institutes and departments, or the creation of interdisciplinary teams connected to the world by satellite or the Internet and assigned to agro-ecological zones most likely to succeed). Extension services are seen as too big and bureaucratic, dependent on World Bank T&V loans and thus not sustainable. A substitute for traditional extension is research- and NGO-assisted farmer-to-farmer visits and training. (see Okali 1994; Bebbington 1993; Ashby and Sperling 1994; de Boef et al.1993).

This group of reformers has many, much-needed visionaries among them and they address the core of the problem: how to generate more useful farming system technologies. Fernandez, for example, writes:

Box 1: Commonly Cited Problems in Research Organizations*

1. Absence of acceptable, computerized accounting systems, financial controls, budgeting, and auditing procedures.
2. Absence of long-term strategic planning beyond a brief mission statement.
3. Inappropriate legal and governance frameworks that inhibit market orientation and intellectual independence; this is particularly an issue with non-competitive patronage-based hiring and promotion procedures. The result is a decline of intellectual capital despite entry of newly-graduated researchers into the system.
4. The organization is treated as a "civil-service lifetime-job provider" and undervalues producing results for clients. This means further decline of intellectual capital as innovative staff opt out of the system through moonlighting in projects and other organizations.
5. Senior management style is "command and control," an ineffective style in knowledge-producing organizations. It results in staff reluctance to take initiative, assume risks, and creatively solve problems.
6. Little understanding of client groups for whom research is conducted, no systematic and sustained client contact throughout all levels of the organization, and rare breakdown of client groups by needs and income, all of which results in inappropriate products or no products at all for substantial client categories.
7. Research structure is often chaotically separated into crop institutes, university departments, extension NGOs, environmental institutes, insect services, and veterinary services. The result is substantial regional and national duplication of effort, skill development, and an absence of interdisciplinary research or teamwork.
8. Research agendas are often determined by national top-down planning models, which further inhibit market orientation, exacerbate the poor choice of products to be developed, and increase the likelihood of duplication of effort with neighboring countries and regional organizations (notable progress on this problem has been made in a few places, such as East Africa with the creation of ASARECA).
9. Widespread neglect of staff training in practical methodologies for generating and testing hypotheses.
10. Heavy dependence on foreign aid (in some cases as high as 95%), so there is risk in some places of total collapse of the system.

* Collion 1996.

Although the educational and organizational processes of the participatory method appear time consuming, this investment pays off in more efficient technology generation. The end result is an increase in the number of farmers who gain more control over the processes required for improving their own production system, and consequently, in a reduction in their dependence on outside agencies to solve their problems. (Fernandez 1991).

How these new participatory, low external-input research teams would link to laboratories and more theoretical components of the research system is not yet clear. In the author's view, this is an empirical question that will vary from research system to research system, "system" being the national and regional configuration of organizations and intellectual and physical capital needed for research and extension.

Both of these groups would agree that attention also should be paid to macro-economic processes that affect the success of research organizations. Weijenbergh et al. (1993) emphasize that the current fracturing in the Sahel of national research systems into thematic fiefdoms must be addressed by national

governments and rationalized on a regional basis, both to eliminate duplication and to concentrate research on hypotheses with the highest-probable economic gain. SFI-sponsored studies for ASARECA in East Africa reached the same conclusion. These studies also make a forceful case for more inter-disciplinary work to include upstream and downstream products with a sub-sector (also called a *filière* approach).

Despite differences of emphasis and important tactical problems to be solved, the views of what changes are necessary for the research system strike the author as correct and not mutually exclusive. Lobbies do need to be nurtured (though how to do so remains to be seen) and reform must happen in enabling environments, organizations, research methods, partnerships with NGOs and clients, accounting systems, and even of the conception of what organizations think research is, how it is conducted, and how it is organizationally structured in a country and region. The next section provides a rough guide how to start the process, a guide consistent with both theory and work already begun in SPAAR's Frameworks for Action and the Sustainable Financing Initiative's field support.

3. The Road to Sustainability for Organizations

INTRODUCTION AND WARNINGS

This section suggests a course of action called the Road to Sustainability. It looks at an organization that wants to survive in the new funding environment and is willing to acknowledge problems and the need for change. The first few steps on the Road characterize an organizational “turnaround” phase (Silver 1992). Turnarounds are called for when important leaders and stakeholders believe that the organization is losing support and that if trends continue, the organization might disappear altogether. Typically, a turnaround occurs when financial crisis is at hand. Perhaps donors have already threatened to discontinue support if important changes are not made. Perhaps leaders have noted that the organization’s net worth (assets less liabilities) is shrinking and that chronic budget deficits are becoming unmanageable. Perhaps the capital stock is falling apart, and the best researchers are looking for new jobs. In any case, doubt about the future viability of the organization propels it to embark on the steps outlined below. The first few steps help an organization examine its situation and rebuild its social support capital around the key players (Schuchman 1992).

The second phase of the Road to Sustainability concentrates on rebuilding organizational capital and then moving to forward-looking strategic and financial planning. The Road ends with a campaign for a sustainable balance sheet, through the negotiation of deals for sustainable financing mechanisms such as debt swaps, dedicated taxes, commercialization activities, and partial endowments. SFI/SPAAR (1996, 1997) publications exhaustively catalogue these various mechanisms available during this final step. It is a final step because only after an organization has regained credibility with its clients, donors, and stakeholders can these groups be mobilized to support large financial transfers needed for these mechanisms.

Also, sensitive diagnosis and auditing must take place in the turnaround phase, as well as possible questioning of the leadership of a reforming organization.

Thus, the Road to Sustainability takes not only courage to confront problems but cooperation among players, notably governments and donors. Both are in short supply.

For ease of presentation, the Road is presented as ten sequential steps. Reality is not as neat as theory. Some of the steps down the road can be started before others, others might need to be taken at the same time. Few can be skipped, however. Each step on the Road has within it several actions and activities. Some may require technical assistance, particularly by management consultants. At any point along the Road, changes in economic conditions and local situations can significantly alter the diagnosis of the organization’s problems. Taking these changes into account will, of course, modify the plan of action and strategy.

Despite all these warnings, the Road is viable for organizations battling for long-term survival. The goals and milestones of each step can be used to monitor and evaluate progress. The degree of sustainability achieved at the end will depend on the commitment, skill, and long-term vision of several players: the senior leadership team of the organization, reformists in the central government, and the donor and stakeholder coalition that forms around the organization to support the change and reform process.

GOALS

The goals of the suggested Road to Sustainability are to make the organization measurably more effective, efficient, and productive in its core business, more competitive and better nested among local and regional organizations, more accountable to its stakeholders, more credible with potential donors, and more successful in delivering valued products to its clients. All of these characteristics are required before an organization can seek major capital funds from sustainable finance mechanisms such as debt swaps, partial endowments, special taxes, and check-off schemes.

The assumption behind these goals is that the best sustainable financing mechanisms (partial endowments, debt swaps, dedicated taxes) will require substantial support from stakeholders outside of the organization. Such support is unlikely to develop until reforms take place. Of course, some financial deals are related to cost-cutting, cost-recovery, cost-sharing, and asset restructuring (sales, leases, purchases, rebuilding) and will need to be considered not as the last step but as part of the initial restructuring to occur in Step 6 (Gilbert et al. 1996).

STEP 1: ORGANIZE FOR CHANGE

The first goal is to put together a small coalition of stakeholders who rally behind the organization's desire for reform and greater effectiveness and who find the resources to pay for the initial steps (Price Waterhouse Change Integration Team 1995; Carr et al. 1995a). The members of this coalition, or *sponsoring committee*, cannot be prescribed, as membership will reflect local conditions. Nonetheless, the group might include senior managers, people from the organization's client categories, members of the board of directors, and representatives of the current donor group for the organization. Any one person from these groups can start the process by talking to the other parties and lobbying them to create such a change committee.

The coalition needs to meet regularly to agree on the need for a baseline diagnosis and financial audit. They will then need to find funding for external consultants who will lead and conduct these tasks. If there is any doubt among the stakeholder group about the CEO's ability to lead the organization's turnaround, then the sponsoring committee should insist upon an external review of the CEO's performance, to be done at the same time as the general organizational diagnosis (Step 3). The group must be prepared to replace the CEO in the phases to come if his or her performance is shown to be inadequate. It may even be useful in certain crisis circumstances for the CEO to resign and offer to serve in an Acting or Interim capacity pending the results of the audits and diagnosis. One or two persons from this committee will also need to volun-

teer to serve with the outside consultants on the diagnostic team during the steps to come.

Milestones During Step 1

- A committee will be created such as "Friends of our National Soil Science Institute" or "Ad-Hoc Committee in Support of our National Park Service."
- The committee will agree on its general statement of purpose and the roles and responsibilities of each member, and will decide upon some internal organization, such as a secretary, to convoke the committee and keep records, and a chairperson to run meetings.
- The committee will be representative of, known to, and accepted by important stakeholders and client groups. (Client representation on the committee is a good theoretical idea, but in practice can present major logistic, communication, and representation problems, especially in the case of poor and illiterate farmers. Only client representatives fully capable of participating in the committee's work should be invited to serve on it.)
- The committee will inform itself about models of organizational change, new management methods and philosophies, and on-going planning processes among similar organizations both in the country and in the region. They should not get bogged down in this, but use it for inspiration for the road ahead.
- The committee will develop a brief declaration of purpose, a brief plan of action for its activities (one or two pages), and a scope of work for a full-scale audit and organizational diagnosis. Many off-the-shelf scopes of work are available for modification to local circumstances, so this need not take long.
- The committee will obtain financial resources necessary for diagnosis, audit, and CEO evaluation. It may also need to plan for funding of any feasibility studies that become necessary after the diagnosis, or for installation of a new accounting system and staff training in its use, or for farewell scholarships or sabbaticals for CEOs who do not wish to see the process through to the end (in

which case an interim CEO will need to be appointed).

- The committee oversees a bidding process or recruitment of consultants to lead and conduct the audit and diagnosis. A single firm might do both, or the tasks may be given to different firms.
- The committee will establish a timetable for both tasks, with great emphasis on avoiding bureaucratic delay and caution, but also on finding the best consulting team. The diagnosis and audit can be done simultaneously, but it is preferable that the audit be finished while diagnosis is still being performed, rather than the other way around.

STEP 2: CLEAN UP THE FINANCES, STARTING WITH A MAJOR AUDIT

Without documented and regular proof of financial integrity and competence, nobody has any reason to believe an organization is honest, let alone efficient (Herzberger 1996). This lack of documentation makes it difficult to build social support capital and attract new donors and partners in a more competitive funding environment where accountability matters more. Poor financial controls and accounts also mean it is impossible to effectively manage an organization.

The overall goal in this step is to align the financial controls and accounting system with international standards (see Appendix 1 for a discussion of which standards are appropriate), and thereby make the organization's management more credible in the eyes of stakeholders, potential donors, and clients (FASB 1997). The specific goals are to:

- Conduct a comprehensive, detailed audit and analysis of the present financial situation of the organization.⁸
- Propose new financial-control, accounting, and audit procedures to conform to best practice. Fi-

⁸ Financial auditors often offer to look into the program, results, leadership, structure, and governance of the organization but are not very qualified to do so except as in terms of how these areas affect the financial controls, accounting, and budgeting processes. This is why the audit and diagnostic team should be overlapping or entirely different.

nal approval of new procedures that will affect the program and governance structure should await the outcome of the more general diagnosis.

- Install and use the best available fund accounting software.
- Produce comprehensive, externally audited financial and program statements each year that conform to best current practice.

Accounting and financial control methods matter, for the data presented in the end-of-year statements must be comparable among organizations and across countries. Statements should include funding sources, list revenue from all donors and other sources, detail spending by conventional categories, demonstrate adherence to the approved budget, show the ratio of direct to indirect costs, and detail fund-raising costs, asset structure, and cash flow position. One of the responsibilities of senior leaders is to learn enough about accounting and financial control to ensure that the organization gets high marks for its timely reports, clean books, irreproachable audits, and measurable transparency. This task cannot be left to accountants alone.

Unfortunately, many publicly-supported organizations in Africa are still considered to be part of government, hence their financial reporting and accounting systems still adhere to practices used in government, whose own accounting and financial management policies may be out-dated, mired in unsuccessful reform efforts, or old-fashioned to the point of uselessness in the new funding environment. Those fortunate organizations that have successfully negotiated full or partial legal autonomy from central government will experience rapid progress on this step.

Milestones During Step 2

- The audit will be conducted, results will be made known to stakeholders, and approvals will be obtained for essential changes (like a new chart of accounts). At this time, the oversight board of the organization should also write a policy outlining how it will handle conflict-of-interest situations among board and staff members as well as a policy forbidding board and staff members and their families to provide services or products to the organization (this is called a "self-dealing policy state-

ment”). They will also need to make a policy statement for procedures related to competitive bidding on purchases and contracts. Members of the oversight board should sign the policy statements. These board actions can be taken during a financial development workshop for the board of directors and senior staff.

- Essential changes to accounting and control system installed, and a deadline for use of new computerized accounting software set.
- The organization will purchase the most comprehensive fund-accounting software that has multi-currency capability and can produce best-practice financial statements. The estimated cost for the software is between \$8,000-15,000 US, depending on how many modules and add-ons are purchased. It will also be useful for the organization to subscribe to a software-update service and a one-year phone/email troubleshooting service once the software is set up. Several such programs that do this are available. It is best to avoid simple, off-the-shelf accounting packages that serve small entrepreneurs because they do not offer all the capabilities a public-sector or non-profit organization needs.
- Core accounting staff will be trained to use the software program. It may be necessary, despite the expense, to bring in a consultant from the software firm to help train the staff and set up the system.
- The organization will conduct an inventory of assets and will start using the system for aging of accounts payable and receivable.
- At end of the current fiscal year, the organization will close down the previous years’ accounts, have them audited, and begin using the newly installed software for the following fiscal year. The change will be abrupt and total, for no mixing of software and systems can be allowed. Staff will begin posting transactions daily (itself a remarkably difficult feat for many organizations), using whatever summary procedures are necessary to accommodate time lags with data collection from field offices. They will produce monthly budget versus actual statements and by the tenth of each month, at the very

latest, have the bank reconciliation done. Summary results will be posted so everyone knows how the organization is doing.

- The organization will revise a financial procedures manual on authorization of fund use, documentation of this authorization, and storage of files to conform to best practice.
- The organization will solicit bids for its new comprehensive annual audit (the second audit). The cost of the bid will be part of its annual budget submission to the board of directors. Staff will also send quarterly-budget versus actual figures and interim financial statements to the board’s financial committee for inspection between regular meetings.
- At the end of the fiscal year, staff will close the books, produce annual financial statements, bring in the auditors, and submit all financial data to the board, which must then review and implement whatever actions are signaled by the auditors. The board must act on the financial indicators shown in the statements and make whatever cutbacks or changes to the following year’s budget that are necessary to keep the ratios competitive.⁹

An organization that has shown a minimum of goodwill in becoming financially accountable will eventually have an “unqualified” audit, meaning the auditors will not have pages of nit-picking qualifications and reservations to add to the audit report delivered to the board of directors. A clean audit is something for an organization to be proud of and to celebrate, and kudos should go to the CEO and financial officers who make it possible. It is a sign that attracting stakeholders to the cause has just become more possible.

⁹ Typical ratios and indicators that boards and stakeholders study are: program expenses to total expenses (80% or more is good); fund-raising expenses to total expenses (the smaller this percentage, the better); cash on hand to current liabilities; percentage distribution of revenue by source; number of donors and revenue sources.

Some boards also like to review accounts receivable and aging of accounts as well as a list of all capital assets that were purchased in the past year (worth over a specified amount), especially if they have a spendthrift CEO to contend with.

STEP 3: CONDUCT AN ORGANIZATIONAL DIAGNOSIS

The goals of this step are: (1) to understand the main causes of organizational ineffectiveness, inefficiency, and decline in the four kinds of capital; (2) to provide a prioritized action-plan for improving key systems of the organization; (3) to take an initial look at the organization's strengths and weaknesses compared to other national and regional organizations and to provide a rough analysis of the range of practical and creative options for the organization's future concerning its niche, mission, client base, products, and possible character and mode of operations. The initial review is approximate and does not substitute for an assessment of the larger national/regional niche or for a long-term strategic plan.

The sponsoring committee is the employer of the diagnostic team. A good diagnosis requires a large enough team to review the following systems:

- governance accountability, structure, and legal framework, including any constraints or obvious problems in the enabling environment;
- financial accountability (largely done through the previously described audit);
- leadership style and organizational values and culture (part of organizational capital);
- status of intellectual capital;
- internal systems for performance monitoring and client orientation (part of organizational capital);
- stakeholder experience with the organization's products (social capital and bottom line effectiveness);
- the organization's niche and quality relative to competitors and, in the case of research, its niche within the regional research landscape for technology and knowledge generation and transfer; and
- the status of physical capital assets.

Different consultants use different systems to conduct a diagnosis. See Box 2, which shows an example of the categories of analysis used in the well-known Malcolm Baldrige Quality Award¹⁰ program in the United States (ASQC 1997).

Box 2: Diagnostic Categories Used in the U.S. Malcolm Baldrige Quality Award

1. Leadership
2. The organization's use of data to measure and benchmark its performance for customers and stakeholders
3. Strategic and operational planning
4. Human resource development and management
5. Processes for producing and delivering the organization's products(s)
6. Results (both financial and product results)
7. Customer focus and customer satisfaction

How diagnosis is conducted matters a great deal (Beer and Spector 1993). The most effective approach to organizational diagnosis is to combine a variety of methods, several of which are participatory in nature. This approach ensures a comprehensive review, debate about solutions, and support among the board and senior management of often difficult and sensitive recommendations that result from the diagnosis (Argyris 1993).

The diagnosis requires managers, board members, stakeholders, and staff to be available during the diagnosis period for private interviews. These groups should also attend meetings at various levels of the organization during which interim results are discussed, debated, and analyzed, and where problems are confronted. This is essential. If the diagnosis is performed bit by bit by a series of consultants, no one will pay attention to the reports. An intense team approach, with organization members as part of the diagnostic team, along with frequent structured feedback and problem analysis sessions, assures that everyone participates in the diagnosis (Rossum 1993).

¹⁰ Malcolm Baldrige was a former United States Secretary of Commerce. He initiated a national annual awards program to honor private companies that demonstrated a thorough commitment to quality. It was an offshoot of the worldwide Total Quality movement started by William Deming in Japan. The award is difficult to win. Competition is fierce, scrutiny and standards very high. The award carries great prestige and affects the value of the company and its stock price.

Staff should postpone all travel and seminar plans during the diagnosis period. The members of the sponsoring committee who volunteer to serve on the diagnostic team also need to be substantially freed from their daily responsibilities. Depending on the readiness of the organization, its size, the necessity to travel to field offices or stations, and the preparatory work done by the sponsoring committee, a rapid diagnosis can take anywhere from two to eight weeks.

At least two members of the diagnostic team who come from outside the organization should have comprehensive experience with institutional assessment, management, systems analysis, change processes, and the wide range of methods used to collect and analyze rough, often qualitative, data. One should be the team leader. They also need to be astute enough to know what is feasible given local political realities, although “local politics” should not be constantly offered up as an excuse for why no substantive management changes are possible. In addition, at least one team member should have extensive accounting and auditing experience (and might even be one of the members of the financial audit team) as balance sheets and financial statements and budgets from earlier years will be studied.

A typical diagnosis begins with a briefing of the sponsoring committee, in which the methods of data collection and the need for cooperation are described. The sponsoring committee and senior managers may also take a self-assessment questionnaire at this time, and the results returned to them a few days later. The team then begins to learn more about the organization, alternating use of tools ranging from simple observation to longer questionnaires. They read everything available about the organization, interview everyone, study its history, observe its processes, go on field visits, and interview stakeholders. They pore over financial information. Later, data is shared among team members, hypotheses generated, specific data points questioned, new questions asked, and, in an interactive way, all the systems of the organization are examined. The nature of the problems the organization has are aggressively analyzed and discussed among the team, the causes of them laid out, the range of hypotheses and ideas for improvement discussed. Frequent feedback sessions are held with staff and stakehold-

ers. Conflict often arises: certain staff may feel threatened by the diagnosis or blamed for problems. It is the team’s role to help these staff members see productive ways to contribute to improving the organization.

The team takes a critical and evaluative approach to all elements of the organization; it does not merely apply off-the-shelf checklists. For example, it does not just note the existence of a mission statement, it judges whether the mission is clear and useful and provides for a competitive niche for the organization compared to what other organizations are doing and to what its clients and stakeholders are expecting. It asks hard questions such as whether the leadership is corrupt and unable to mobilize significant financial support for the organization. (If this is so, the sponsoring committee should be told diplomatically that it is pointless to give more money to the organization until the leadership changes.)

After collecting and analyzing financial data, the team develops recommendations for a long-term program of improvement in the areas it has found weak, laying out what kind of changes are necessary, how they might be made, and how long they might take given the organization’s other priorities. This happens in a prepared feedback workshop that could involve many levels of the organization, including senior management, the sponsoring committee, as well as the board of directors. The output is a document, a plan of action for change, a series of goals that the organization should focus on.

A good diagnosis does not raise false hopes or cater to the CEO or donor who paid for the diagnosis. It is a comprehensive look, a probe into the organization’s health, and should result in a commitment to the long-term strategic planning process. It should push the organization to create a vision of itself that corresponds with reality, while also assuring that the organization’s problems need not be overwhelming.

Last, the team conducting the diagnosis should make every attempt to create team consensus, for this encourages them to dig deeper into the data and argue their points better, but they should not force a consensus (Marquardt 1996). Team members with views that differ from the majority on certain points should be encouraged to write attachments to the overall report giving their own arguments on the issue. Points of dis-

agreement are useful to the board and sponsoring committee and will help them reach their own conclusions.

Milestones During Step 3

- The committee will select and hire a diagnostic team.
- Diagnosis will take place.
- The majority of the committee should find the diagnosis to be comprehensive, useable, and of high quality, despite any conflict or disagreements it may have generated over specific findings. The committee will accept all or part of the diagnosis and persuade the CEO, board, and relevant stakeholder agencies to also accept main elements of it.
- The committee will assign top priority to improving the governance and accounting systems, and then will then rank the other recommendations and suggested courses of action.

STEP 4: FIX THE GOVERNANCE STRUCTURE

Typically, the governance structure is defined in the organization's constitution, organization chart, by-laws, and any regulatory framework that describes a division of labor between government agencies and the organization's board and staff (Council on Foundations 1990).

Diagnosis will have uncovered a range of governance problems that will be addressed in this step, and the goals are: (1) to reform the enabling environment with legislation and/or modifications of the regulatory statutes, the constitution, and by-laws of the organization to allow the organization to operate free from political management, patronage, and civil service procedures; and (2) to improve the effectiveness and usefulness of the governing board and its control over the CEO.

The second goal is necessary because knowledge-producing organizations tend to perform poorly if hobbled by command-and-control civil service management. The kinds of statutory freedoms that need to be examined include: autonomy over salary scales; the ability to hire, fire, and evaluate staff and CEO according to merit and performance, without unfair financial

penalties imposed by the legal system; freedom to adopt internal procedures and independent accounting systems; and liberty to create board-governance statutes that reflect all stakeholders, not just the government. Increasingly, freedom to solicit charitable donations, obtain endowment funds, negotiate debt swaps, and invest the funds off-shore have become parts of the regulatory framework that require examination and possible reform.

Good practice suggests that an effective governing board should in some way combine members with expertise and management experience with members who reflect the various stakeholders and partisans of the organization's mission (Volunteer Consulting Group 1993). This includes government and foreign-aid donors. It does not mean that boards must be highly democratic assemblies of constituents to be useful and effective. Indeed, some of the worst boards are crippled by conflicts of interest, self-dealing, and an excess zeal for representivity, with members frequently mistaking themselves for a national congress or constituent assembly.

An important point regarding the composition of a board is that, unlike boards in anglophone OECD countries, African oversight boards may have to spend much more of their time on governance issues rather than on fund-raising. Board fund-raising in Africa is likely to be a waste of time until economic prosperity becomes more widespread.

The appendixes contain detailed suggestions for governance reform.

Milestones During Step 4

- Legal changes will be proposed and shepherded through the legal system.
- The board will have clearly defined, logical, and generally fair and acceptable statutes and by-laws, with clearly defined roles and responsibilities between the CEO and board, and between ministries and government agencies and the organization. All players believe the legal framework is suitable and does not require any further modification or improvement.
- The legal framework for the organization will substantially free it from government budgeting, ac-

counting, and other civil service constraints. It will have considerable freedom to hire and fire the best available staff on internal procedures alone (including the CEO), set salary and benefit scales, hold capital reserves, invest assets abroad, and practice international standards of accounting and auditing independent of other government agencies.

- The board will meet in person at least twice a year, and will have enough time to deliberate carefully over the agenda. It will produce written minutes that reflect substantive debate about budgets, strategy, hiring, and any problems requiring board deliberation. The minutes should reflect open disagreement if such disagreement exists and not merely rubber-stamp the CEO's recommendations on the issues.
- There will be at least six board members, no more than sixteen and a quorum will always be attained at meetings.
- Board members, when polled, will be familiar with financial details, including salary levels and policies, and will receive quarterly financial statements and activity reports.
- Board members, when polled, believe that disagreements with the CEO can be resolved without delay.
- Board members will be able to describe clearly the mission, activities, and strategy of the organization in their own words and will have participated in some strategic planning exercises, audits, or diagnostic activities.

As a board gains experience, the following milestones will appear:

- The board will have formally evaluated the performance of the CEO at least once in the past two years.
- In a self-assessment questionnaire, board members will feel that all members actively participate in meetings and that meetings are productive, useful, and in no way a waste of time.
- All board members will have substantive conversations with the CEO at least once between meetings.

- Board members will have adequate and standardized information about the organization's financial situation and the information will be of high enough quality that the board can make informed planning decisions for the organization's health.
- A committee structure will be present and active during meetings, and will be seen as useful according to participant self-assessment.
- The board will begin to issue signed, general-policy statements for the CEO to act on.
- The board will have overseen the transfer from a founding CEO to a second-generation CEO, and the board will have survived turnover in its own ranks.

STEP 5: CONDUCT A REGIONAL NICHE ASSESSMENT

This step may not always be under the control of an organization starting down the Road to Sustainability. It can occur before, during, or after the first three steps, but should come before Step 6. It can be done by consultants as part of the diagnostic team or a separate team responsible for this step can be mobilized. Niche assessment can also be conducted by a national commission under government sponsorship. If a national commission is used, governments should be asked to set up, fund, and empower a temporary, full-time task force of intellectuals, management specialists, and knowledge-organization leaders to suggest ways to merge or streamline organizations with mandates related to subjects such as research and technology transfer (Sutton 1988).

The goal of this step for a research organization is to produce a report that suggests a regional research division of labor among organizations according to indicators and assessments of relative capacity and promise and to propose niches for the reforming organization as a consequence of this analysis (Hammer and Champy 1993; SACCAR 1996). It is not about deciding detailed regional research agendas, although it does need to address the existing agendas developed under SPAAR sponsorship. This kind of report will take a more institution-building perspective. This means considering any and all ideas about merging, streamlining, or

creating partnerships among organizations, divisions, private research organizations, or university institutes. Such a commission should look at conflicting, overlapping, or duplicate mandates, intellectual capacity, and organizational track records, and should suggest ways to structure and harmonize the situation. The reforming organization needs all ideas out in the open in order to proceed with real strategic planning.

In the case of a national, government-sponsored commission responsible for this work, the commission's results should fuel national debate on the issues and serve as a basis for a minimum set of wide-ranging reforms for better performance in the sector.

If a reforming organization has launched itself onto the Road to Sustainability but is not able to get direct support for this study, it should lobby African regional organizations (ASARECA, CILSS) or other international or multi-lateral players (ISNAR, AID's Regional offices, or SPAAR) to make it happen, as all these agencies are suitable sponsors of this kind of report. Failing this, the best alternative is to add elements of the niche assessment to the scope of work of the diagnostic team and assign one or two team members to the task. This is not necessarily a second-best option. It means only that the report may not be as comprehensive as one produced by a larger commission. But with good consultant(s) who are knowledgeable about the region under study, useful information and ideas will still be produced.

Milestones During Step 5

- A report outlining the scope of the organization's reform work will be written and key players will promote it.
- Sponsorship will be found for the report.
- Consultants or commissions will conduct the assessment.
- Results will be published and distributed to relevant organizations.

STEP 6: DEVELOP A PRELIMINARY STRATEGIC VISION AND REORGANIZATION PLAN

The diagnosis, audit, and niche assessment will have raised serious questions within the organization about the organization's future and many ideas will have been presented. At this point, the staff needs to know which direction they are heading.

In Step 6, the momentum for change needs to shift from the diagnostic team and sponsoring committee, which is composed of people from outside the organization, to a change-management team internal to the organization, one that involves the newly structured board of directors of the reforming organization (Mohrman et al. 1995). The goal is for the new or reformed oversight board to sponsor an initial vision and reorganization plan based on the information and changes generated in the previous steps (Dimock 1975; Drucker et al. 1991). Senior management and the board will take a stand on the list of problems and options and decide on a direction, a vision, a mission, and a best-bet plan for reorganization. If high-level management changes should be made, they will be the first items on the agenda. During this step, one or two brief feasibility studies might have to be made to review the economics of favored options. But hopes of getting perfect information should not delay the rest of Step 6.

To accomplish this step, the board, CEO, and major stakeholders (donors included) need several feasible options and alternatives to debate during organized, facilitated retreats. These options will come from proposals made by a change-management team appointed earlier.

The team will consider the diagnosis and niche assessment, review stakeholder and staff reactions to the ideas produced by the studies, and make specific proposals. Will the organization downsize? Change leadership? Restructure? Why? How? What about the mission? Is it only to provide services to poor farmers of food crops with local research teams fluent in local languages? Will it concentrate on export crops? Will it merge with the university or become a grass-roots NGO involved in the transfer of technology? Will it go

toe-to-toe with the nearest international research center on maize?

Typically, the change management team drafts two brief documents: a mission and vision statement and a document called “specific proposals for change.” These documents will be debated and revised by the board in the retreats just described.

The first document states a new mission, vision, and niche for the organization. It might describe the kind of organization that is proposed, its nature, its natural constituents, and how they will be served. The statement should serve to inspire discouraged staff and bring back reluctant donors. Staff who left the organization to work in NGOs and international donor agencies should find it sufficiently interesting that they consider returning to the organization.

Typical questions that research organizations should consider when drafting the statement are:

- What products (public, private, toll, or common-pool) can it produce and for what categories of clients?
- What percentage of costs would we have to reduce if it were to receive funds only from the government? Where would it make budget cuts?
- Where does the organization fit into the surrounding organizational landscape? Who offers similar or related products and services? What is it good at or bad at?
- Does their research agenda reflect not only “national needs” but also their own internal comparative advantage and the market opportunities their region faces?
- What methods should they use for technology transfer or should it have any role at all in it? What partnerships in technology transfer are possible here and now with the current set of players?

The second document, specific proposals for change, should indicate the actions (cut, merge, reduce, expand, partner, streamline, eliminate, establish, etc.) that need to occur to attain the vision, and it should prioritize those actions, relying heavily on the diagnosis and niche assessment.

Questions the second document will answer in the change management team’s own words are:

- Given the mission and vision, which elements of the organization can be eliminated? reduced and streamlined? merged? expanded?
- Can any part of the organization be privatized altogether since it produces a good that may be considered a private good in the country? Can the organization do so without cutting itself off from the only profit center it has?
- Where can the organization institute service fees to have better cost-recovery for products that can be managed as toll goods? What steps should be taken to do so?
- Can the organization become partners (up to and including merger) with any universities, neighboring organizations, NGOs, or other groups to make its products? How would a partnership affect staff levels?
- What might the new organizational chart look like? (a couple of options should be given).

It might take the change-management team a month or two to produce these draft documents for the board to use. The board will then retreat to consider and revise the documents and will most likely need professional facilitation by a skilled conference manager who is familiar with future search techniques and group processes. The outcomes of the retreats are revised final statements about the new organization.

The final step is for the CEO—perhaps a new one—to implement the actions mandated by the documents. Depending on the size of the organization and the ease with which external stakeholders support the vision, it can easily take a year to make the necessary cost reductions, to screen staff for downsizing, and to complete whatever merging, streamlining, or reorganizing has been mandated and negotiate partnership and merger contracts with other organizations. If external stakeholders balk, refuse, resist, and protest, further reform may prove impossible.

Milestones During Step 6

- The internal change-management team will be appointed and will consist of cross-discipline senior-level managers whose own jobs are not necessarily under immediate threat after diagnosis and who

are not philosophically opposed to the results of the diagnosis and niche assessment.

- Draft recommendations will be written and ready for submission to the board.
- Board retreats will be held.
- The board will produce amended, official versions.
- The board and CEO will solicit support of powerful stakeholders (typically government and foreign-aid donors), without whom implementation will be impossible.
- The CEO will act on the changes mandated for the organization which may take up to one year depending on how extensive the required reorganization is, the levels of resistance, and the size of the organization to begin with.

STEP 7: GET THE INTERNAL INCENTIVES RIGHT

In this step (possibly taken simultaneously with the implementation of actions in Step 4), the organization will review benefits, salaries, salary scales, recruitment procedures, and methods for monitoring, evaluating, and encouraging high levels of staff effort and performance (Firstenberg 1996).

Knowledge workers care not only about money, but about benefits and allowances, travel abroad to professional conferences, scholarship and sabbatical opportunities, and access to publishing opportunities and the latest knowledge and information in their profession. They also care about paperwork reduction, recognition for a job well done, job autonomy and creative freedom, and the chance to shape their country's policies and economic prospects, not to mention giving their children a good education and expanding their skills and abilities as they gain experience (Holm-Nielsen et al. 1996). Getting all of these incentives right is complicated, but entirely feasible if the will is present.

The salary scale is the most sensitive issue to tackle, and will need managerial toughness in the face of staff claims and tempers. In a publicly-supported non-profit organization whose product is knowledge and technology for a cash-poor client base in Africa, it is impossible to offer staff salaries that compete with interna-

tional corporations (who make millions in profits and generate huge cash flows), or with donor agencies whose income is generated by wealthy northern countries with large tax bases. Top researchers often threaten "to go take that World Bank job." The answer for CEOs and boards is to let them. After all, a research organization in Africa would be quickly bankrupt if it tried to compete in the labor market with wealthier organizations.

The first step in assessing salaries might be to form a consensus among stakeholders about what constitutes a reasonable level of class standing for researchers and managers. Then the organization can propose a salary scale that reflects prevailing salary and benefit conditions in the national and sub-regional labor market (international organizations should be excluded from consideration as they induce too much unsustainable, upward bias into the labor market). Once salary levels are determined, the organization needs to project its budgetary resources approximately ten years into the future and make an estimate of how many staff it can afford to have with the proposed salary scale. If an organization can support only half as many researchers on the new pay-scale, then should down-size instead of limping along with forty underpaid, underperforming researchers. This kind of analysis and internal debate will take place all along the Road to Sustainability, but the issue should be resolved during this step.

With more realistic and appropriate salary scales in place, the organization should create benchmarks for performance. Benchmarks, or greater "specificity" of tasks and outputs, makes competition more likely to succeed, as they make it easier to tell who is performing and who is not (Israel 1987).

To create benchmarks for each job, write a detailed definition of "average" and "above average" performance. Then reward only above-average performance (not average performance, as is done in the civil service). Average does not mean "mediocre." The definition of average should be high enough to guarantee that only the best will do better than average. Forget annual raises that have nothing to do with performance, as they defeat the purpose of changing the incentives.

Comparing standards, benchmarks, and definitions for similar tasks in other organizations is a good way

to define indicators of average performance. Staff should participate in this discussion as well.

Creation of these indicators is the beginning of a system of continuous improvement. Performance indicators should be measurable, not vague, qualitative judgments that cannot be proven one way or another. Obviously, this is a difficult task and the results will be improved upon over time, but this is no obstacle. The organization should set high standards for average performance and use the system to reward performance. The simplest way to enforce the system is to have staff themselves document their own achievements. The important thing is to get such a system in place, and it is very useful to combine it with some kind of 360 degree performance feedback at regular intervals (where staff are evaluated by peers, superiors, and those “below” them in the organization) and to assign some weighting for good team performance.

What constitutes good performance for researchers? Certainly the following indicators might need to be extensively evaluated with staff, but they include:

- the number of days spent in the field with clients, which is easily documented in good accounting systems and verified with 360 degree feedback and common sense;
- the number of technologies that the researcher developed and that have been adopted by a statistically significant number of farmers, as shown by research reports and client surveys;
- the number of testable hypotheses that have been accepted into the research program, as shown in the organization’s annual work plan;
- the number of hypotheses tested with definitive (yes/no/conditional) results.
- literature reviews written and distributed inside the organization by the researcher;
- analytical work that contributes significantly to new understanding by fellow researchers of the needs, wants, problems, behavior, and constraints of the defined client group (necessary for continued hypothesis generation);
- the number of experiments or trials completed that followed acceptable methodologies and standard protocols for the discipline;

- participation in national and regional exercises to set research priorities (attendance and contribution of papers);
- the number of days at post (instead of attending international conferences or consulting for outside organizations and donors);
- the frequency and degree with which the annual work plan is completed under budget;
- the number of years spent in rural postings on a productive research program (with productive defined by many of the above indicators);
- mastery of English (which is generally accepted as the working language of science); and
- mastery of the language of farmers in the agro-ecological area to which the researcher is assigned.

Indicators like these serve as rough professional scorecards; they should be positive ones and reflect the organization’s values (such as teamwork, creativity, or field orientation). Some should be able to measure whether results are generated for clients and reveal direct client-contact. The examples given above are based on the theory that the more researchers do high quality work in the field, the more likely they will get useful results for farmers. No indicator is ideal and no indicator will guarantee that results will happen, so no performance system will be perfect, but the suggestions above can track the level and quality of efforts far better than traditional performance reviews.

Also, the indicators above do not require a huge burden of measuring and monitoring by senior managers, who are suppose to track and motivate staff anyway. An updated accounting system will provide budget indicators rather quickly. In any case, individual staff and team members should keep track of these common-sense indicators themselves and send them into their superiors before any performance review. Common sense on the part of managers and supplementation of reviews with confidential, 360 degree feedback reports will show managers if the researcher’s self-reporting is valid or not.

Of course, incentives like favored postings, salary increases, assignments, time off to attend conferences abroad, bonuses, and prize awards should be distributed on the basis of merit to sustain high-quality effort throughout the organization.

Milestones During Step 7

- Feasible salary and benefit scale will be defined.
- Scale will be accepted and implemented and downsizing, if necessary, will occur.
- Indicators for quality performance will be developed and agreed upon.
- Managers and teams will use the indicators regularly for performance measurement and reward determination.

STEP 8: DEBUG THE NEW SYSTEMS

By now dramatic changes and improvements have been made in the reforming organization. Perhaps a new CEO and an expanded board are in place. Perhaps the organization now has a new legal status in the country. A battery of consultants have helped install new procedures and salary scales; and painful rightsizing and reorganization have occurred. All changes have been based on a comprehensive audit, niche assessment, diagnosis, and a first-draft strategic plan.

The goal of Step 8 is to fine-tune the changes, add improvements, and correct errors of judgment or zeal. In reality, this step happens continually, but in the six months following the installation of new procedures, policies, governing boards, or legal frameworks, the various players (board members, CEO, staff) may be uncertain about the new systems (Nadler et al. 1992; Nola 1995). Perhaps many staff members are learning to work in the field as part of teams, or perhaps senior management has adopted a team management style. Everyone has suggestions for improving the rules, procedures, policies, and methodologies that have been put into place. It is useful to get these ideas aired and to screen improvements from complaints made by disgruntled or negative staff members who prefer the “old organization.”

Milestones During Step 8

- Six months will have passed since major system changes and reforms were put into place.
- Confidential staff surveys and focus groups will indicate general acceptance.

- Staff will also indicate that most hindrances to their effectiveness have been removed and that organizational capital has been built up.
- The organization will worry next about their core business.

STEP 9: PREPARE A LONG-TERM STRATEGIC PLAN FOR SUSTAINABILITY

The organization has now undertaken extensive reforms and is presumably operating with a high degree of transparency, efficiency, and accountability, implementing a program of work with priorities that reflect an appropriate niche relative to what other organizations are doing. It may also have begun new partnership agreements. “Turnaround” has now occurred, the crisis has past, and the organization is leaner and more effective.

The next goal is to refine the preliminary strategic plan into a more comprehensive plan that can serve as the organization’s intellectual cornerstone and marketing tool. The organization should now have a new sense of identity; this is the moment to capture it on paper. Senior management should create a small strategic-planning team to report to the board and CEO. The team now has many strengths to build on, but if necessary it may use outside facilitators or management consultants. It can also obtain assistance from groups such as ISNAR or SPAAR or the SFI for strategic planning sessions with staff in the organization. It is during this step that a definitive plan is put together that will announce the organization’s turnaround. The organization should publicize its successful reforms, its viable new niche, and its new cost efficiency and client orientation. Given the volume of work that already has taken place, it should not take more than three or four months for a team to produce a workable, draft of the final plan and have it reviewed by key staff before presentation to the board.

The purpose and nature of the organization for the next ten years is now described in this strategic planning document, which need be only 25 to 50 pages long. The document is not a work plan with goals and targets for each component of the organization; rather, it

is a distillation of strategy. The organization should clarify its client groups and explain the type of products it intends to produce for them, as well as how and with what partners. It will include a comprehensive long-term budget that details capital improvements and maintenance (five years at least, ten is better, with detailed year-by-year projections). The budget should be based on funds the organization can reasonably expect from its donors. It is crucial that, as part of the strategic plan, the organization produce two related long-term budgets: a basic budget that allows effective operations and a contingent “windfall” budget that shows prudent management of any large amounts of money that donors or government might provide. The last thing a CEO wants now is to reinflate the organization all over again to unsustainable levels with short-term windfalls.

This first part of the comprehensive strategic plan and long-term budget will answer a range of questions that potential donors and other stakeholders might have. Hyperbole and unsubstantiated claims to competence and merit are inappropriate, but real accomplishments can be bragged about, especially a few years of clean audits. Typical questions that stakeholders will ask should be answered here. Some of those questions are:

- What makes this organization deserving of funds compared to similar institutes in neighboring countries, local universities, and training institutes? How is it different from them? Is it better? How does it partner and cooperate with them?
- What is the current status of the organization’s four kinds of capital?
- What proof is there that the organization is well managed and is fully accountable?
- What kind of results is the organization capable of?
- How good is the staff? What are their academic degrees and experience? How are they organized to promote interdisciplinary teamwork for hypothesis generation?
- How is the organization innovative?
- Has the strategy been thought out in partnership with other organizations or does it reflect only the ideas of one or two internal researchers?

- What concrete proof exists of the organization’s client orientation and to what degree are its clients pleased with it?

The second part of the strategic plan includes a well-defended, well-researched, multi-pronged financial sustainability plan. Financial, physical, intellectual, and social-support capital will each need separate plans. The plan will answer specific questions on subjects such as how to maintain the physical structures of the organization; whether and how the organization will undergo a capital campaign to create a partial endowment; whether and how it will sell its research services to private corporations as a profit-making activity; whether the leadership will undertake a lobbying and public-relations program to find support among stakeholders for a national dedicated tax or a check-off system; where to negotiate such a tax, whether through the ministries or national assembly; and whether a debt swap is a possibility.

Once a plan is approved by the board of directors and implemented, several other traditional marketing tools should be prepared to supplement it, such as brochures, radio programs, videos that chronicle the organization’s achievements, and annual reports that show the organization to its best advantage.

Milestones During Step 9

- Scopes of work will be written and approved for the comprehensive strategic and financial sustainability plan, and the team appointed.
- The team will conduct work, including feedback sessions with staff at various levels.
- Draft reports will be produced and presented to the board for modification and eventual approval.

STEP 10: COMPETE FOR DEALS THAT ENHANCE FINANCIAL SUSTAINABILITY

With a well-managed, reformed organization that possesses a high-quality, long-term strategic plan and a feasible plan for sustainability, the senior management is now ready to negotiate any and all sources of long-term funding based on the strategic plan. The search

for funds must be well researched and not based on the hope that contacting any European, Japanese, or American foundation will locate available funding. Making deals for debt swaps, endowments, and additional taxes and check-offs is a competitive process that requires lobbying and assistance from stakeholders. Stakeholders must be rallied to the cause. The organization will need them to help the board and senior management team lobby foreign aid donors, ministries of finance, parliaments, and national assemblies.

This is also when the coalition of players that have supported the organization through its reform process can offer help with contacts, introductions, training workshops in social marketing, public speaking, and lobbying, as well as with sponsorship of meetings with wealthy individuals and private corporations who might contribute to some part of the organization.

To the extent that competitive funding mechanisms have been established, the organization is now in an ideal position to succeed in using them.

Milestones During Step 10

These will depend on the specifics of each organization's plan for sustainability, but typical milestones might be:

- A national capital-improvement campaign will be launched. Wealthy individuals and international corporations will be identified as likely donors and approached for cash or in-kind contributions (anything from computers from IBM to promises from local private schools to provide partial scholarships for researcher's children).
- The CEO and board will successfully conclude negotiations for a debt swap.
- The organization will participate in regional or continent-wide funding competitions for long-term institutional support funds, scholarships, grant funds, and partial endowments.
- Client groups and similar organizations will succeed in creating dedicated taxes to benefit the organization.
- Commercial activities that were begun as a sideline (like consulting or sponsored research activities) will begin to generate a profit for the organization.
- The organization's balance sheet will reflect a sustainable asset base for core activities.

4. What African Governments Can Do for Organizational Sustainability

Given widely-recognized failure of governments across the continent to serve as the primary developer, and distributor of national and foreign wealth, the root problem governments have is how to liberate other actors and organizations to perform these functions, while still keeping an eye on the public good (Biggs et al. 1996; Liuksila 1995).

The suggestions presented here advocate freeing up R&D organizations, universities, and NGOs so that they can pursue excellence and results and build national constituencies for their products. They suggestions are:

- Legally separate organizations from the civil service and grant them autonomy in management, governance, and policy-making. (Government may still choose to have itself represented on the board of directors of the autonomous organization). This in no way reduces government's need to provide them with financing or to regulate their performance.
- Revise and expand legal and regulatory frameworks for research organizations and universities, NGOs, quasi-NGOs, foundations, lobbies, and other non-profit or charitable organizations. Such changes will encourage growth of an independent sector that government can independently contract with to provide public and toll goods (Hubbard 1995). Legal and tax reforms might provide incentives for private citizens and corporations to contribute to public-interest organizations (ICNP 1997).
- Expand freedoms of speech and assembly and to allow independent, small-operator access to the infrastructure of radio and TV. This will give rural citizens the information to form more of their own lobbies and interest groups. It will also lower transaction costs for researcher teams to communicate across regions (FAO 1997).
- Participate in and financially support national and regional commissions that would investigate rationalization of agencies, departments, institutes, and universities concerned with technology generation and transfer. Rationalization does not mean creating super-agencies, but rather clarifying roles, shifting and splitting mandates and staff, as well as restructuring organizations to enhance their effectiveness in the field and encourage inter-disciplinary team work. Rationalization would be based on modern best-practice and not on old-fashioned notions of an all-powerful government that controls everything.
- Base R&D mandates on agro-ecological farming systems with high potential for innovation (Pineiro 1997).
- Set up and empower a small, independent regulatory and standard-setting agency (not a civil-service agency or a government unit filled with political appointees) such as a “national non-profit organization standards bureau” to promote adoption of minimum standards and to monitor organizational compliance with standards. The sector might also propose its own commission to promote self-regulation.
- Give standing, written directives to finance ministries to assist public and non-profit organizations in cutting through red-tape and negotiating waivers of IMF and national regulations that inhibit the use of debt swaps, dedicated taxes, and off-shore investment of partial endowments.
- Require publicly-supported organizations to submit to the government multi-year budgets and strategic plans (rather than makeshift annual programs of work and budget) that include goals for maintenance of all four types of their existing capital stock. The government will need to commit to a providing a percentage of the budget over several years so the organizations are able to prepare long-term fund-raising campaigns for needs not covered by tax allocations.
- Request donors to avoid co-funding projects, regions or sectors. Ask that they use scarce foreign-

aid funds for sustainable financing mechanisms that benefit key organizations of vital importance to the country, organizations capable of producing long-term, viable strategic plans and budgets that reflect success on the Road to Sustainability described earlier in this paper.

- Ask donors to make greater use of competitive funding mechanisms.
- Develop economically-justifiable dedicated taxes to benefit national and regional knowledge institutions and to allocate this revenue by using independent competitions among institutions.
- Use more debt relief and foreign aid for endowments of key institutions, even if endowments are only partial, and to use tax revenue windfalls for the same.

5. What Donors Can Do for Organizational Sustainability

Donors have an important role in creating the conditions for financial sustainability, mostly by restructuring the incentive environment in which funds are obtained. Even in a world of major foreign-aid cutbacks, foreign-aid donors are among the most influential actors for publicly-supported and non-profit organizations.

Foreign donors have the capacity to operate on a continent-wide and regional scale, much more so than individual African governments can. This capacity gives donors a flexibility, so far unrealized, to reallocate funds according to quality and effectiveness of results, to reward countries that reform their enabling environments, and to support the best-performing organizations across the continent (de Capitani and North 1994).

Thus, as key stakeholders and players, donors can:

- At the individual country level, promote among other donors and African governments greater understanding of the local effect role donor funding has on incentives for organizational performance.
- Set higher, continent-wide standards for organizational performance based on best available practice and make the standards credible by funding organizations that meet them and refusing those that do not (Moore 1994).
- Build competitive funding mechanisms in partnership with other donors on a national, regional, and continent-wide scale to pointedly reward measurable quality achievements and proven results. The few consolidated funding mechanisms that have been launched are good first steps in this direction but could be put to use on a regional and continent-wide basis, especially for use with debt swaps and partial endowments.
- Channel a greater percentage of foreign-aid funding into these competitive funding mechanisms.
- Support regional and continent-wide niche assessments for organizational sectors (knowledge and technology transfer sectors, NRM and biodiversity

protection organizations, etc.) In the case of R&D organizations, include extension organizations, as well as universities, departments of livestock protection, phytochemical units, and export promotion agencies. The goal is to eliminate duplicate and overlapping missions, encourage rational use of intellectual and physical capital, promote a more coherent specialization and division of labor among organizations, and support interdisciplinary teamwork for developing technological innovation in best-bet agro-ecological farming systems.

- Encourage continent-wide labor market for high-performing researchers and research managers.
- Build donor coalitions for improvement of specific agricultural research organizations and systems to prove that financial sustainability is possible.

Of course, this is a big agenda. Donors unable to act on it should, as a fall-back strategy, adopt a policy of “do no harm” to the incentive environment in the individual countries in which they work. Adopting the “do and don’t” list at the end of this section would be a good start toward a “do no harm” strategy.

A detailed look at the strategies follows.

UNDERSTAND LOCAL INCENTIVES FOR ORGANIZATIONAL PERFORMANCE

The first step in dealing with a problem is to understand its causes and consequences. Therefore, local players and institution-builders need to better understand the impact that donor behavior has on the structure of incentives for organizational performance in Africa. Too often, the effect of donors is considered minor compared to the effect of African government behavior on local organizations, but more balanced views have emerged recently (Baird and Wezel 1993).

It is common sense that donor behavior and standards substantially affect organizations that receive aid. Elinor Ostrom notes: “the activities of these [donor]

agencies affect the incentives of all participants. Furthermore, the resulting incentives may well increase the level of rent seeking, corruption, or accountability” depending on if and how sanctions and rules are applied (Ostrom 1995).

Too often, one donor may finance an audit, become aware of problems, then walk away from an organization or ministry. A second donor then steps in and fails to conduct due diligence before making a loan or grant. Sometimes they conduct due diligence but do not care about the financial troubles plaguing the beneficiary. This indifference has an extremely negative long-term impact on the incentives for good performance in organizations. Staff throughout the ranks of the organization realize that anything can be “gotten away with” and that no sanctions will ever occur. So why bother to do better, or to expose problems in the first place? Why not join in the game? Citizens outside the organization become aware of what is happening, if only by the rumor mill, and develop attitudes of non-participation. The nascent NGO sector sees what is happening and thinks it is normal, so it begins to behave the same and spoils the opportunities for change that such a sector might have represented.

Donors need to find ways to make “credible threats” to ineffective and/or corrupt organizations. At the same time, they must also consistently reward high-performing organizations with “credible commitments” (North and Weingast 1989, North 1996). This is a fancy way of saying that some bite has to be added to the donor bark.

Many senior managers of donor organizations are well aware of the problem, but field staff still get mixed messages about reporting problems from aid beneficiaries, making loan and grant conditions easy to fulfill, keeping project misappropriations from appearing in newspapers, and turning a blind eye to managerial incompetence in the beneficiary.

Finally, as part of making donors think about the effects of their actions, innovative donors should encourage examination among their colleagues of the nature (type, degree, relative importance, existence) of competition among organizations seeking donor funds.

BUILD DONOR COALITIONS AND PARTNERSHIPS

Everybody has been telling donors to work together for a long time (Baird and Wezel 1993) so that they avoid undermining each other, a common complaint in donor forums. In an era of foreign-aid scarcity, it also makes sense to pool resources toward the creation of sustainable organizations, especially if partial endowments become a favored tool of rewarding the best and most important public interest organizations.

Two objections are commonly presented to this advice. First, that donor coalitions cannot work because not all donors join and too often one donor breaks ranks, or second, that donor coalitions should not bully aid recipients, for this constitutes imperialism.

Both of these arguments are weak. The first ignores the many cases where donor coalitions have succeeded or where partial coalitions have substantially improved the incentive environment. The argument also proposes no alternatives and gives too much credit to the impact a single “rank breaker” can have on an ongoing coalition. It discounts the positive long-term impact on the general funding environment of even partial coalitions. Box 3 describes a good example of how partial success in building a coalition can expand over time to even greater success. In addition, partial coalitions introduce a small degree of accountability for organizational leaders who are reluctant to undertake reforms.

The imperialism argument is weak because it assumes that recipient organizations who find the donor coalition “too tough” are not free to walk away from the bargaining table. It seems to say that Africans are “forced” to accept foreign aid.

ENCOURAGE GOVERNMENT REFORM OF THE ENABLING ENVIRONMENT

Obstacles to competition for organizations often include outdated legal regulations meant for publicly-supported organizations, the absence of appropriate legal definitions for non-profit and public-interest organizations, and over-control and -regulation by inappropriate government and banking authorities. Each country presents different possibilities for reform, but reform and

improvement are still possible. A notable case in which foreign-aid donors have played a positive role in assisting government with reform is Madagascar, where, over a ten-year period, significant reform has occurred in non-profit and commercial law. Even the civil service there has undertaken an innovation unheard of in francophone countries: large areas of the country were effectively removed from the jurisdiction of the forestry service and placed under a public-interest foundation that will become a national parks service.

To encourage reforms, donors can lobby for and support:

- overhaul of commercial codes for investment and private sector activities;
- overhaul of existing non-profit law or the introduction of enabling legislation;
- an independent judiciary capable of enforcing contracts;

Box 3: A Donor Coalition that Works

The Environmental Partnership in Eastern Europe began six years ago as an initiative of the German Marshall Fund and the Rockefeller Brothers Fund. At its launch, six donors joined the partnership. Now, more than twenty donors (including some bilaterals) participate. Funds are pooled and assigned to five autonomous offices in Poland, the Czech Republic, Slovakia, Hungary, and Romania. Partnership offices have national boards, national staff, and national grant-making guidelines. Usually, grants are allocated to non-profit organizations and the funding donors do not participate in grant selection. Grants explicitly favor regional cooperation among beneficiaries. The donor coalition is actively studying the possibility of sustaining the partnership through an endowment. Founders attribute success to common values among the original donors, donors' excitement at the prospect of a re-emerging civil society in Eastern Europe after the end of communism, and high standards for accountability built into the grant competition model created by the project's original technical-assistance advisors (German Marshall Fund, 1995-1996).

- regional regulatory and standard-setting bodies for non-profit organizations;
- modifications of tax and currency laws to allow for corporate and private philanthropy and for foreign investment of partial endowment funds; and
- overhaul of repressive legislation of communications that inhibits free speech among independent organizations outside government monopolies, particularly in radio and television.

SET HIGH, CONTINENT-WIDE STANDARDS FOR ORGANIZATIONAL PERFORMANCE

Donors can examine available standards for non-profit and public-sector organization management, including those suggested appendixes (see also Williams 1995). Donors could start by supporting professional forums in Africa where standards on best practice can be determined and promoted. The organizational models are those used in the U.S. and U.K., such as the Financial Standards Accounting Board, the National Charities Information Bureau, and the Better Business Bureau's Philanthropy Office.

Watchdog and standard-setting organizations can be very simple in structure. They can become larger and more complicated if they add support functions such as a best-practices database, board training, management consulting, and fund-raising advice. In any case, watchdog agencies need some staff to actively promote donor, grantor, and beneficiary awareness of and compliance with performance standards. SPAAR, for example, might be well positioned to set up this watchdog and standard setting function for research organizations in Africa.

Donors might also consider joint creation of an African Quality Award system for publicly-supported organizations and NGOs, similar to the Malcolm Baldrige National Quality Awards in the United States (discussed on p. 25), the National Quality Award in the United Kingdom, and the European Union Quality Award. These are successful government-sponsored awards with proven track records. Winners have been shown to increase shareholder value, customer satis-

faction, and profits to levels higher than those of non-winners. Similar awards do not exist for the public sector or NGOs but should. Receipt of such awards might be a precondition for substantial donor funding of sustainable finance mechanisms such as partial endowments.

BUILD COMPETITIVE FUNDING MECHANISMS THAT REWARD EXCELLENCE

There is substantial consensus in the literature on institutional development of the importance of using competition to increase non-profit and public organization performance (Moingion 1995). Israel (1987) urges the creation of “competition surrogates” for publicly funded organizations to increase levels of effectiveness. Firstenberg (1996) writes that “introducing the realities of competition is the key to strengthening an organization.” The management literature also points to the lack of competition as the primary explanation for poor performance (Drucker et al. 1991). Theorists such as Ostrom and North also assign great importance to competition and credible use of sanctions as key elements determining success or failure for organizations. The most important way to create competition surrogates is to make the funding decisions substantially more competitive and to use highly specific performance standards as the basis for rewarding organizations or sanctioning them.

A simple way for donors to introduce a competitive element is to rely far more on structured competitions to allocate soft loans and grants among countries and organizations. Funding at the national level should be limited to very small grants and for capacity-building initiatives such as training, installing financial and accounting systems, reforming organizations’ governance, and conducting audits, diagnosis, and regional niche assessments.

Competition would greatly improve the quality of the allocation decision and the resulting effectiveness, usefulness and long-term impact of the money when a large loan or grant is intended to cover core operating costs, when sustainable financing mechanisms such as debt swaps or partial endowments are on the agenda,

or when substantial funding is for long-term institution-building projects.

Competition for funding is not a new idea; it is widely practiced within government agencies in the U.S., Canada, and U.K already, especially for research and knowledge sectors. And competitive funding mechanisms are not unknown in Africa. The social science pan-African research council (CODESRIA) has managed juried, continent-wide and regional competitions for scholarship and small research grants for many years. The International Development Research Centre (IDRC) also used them. Many USAID and World Bank-sponsored projects for supporting NGOs also attempted competitions at a national level. However, national competitions among NGOs often experienced problems when they did not use outside, expert review and had too small a pool of viable contenders. Experience strongly suggests that when large amounts of money are at stake, the competition should draw on a regional or continent-wide pool of competitors rather than a much smaller national pool.

Sub-regional and regional competitions make sense for small and medium-scale funding decisions (scholarships, student work, sabbaticals, very small research grants, short-courses, conferences, etc.). Continent-wide or large regional competitions make sense where donors agree that continent-wide or regional centers of organizational excellence will need long-term support. For example, it may not make sense to provide long-term loans and concessionary grants to every university in Africa. True enough, but which then? The only way to answer the question is to base the choice on competitions. At present, such decisions are often left to individual donor staff who lack the regional and continent-wide experience to judge the relative strengths and merits of particular organizations.

In the continent-and-regional model of funding competitions, most funding would go to the best organizations. Thus, the Institut Senegalais de Recherche Agricole (ISRA) in Senegal would compete with the Institut d’Economie Rurale (IER) in Mali and their counterparts throughout francophone West Africa. Only a few countries (perhaps Nigeria and South Africa) are big enough to offer sufficient internal competition to lessen the need for regional activity.

Two points should be made about this approach. First, the competitive model need not apply to such funding as infrastructure loans by the World Bank for roads, hospitals, telecommunications, or for social welfare funding. However, when it comes to long-term, large-scale support to quasi-governmental or nongovernmental knowledge organizations such as universities and research institutions, non-competitive funding is hard to defend. Logistical objections to the concept merely require creative thinking to introduce a regional or continent-wide element. For example, senior management could provide funds to continents or departments on the basis of the quality of the long-term strategic plans produced by the potential beneficiaries. Or a public continent-wide or regional competition could determine first-stage winners who are then eligible for second-stage negotiations at the national level with specific donor agencies.

Second, the fact that some organizations might not win in competition need not be considered a bad outcome. For example, imagine that the Kenyan research institutes consistently beat the Zambian organizations for large-scale funding because they are able to perform at higher levels of efficiency and productivity. What this implies is that the Zambian institutes will have to become smaller and rely more on their own government for funding and should therefore scale themselves appropriately. Perhaps they need to find another research and extension niche in which they can beat Kenya. They might also contract with the Kenyan institute to conduct some of their own research.

The competitive model forces all players, donors and aid recipients, to think hard about priorities, organizational survival, quality, effectiveness, and regional competitive advantage. It is important to realize that the best reward for organizations seeking to be sustainable is a partial, stabilizing endowment, but that such generosity should reward true competence, have public support, and reflect a meaningful regional or continent-wide competition. Basing an award on these factors would avoid the current problem in which donors endow organizations that merit generosity only in that single donor's view. Note also that full endowments are a bad idea, because they insulate organizations too much from their clients and the beneficial forces of competition.

ADOPT BETTER PRACTICE FOR COMPETITIVE FUNDING MECHANISMS

Unfortunately, there is no database of best practice in competitive funding, the creation of which has yet to be undertaken (Indian Council of Agricultural Research 1996; Hertford 1995; Martinez et al. 1995). Extensive experience with a range of funding mechanisms suggests to this author a nine-point list of "better practice" described below.

1. Divide funding budgets into three or four regional or continent-wide "pools" for different types of organizations. A typical pool would have categories for:
 - partial endowments and debt-swap financing;
 - long-term institutional-support grants for core funding of reformed organizations that can prove high-performance;
 - scholarships and sabbaticals for senior research staff;
 - prize awards for organizational innovation, quality awards, and use of best managerial practices inside organizations;
 - medium-size grants for short-term, team projects that fit national and regional priorities in which researchers have the support of their home institutions; and
 - major problem-solving initiatives for which there exists widespread consensus that an extra effort needs to be made.
2. Avoid thematic funding (a technique explicitly used in the U.S. foundation world as a tool to force beneficiary organizations to adopt the donor's agenda) and avoid an excessive number of funding windows from multiple donors with elaborate grant-tracking requirements (none of which are necessary if an organization has one strategic plan, one budget, and one accounting system and is not carrying out donor-designed projects). Fund organizations, not themes.
3. Base any decisions on funding over \$500,000, even if thematic in nature, on comprehensive, detailed,

long-term strategic plans for the entire work of an organization over at least a five-year period. Send thematic project proposals back to the organization and ask it to produce long-term strategic and financial plans.

4. Demand that requests for proposals (RFPs) indicate what kind of partnerships among research organizations and knowledge institutions will receive favor in the competition (for example, agricultural research institutes that partner with university departments and NGOs for a comprehensive system initiative could be notified that they would score higher than those who bid independently). The RFP should be thorough and detailed for each funding category, listing all criteria and weightings that will be used and must clearly describe who is eligible to compete as well as exactly how the competition will be carried out.
5. Hold regional workshops in which potential candidates would learn more about the competition and criteria for participation, and would receive some guidance and training in the application process.
6. Screen out weaker, unprepared institutions that have not gone past Step 4 of the Road to Sustainability with strict eligibility criteria and high performance standards. This screening will permit the strong to compete among themselves and allow them to get even stronger. Site visits to runner-ups should provide additional information to inform the juries.
7. Set aside national funds for diagnosis, turnaround studies, change processes, comprehensive audits, and the first few steps of the Road to Sustainability.
8. Make international, expert juries screen candidates and base final decisions on blind proposals. To save time, proposals should be available for study on password protected Internet sites before juries convene for deliberation. Juries should receive small compensation and should be rotated and reconstituted every few years to protect the integrity of the process. Rotation is important so that faddists and extremists do not dominate decision-making. Juries should combine international expertise not merely in the subject at hand but also in organizational management.

Box 4: Do No Harm Guidelines for Funding

Don't:

- fund project proposals
- fund work on research themes and favorite problems based on short-term planning
- fund organizations without high standards for accounting and financial control systems
- fund organizations with poor governance structures
- work alone and poach the best staff for your own organization
- ignore rumors of misappropriations or make idle threats of reform
- forget to maintain the physical and human capital
- force aid beneficiaries to open separate accounts for your money and report to you separately
- don't allow salaries to get distorted toward international scales

Do:

- fund a percentage contribution to high-quality long-term strategic plans and budgets for the whole organization
- choose to fund key organizations capable of providing long-term solutions to the problem or theme that interests you
- fund organizations that can prove both financial and governance accountability to a wide stakeholder group
- support audits, diagnosis, and regional niche assessments prior to long-term commitments
- work with other donors, sectors, and client groups to define key institutions that merit long-term support and then support them for 5-20 years.
- as a major stakeholder, put yourself or your representatives on the governing board
- develop credible threats for organizations that fail to meet standards

9. Stagger payments to competition winners over time and make them conditional on production of annual, independent, and clean audits as well as production of financial statements that comply with Financial Accounting Standards Bureau (FASB). Grant or loan management can be done in units of existing multi-lateral or international agencies, but the methodology of management and tracking should not be biased by that agency's own procedures.

SUPPORT A CONTINENT-WIDE LABOR MARKET FOR KNOWLEDGE WORKERS

Labor markets for NRM and park managers, university faculty, institute researchers, NGO technology-transfer managers, and CEOs and senior financial officers of knowledge organizations are still national in character, except for a few well-defined linguistically compatible sub-regions. Individual countries in Africa still have very small markets for researchers and faculty. How, then, can the best-performing staff be rewarded for their success? A successful manager of a small research institute or park should be considered a

viable candidate to manage a larger organization elsewhere on the continent. To some extent such a labor market does exist, but the distortions are such that the best managers, researchers, and fund-raisers find they can do better by moving to the best organization, not by giving up on the sector altogether and working for international donor agencies or NGOs. Time and time again, the author has found this to be a major problem in recruiting new leadership to organizations: the best candidates have already left for high-paying international jobs and no longer want to work at the national level.

Steps that can be taken are:

- to ensure that recruitment of senior managers and CEOs is undertaken on a continent-wide basis, not a national one;
- to support competitive, continent-wide awards for accomplishment, including sabbaticals, research exchanges and dissertation research;
- to support installation of new communications infrastructure (wireless radio and satellite for email and conferencing are increasingly inexpensive) to allow knowledge workers to communicate with each other, both throughout Africa and elsewhere. This may seem like a minor improvement, but is essential to keep knowledge staff competitive.

6. Technical Assistance Products for the Road to Sustainability

Organizational change and reform along the suggested Road to Sustainability will not be easy. Short-term technical assistance, provided by persons outside the organization, can be of great help to local committees sponsoring change and reform. Most of the people with experience in reform, change management, total quality management, downsizing, and re-engineering are employed in the private sector. Providers of technical assistance can be helpful in transferring specific knowledge of methods for change management, and they can, by virtue of their outsider status, provide an objective assessment of organizations that insiders have difficulty with before choosing a reform path. Outsiders can also share knowledge of typical reform and restructuring processes, avoidable pitfalls, and tips about what worked elsewhere.

Specifically, technical assistance can be useful for:

- teaching methods of organizational and system diagnosis;
- implementing new systems and processes (like FASB accounting standards);
- coaching CEOs, senior staff, and boards during a reform process;
- providing methods for strategic planning;
- analyzing work processes to permit restructuring and streamlining;
- performing cost-analysis and reduction;
- conducting feasibility studies for new or modified organizational niches and products;
- creating incentive structures and performance review systems for knowledge-workers who have “low specificity” of outputs;
- facilitating, as a neutral third-party, highly-charged and sensitive debates and decisions by key stakeholders;
- evaluating CEO performance on behalf of boards;
- assessing regional niches;
- conducting feasibility studies of partial endowments, debt swaps, business plans, and dedicated taxes; and
- facilitating deals for specific, sustainable-financing mechanisms.

7. Questions for Further Exploration

A great deal more discussion, analysis, and consultation on sustainability for organizations with experienced research managers may need to take place, especially concerning the following questions:

- How can government budgeting procedures be reformed to stabilize organizations? At present, even if an organization receives money from central government, allocations are sporadic and uncertain, which can force wasteful shut-downs of organizations that need longer-term stability.
- How, at the national level, can donors create forums and coalitions of the concerned parties who want to help one or more organizations change and become more sustainable?
- What constitutes an ideal but realistic, next-generation science and technology policy statement for African countries? How can the Road to Sustainability be integrated into such a policy?
- What is the minimum set of enabling policies that has to be implemented to prove commitment by African government to a viable national, regional, and continent-wide R&D and technology-transfer system?
- Given decaying primary school, secondary school, and university infrastructure in Africa and the decline in scholarships for university and graduate research, how will the next generation of African knowledge workers be trained? Should university education be dismantled in several places, leaving just a few regional or continent-wide centers of excellence? Should Africa develop a two-tier university system that would send top-performing students abroad for university and graduate degrees and while creating regional universities to handle the remaining best students? How can R&D organizations participate in this debate?
- How can loans, however soft, be justified for building and supporting research institutions, universities, and other public-organizations whose outputs are random and unpredictable, frequently intangible (food security or biodiversity) and whose effects on the economy can only be estimated?
- For which countries are donor funds crowding out African government investment and citizen initiative? Where this is a problem, what corrective actions can be taken?
- Given inevitable professional disagreement about what constitutes a high standard of performance for a publicly-supported organization, how can useful standards be agreed upon that are not so low as to serve no purpose?

8. The Role of the Sustainable Financing Initiative

At present, the Sustainable Financing Initiative (SFI) promotes debate about the sustainability of organizations that now depend on foreign aid and disseminates information about financial tools that can improve the balance sheets of these organizations. Thus far these goals have been accomplished in three ways: (1) sponsorship of practical publications and workshops on organizational sustainability and diffusion of “how-to” information about funding mechanisms such as check-offs, debt swaps, and endowments; (2) distribution of publications and conference proceedings through an Internet listserve; and (3) provision of modest technical assistance to organizations that have decided to take positive action toward becoming sustainable.

As SFI expands, its stakeholders might consider widening the goals to include adding the organizational sustainability problem to the policy and program agenda of governments, donors, and research organizations. Specifically, SFI might:

- Expand its current think-tank role with greater diffusion of white papers about organizational change and sustainability. These papers could clarify concepts and ideas, using real examples and success stories from around the world. Questions such papers might ask include: What is a market-oriented research organization? What is a logical way to downsize? How can an R&D organization form an effective partnership with a university? How should research for small farmers be handled? How should a regional niche assessment be conducted? Who lobbies for research and how? What are high-performing research teams doing that others can emulate? Models for this kind of white paper and field debate are *RRA Notes* and the *Sustainability Gatekeeper* papers produced by the International Institute for Environment and Development. Another good model is the *Discussion Papers* series published by the ODI Networks in London.
- Expand the SFI Internet site to include “real time chat events” with research managers and management specialists on topics such as analysis of specific reforms and stakeholder issues. These could include on-line discussions and conferences with donors and researchers. The site could also include a simple best-practices database for research managers and organizations, with topics ranging from partnering, client-orientation, teamwork, and approaching a multinational corporation for a contribution to motivational stories of successful researchers. Examples from the corporate world (especially large research laboratories) might be included.
- Support regional “future search” type conferences on research, science, and technology transfer to widen the debate on sustainability and improve practice with new ideas.
- Promote the adoption of high, continent-wide standards for organizational performance and effectiveness through distribution of existing standards and sponsorship of forums for review of best practice. SFI should African professional organizations to help sponsor these forums.
- Make funding available for technical assistance on the national and regional level for audits, organizational diagnoses, regional niche assessments, strategic planning, feasibility studies for specific financial mechanisms, and legal advice on reforms of the enabling environment.
- Promote the establishment of continent-wide and regional competitive funding mechanisms, the creation of organizational quality awards, and the awarding of performance prizes for R&D managers and researchers. The funding mechanisms would finance competitively-determined partial endowments, long-term institutional support grants, sabbaticals, post-doctoral fellowships, and small grants to attend conferences and short-courses.
- Catalyze donor partnerships to test the Road to Sustainability with one or more specific research organizations and document the experience for use

elsewhere in areas where research is most likely to succeed (such as where ecological conditions are favorable, the economy is relatively open, the government is supportive with enabling policies, leadership and key stakeholders are pro-change, and the organization employs many well-trained and -educated staff)

Since these goals are not direct action goals on sustainability but suggestions that aim to influence pre-conceived ideas about change (remember this was a prerequisite to change, as North pointed out), they cannot be measured by the same kind of milestones as are used for the Road to Sustainability. Nonetheless, there are indicators that can measure SFI's success, such as:

- the number of SFI-related documents produced and diffused to the appropriate audience;
- the number of such documents available on Internet site and the number of "hits" on the site, including attendance of live events;
- the number of donor, government, and R&D meetings and forums in which organizational sustainability is part of the agenda (either as presentations, plenary debate, or break-out sessions) as well as numbers of influential decision-makers attending those meetings;
- the number of competitive funding mechanisms established with SFI backing, support, assistance, or involvement;
- the number of organizations that adopt the Road to Sustainability or the distance they have traveled on it;
- the number of donor organizations that adopt the "do no harm" code of conduct or similar codes related to the incentive structure for organizations; and
- the number of concrete sustainability initiatives that relied on SFI facilitation (financing, TA, participation in change committees and in the donor coalitions that support them).

9. Conclusion

This paper has proposed creating continent-wide performance standards for publicly-funded organizations in Africa. A model of regional and continent-wide competitive funding mechanisms is suggested, as is the concept that these competitions should reward organizations that realize or surpass the standards. Successful implementation of the model requires donor cooperation to pool funds, African government support of changes in the legal and regulatory environment, and streamlining of similar or related organizations within regions.

For any given organization, the paper has also provided a phased series of activities to improve per-

formance, called the Road to Sustainability, which managers of organizations can use to make themselves more competitive in a new funding environment of greater scrutiny, higher standards, and increased competition for scarce government tax revenue and foreign aid. Organizations that make progress along the Road will find it easier to obtain partial endowments, sustained government funding, deals with the private sector, contributions from corporate philanthropy offices, dedicated taxes, cess funds, and start-up capital for commercial schemes.

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Appendix 1

What Does a Good Financial System Look Like?

Good financial accountability implies strict procedures for following an approved budget that is, in turn, linked to a straightforward, common-sense chart of accounts. The chart of accounts is not simply borrowed from an out-dated national chart used by the government. Procedures should also exist for authorizing expenses and maintaining proof of expenditures. Expensive capital items are purchased through competitive bids and comparison shopping. Accounts are computerized, usually with fund accounting software tailored to non-profit organizations. Such software is expensive but worth it.

With fund accounting software, senior managers can monitor monthly reports that show actual spending compared to authorized spending for each budget line item. These and other statements are automatically generated by the accounting software. Summary results can then be reviewed at board meetings. At the end of each month, the financial officer reconciles internal accounts with the bank statements and reports on the findings; at the end of the year, comprehensive financial statements must be presented in standardized format and should conform to standards at least as high as those of the Financial Accounting Standards Bureau (FASB), a non-profit organization in the United States.

These annual statements include a balance sheet of assets and liabilities, a statement of activities, a budget, and a cash flow projection. The board should be given a comprehensive, detailed, end-of-year budget versus actual statement, as well as summary analytic data with various ratios that are used to monitor the organization's health and compare it to other organizations.

Year-end statements should also be audited by an external auditing firm. Annual audits are common practice, and a good audit reviews the procedures for financial control and disbursement of funds. The report is then reviewed by the board of directors, who usually sponsor and recruit the auditors. Best practice in Africa suggests that the firm that is hired to conduct the audit should be selected in a competitive bidding process. Wherever possible, bids are preferred from firms based outside the country in which the organization operates. This avoids conflicts of interest and any suggestion of corruption or lax standards. Firms that conduct the audit should be more than familiar with FASB standards, a counsel that, at present, rules out many local firms in the francophone countries, which have no experience with these standards.

Financial accountability is vastly more cumbersome and time-consuming than the preceding paragraphs suggest, but it is a necessary first step toward sustainability. Equivocating on these issues looks extremely suspicious to stakeholders. Of course, it may take months to develop detailed procedure manuals to implement an auditor's suggestions for better controls and reporting. An organization is, after all, a system, which means that changing procedures for buying pencils and gasoline is likely to force change in other things, which can generate resistance from the staff. Conflict is inevitable, and action-oriented staff members may be easily frustrated by the continual brakes that accountants place on action. But this should be no hindrance to an organization seeking to survive and become sustainable. If all staff members understand the stakes that are involved, then conflict will be minimal as everyone rallies to the cause of improving their organization and competing in a larger arena.

Appendix 2

Which Financial Accounting Standards to Adopt?

Accounting standards need not be invented. There are the standards issued by the International Association of Chartered Accountants and standards issued by various national accounting bodies in both Europe and North America. In the United States, more and more non-profits accept those of the Financial Accounting Standards Bureau (FASB). FASB is a private, non-governmental, independent foundation in the U.S. whose trustees are elected by a consortium of professional accounting organizations. The FASB has issued minimal guidelines for non-profits. Donors have grown to see non-compliance with these standards as an indicator of mismanagement and cause for suspicion. Other standards are also available. For example, the Office of Management and Budget of the United States has issued circulars describing acceptable financial practices at institutions that receive government funding. These are also useful guidelines, if perhaps a bit too detailed. The National Charities Information Bureau or the Better Business Bureau, both in the U.S., have a set of standards that include indicators of good governance as well as accounting and financial control. All these organizations have Internet sites. Although the standards are voluntary, they do provide excellent

source material for financial officers in Africa seeking to improve procedures for financial accountability in their organizations. Among these possibilities, FASB standards are at present the best available, even though within the U.S. there are very good arguments that even FASB standards are not tough enough. FASB itself notes that:

Existing international accounting standards issued by the International Accounting Standards Committee (IASC) differ from U.S. generally accepting accounting principles (GAAP) issued by the Financial Accounting Standards Board and others. In many cases, international standards permit explicit choices that are specifically prohibited under U.S. standards, such as revaluation of assets, reversals of writedowns for impairment losses, and capitalization of development costs. International standards tend to be less detailed than U.S. standards, providing less guidance to auditors and preparers for developing consistent financial results for similar transactions (FASB 1997.)

But even with some deficiencies, these standards represent substantial consensus among professional accountants.

Appendix 3

Good Questions to ask During an Organizational Diagnosis

- What does the organization think it is doing, why, and for whom? Does it make good sense to outsiders? Is real value being generated and for whom?
- Using the classic public, private, toll, and common good matrix, what products and elements of the organization are susceptible to cost recovery (full or partial) or to privatization? What kind of feasibility and marketing studies need to be undertaken to better inform such decisions? What might the terms of reference look like for conducting such studies?
- What is the current funding environment like? What behaviors are the foreign-aid donors and national government rewarding or ignoring?
- What problems appear in the balance sheet data and budget processes of the organization? How did those problems arise? What might be done to address the problems realistically and turn around the situation?
- What is the organization's history of results? For example, if it is an agricultural research organization, what concrete technologies have they developed and can provide for farmers? What technologies have they produced in the past? To what extent were the technologies adopted? (Note: it is the author's experience that this question is a lot easier to ask than to get concrete answers for.)
- Who are the organization's clients and what do they think of the organization? How well are the clients' needs and wishes understood by the organization's staff?
- How accountable is the organization to its customers and stakeholders? What changes might need to be made to improve accountability?
- How might the organization cut costs? What elements might be merged? Downsized? Eliminated altogether? Sold to the private sector? Sold back and leased? What is the "right" size for the organization, given its budget resources?
- What incentive systems exist to ensure sustained levels of effort from secretaries to research staff to senior management? How is performance and customer orientation monitored, rewarded, and sanctioned? What room for improvement exists?
- How feasible is the organization's niche and how clearly is it defined? Who are the organization's competitors and natural allies? What kind of useful partnerships does it have with other organizations that avoid duplication of effort? In the case of a research organization, it is pertinent to look at competition and functions that overlap with university departments, research institutes in neighboring countries, and the CG centers with activities in Africa, as well as at internal competition among researchers.
- To what extent can researchers and staff communicate with each other and with colleagues elsewhere? How can they keep up with current applied science and new knowledge since completing formal training?
- Can this organization become sustainable? What are its best options in that direction?
- What constitutes a reasonable salary scale that keeps staff loyal and working hard? Given current revenue scenarios, how will this affect the possible size of the organization?
- What would happen to this organization if its foreign-aid donors stopped giving and it had to rely only on government funding?

Appendix 4

A Checklist for Better Governance of a Public-Interest Organization

- There must be a group of people, a board or council of some kind, that has ultimate oversight over the organization. It recruits, hires, evaluates, and, if necessary, fires the CEO. The rules for admittance to the board or council must be clearly specified and allow some input by all major stakeholders. The CEO should not recruit new members for the board. The board must have freedom to determine its own agenda for its meetings above and beyond whatever subjects must be treated according to by-laws. It should be free to meet outside the presence of the CEO. The CEO should not be a member of the board (contrary to practice in the private sector), but must be considered to be an employee of the board. The board may need a functioning committee structure (such as committees for audits and budgets, capital assets, human capital, social-support capital, and organizational-capital).
- The legal and/or regulatory framework that determines the nature of the organization's constitution must inspire external confidence that higher authorities (a court, parliament, or regulatory agency) will step in if the board of directors fails in its fiduciary responsibilities. In case of dissolution of the organization, the framework should allow for transfer of assets to a similar organization. Creation of a positive legal and regulatory environment requires government and donor input, as the change-management team of an organization cannot be expected to accomplish it alone.
- The board also sets policy. Public and non-profit organizations are unwise to adopt a management model that gives power to determine policy to the CEO.
- There must be sustained, meaningful, and documented interaction between the governing body and the CEO at least twice if not three or four times a year.
- The information that the CEO must provide to the board must be clear to the board and subject to the discretion of the board, not the CEO.
- The board should have the freedom to interact with all members of the staff, with or without the CEO.
- Board meetings must be face-to-face at least twice a year. Conference calls, video meetings, or Internet discussions do not count as official meetings.
- Board members should have access to checks and bank accounts only in emergency situations that are specified in a documented protocol known to all.
- Board members must understand the mission of the organization, be prepared to attend meetings and not conduct other business, and must listen, engage in debate, and be firm with the CEO, but still not impose their own idiosyncrasies. They should be prepared to make tough decisions, and participate fully in executing their fiduciary responsibility for the organization's assets and well-being. If they are not so prepared, they should not be board members.

Appendix 5

Promoting Better Oversight Boards in Africa

Given their lack of experience with non-profit and publicly-funded organizations, oversight boards in Africa often have difficulty in exercising effective authority over CEOs. And CEOs are often accustomed to dealing only with a busy ministry that lets them run things with an over-centralized, “command and control” management style. In such a situation, institution builders need to find ways to work creatively with oversight Boards to make them more effective. Some ideas that appear in the literature on institution building and change management are noted below.

- Create a continent-wide central data bank on the Internet with the resumes of potential board members.
 - Consider merging the change-sponsoring committee into the new board.
 - Allow for some board slots to be recruited from a pool of candidates from outside the country where the organization is located. There is no reason why a Zimbabwean could not serve on a Kenyan board, or for that matter why donors should not reserve the right to collectively appoint an experienced board member from a northern country with knowledge of procedures and standards used outside of Africa.
 - Set up a continent-wide organization that sets and monitors standards and can provide certification that procedures and reports meet international norms. Such an organization can also provide board training and guidance during the formative stages of the board’s development. An e-mail service might prove useful for board members who are perplexed by difficult management problems in the organizations they oversee.
 - Provide free or low-cost consulting services directly to boards on a continent-wide basis, particularly for board self-assessment and evaluation of CEO performance. It might be useful to create a continent-wide service organization that combines the activities and functions of organizations in the U.S. such as the Foundation Center, the National Center on Non-Profit Boards, the International Center on Non-Profit Law, or the Support Centers of America.
- In the U.S. and U.K. board members in non-profits are not paid. In Africa, this custom may not always be appropriate. Of course, board members should not be paid salaries or consulting fees, but donors should consider making the honoraria substantial enough to generate greater board interest in performing heavy governance duties. Board members of large, complicated organizations must spend a great deal of time solving extremely difficult problems in areas of governance, finance, and management. The author’s view is that they should be compensated for their time. One possibility is that founders set a fixed honoraria, with limited allowances at fixed intervals for inflation. Honoraria should encourage Board members to attend meetings, pay attention, and spend extra time preparing for meetings or solving problems in committees between regular meetings. Board members should present receipts to obtain reimbursement for phone calls, express mail, and faxes that they have to contend with. On the other hand, honoraria should not be so high as to be considered the major reason for serving on a Board.
 - Donors and donor consortia should strongly consider reserving a place for themselves on the board or accepting rules that allow donors to appoint one or more board members. Traditional donor reticence to “impose oneself” can easily be oversensitive and inappropriate in the African setting where donors bring valuable resources and experience to the board. Being a strong donor is one way of being a “good” donor.

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