



New Directions for Integrating Environment and Development in East Africa

Key findings from consultations with stakeholders in
Ethiopia, Kenya, Tanzania, and Uganda

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Ecoagriculture Discussion Paper Number 3



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PREFACE

East Africa is at a watershed moment in sustainable development policy, as enormous pressure mounts on the natural resource base that is critical for its economic development. A common critique of sustainable development interventions throughout East Africa and the developing world generally, is that too much of their direction lies in the hands of outside actors. The approach of this project was to use the perspectives of in-country leaders as a point of entry. The goals were to synthesize these ideas in order to distil the most daunting challenges and fruitful opportunities, to reflect back to these leaders their collective insights, and to promote their voices in national and international policy discourses on development and environment.

This study was carried out at the initiative of the David and Lucile Packard Foundation, to explore opportunities for sustainable development in the region, building on the Foundation's experience and achievements in its population program in Ethiopia. The basis for this report is a series of consultations carried out by the authors in Ethiopia, Kenya, Tanzania and Uganda between February and April 2007 to gather perspectives from environment and development leaders in these countries on priorities for investment in sustainable development. Our two institutions – Ecoagriculture Partners and the International Institute for Environment and Development – are grateful to the Foundation for the opportunity to conduct this interesting study, which has also helped us in developing our own strategies for action in the region.

The results of these consultations are fascinating, and also inspiring. They highlight ways to link new or rapidly-growing economic sectors in East Africa (natural resource-based commodities, agricultural investments, tourism, carbon offset markets) to national agendas for food security, restoration of degraded natural resources, and poverty reduction. They propose ways to build on and strengthen national institutions to guide policy formation under new economic and resource pressures and opportunities. They draw attention to highly successful local initiatives that can be cost-effectively scaled up with more strategic coordination among rural development, environment and economic sectors. While major barriers to implementing these ideas exist, the leaders interviewed had pragmatic ideas for moving forward. These ideas are thought-provoking and, we believe, deserve broader attention and discussion.

Sara J. Scherr, President, Ecoagriculture Partners

Camilla Toulmin, Director, International Institute for Environment and Development

February 2009

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EXECUTIVE SUMMARY

This paper synthesizes the findings of a study carried out by Ecoagriculture Partners and the International Institute for Environment and Development on behalf of the David and Lucile Packard Foundation to explore opportunities for sustainable development in East Africa. It is based on a survey of nearly 200 leaders in environment and development in Ethiopia, Kenya, Tanzania and Uganda, as well as international experts, and uses their views and recommendations as a foundation to suggest priorities for action towards sustainable development in East Africa.

Challenges for sustainable development in the region

The next 10 years will be a critical period for environment and development in East Africa. The region finds itself at a crossroads in the way that its environmental assets will be used. Growing populations, high levels of economic growth, accelerating globalization and large-scale extraction often driven by demands and investments from outside are placing unprecedented demands on natural resources and putting new pressures on the livelihoods that depend on these resources. On the one hand, current trends suggest that the next decade will see a continuation of massive asset-stripping and environmental degradation: the result of local and foreign elites driving land conversion to unsustainable agriculture and poorly regulated extractive industries. On the other hand, some very promising models for local and national institutions are rapidly emerging; if engaged wisely with appropriate investment, these new opportunities could lay the foundation for truly sustainable management of natural resources and support East African livelihoods, health, security and economic growth.

Although there are clear differences between countries, a number of strong messages came out consistently throughout the consultations and research that laid the foundation for the analysis contained in this paper: environmental constraints, new investment opportunities, enabling policies and institutions, and rights and access for communities. The most pressing environmental constraints include degradation of soil, water, forests and other natural resources. Climate change is already posing a significant challenge in the region, and its impacts, while not entirely predictable, will be increasingly felt. Population and demographic trends are also central to the region's sustainable development context.

There is a consensus among people involved in sustainable development in the region that the top environmental priorities for most people interviewed in all countries are (a) the need to *reverse widespread degradation* of soil, water, forest and other key resources, and (b) to *improve the means to access these resources at sustainable levels and in a secure manner*, in order to (c) meet the needs of economic growth at national level, and livelihoods at the individual level.

New opportunities for sustainable development in East Africa

Increasing demand for East Africa's natural resources presents new and difficult challenges, but also new opportunities. The rising demand for natural resource-based products and environmental services in the region is creating new markets, with the potential to provide incentives for more sustainable production practices that will have both long- and short-term benefits for the producers. Funding for agricultural

development, from both domestic and international sources, could drastically change the structure of the most important industry in the region. Policies supportive of integrated environment and development initiatives are beginning to emerge, on paper if not in practice, new institutional arrangements are being put in place, and conditions are therefore becoming more favorable to innovation and integration. Countries are also increasingly working together to confront regional challenges. A growing number of locally-driven, integrated, multi-stakeholder, landscape-scale initiatives are succeeding and present opportunities for scaling up.

The initiatives that work for environment and development in East Africa

The study highlights the existence of an array of initiatives in the four countries that are successfully pursuing integrated environment and development objectives. These activities come from community organizations, national and local governments, non-governmental organizations (NGOs), academia and the private sector. For the purpose of the presentation in this report, they are clustered into the following categories: community-based management of natural resources for local livelihoods; natural resource-based businesses that benefit communities and the environment, including markets for environmental services; integrating population issues into development activities; connecting initiatives within landscapes; promoting integrated approaches in the formal policy process; and policy research and networks for advocacy.

The initiatives that have tended to be successful share a conceptual and operational basis in deliberately integrating ecological, socioeconomic and political concerns. An integrated approach breaks down barriers that may have impeded sustainable development in the past, to find approaches that are more appropriate to the present conditions in a particular place. An integrated approach also places people and supportive institutions at the center of the management and development process, sustaining and enhancing both human and natural capital.

Strategies for making East Africa's development sustainable on a larger scale

Drawing from the perspectives gathered during the in-country consultations, the context of other background research, insights from past and current successful environment and development initiatives and the principles of integration, a strategic approach to future activities in the field is offered.

This approach comprises three priority and mutually-reinforcing areas of activity:

- *Supporting and scaling up local initiatives* that work by sharing knowledge from successful initiatives and building capacity for local governments, intermediary NGOs, and farmer and community organizations.
- *Mobilizing investment to promote integrated development* through advisory and brokerage services in markets for pro-poor sustainable development and a focus on pro-poor carbon finance.

- *Improving cross-sectoral and futures-oriented policy* by filling policy gaps, demonstrating the benefits of integration (economic, social, physical) to policymakers, revisiting the demographic and other drivers of sustainable development and placing it appropriately within policy discourses.

1. INTRODUCTION

The next 10 years will be a critical period for environment and development in East Africa. The region finds itself at a crossroads in the way that its environmental assets will be used. Growing populations, high levels of economic growth, accelerating globalization and large-scale extraction often driven by demands and investments from outside are placing unprecedented demands on natural resources and creating new pressures on the livelihoods that depend on these resources. On the one hand, current trends suggest that the next decade will see a continuation of massive asset-stripping and environmental degradation, the result of local and foreign elites driving land conversion to agriculture and poorly regulated extractive industries. On the other hand, some very promising models for local and national institutions are rapidly emerging. If engaged wisely and with appropriate investment, these could lay the foundation for truly sustainable management of natural resources and could support East African livelihoods, health, security and economic growth.

During 2007, Ecoagriculture Partners (EP) and the International Institute for Environment and Development (IIED) undertook a scoping study on behalf of the David and Lucile Packard Foundation, surveying nearly 200 environment and development leaders and institutions in Ethiopia, Kenya, Tanzania and Uganda, as well as international leaders and experts in the region (see study area in Figure 1 and list of people consulted in Appendix 1). The report was also informed by background literature referenced in the bibliography (see Appendix 2), and by discussions held in early 2007 at the Packard Foundation's meeting on population and environment in Addis Ababa, Ethiopia as well as the 10th meeting of the multi-agency Poverty-Environment Partnership hosted by UNEP in Nairobi.

In conducting this study, Ecoagriculture Partners and IIED were anxious to seek and reflect the perspectives of national and local leaders in environment and development in order to ensure that knowledge and insights *from the ground* would inform broader international debates and development interventions. Dialogues were held to take stock of trends, analyze the effectiveness of a wide range of approaches to linking environment and development – whether connected to government, to local business, to African academic initiative, or to endeavors at livelihood level – and to chart promising ways forward. These deep, dynamic discussions created a rare opportunity to capture and convey messages from people within these four countries on how environmental priorities should be integrated into development activities. They provided a sizable amount of information and strong views from people in the region.

The consultations found that the top environmental priority for most people interviewed in all countries was (a) to *reverse widespread degradation* of soil, water, forest and other key resources, and (b) to *improve the means to access these resources at sustainable levels and in a secure manner*, in order (c) to meet the needs of economic growth at national level, and livelihoods at the individual level. These needs are especially pressing for the rural poor, who still depend critically on agriculture, and for whom population growth and fertility rates remain very high. At the same time, rapid growth in urban areas will also create, and is already creating, significant problems in water supply, sanitation and waste management. Although a major increase in agricultural investment is under way, few of the large investments, whether by internal investors or external donors, are

designed to respond strategically to the environmental or demographic pressures cited by many of the people interviewed for this study.

This paper synthesizes the findings of the study, and uses them as a foundation to suggest some priorities for action towards sustainable development in East Africa. It begins with a summary of the sustainable development challenges and opportunities in the region, followed by an exploration of examples of successful initiatives in the four countries, highlighting some of the reasons why they work, as well as the barriers to scaling up. The final section identifies principles for achieving an integrated approach at landscape, livelihood, and policy-making levels, and suggests three strategic areas of intervention for integrating development and environment in the region.

Figure 1. Map of the Study Area



2. CHALLENGES FOR SUSTAINABLE DEVELOPMENT IN EAST AFRICA

Although there are clear differences between countries, a number of strong messages regarding East Africa's challenges are expressed consistently by people who are at the forefront of shaping a more sustainable future in the region. The issues explored in this section represent the context within which future efforts for sustainable development must operate. These include the degradation of natural resources needed to meet human needs, climate change and shifting demographic trends. These drivers are linked to each other and one cannot be fully understood in isolation from the others, and without a proper appreciation of the context.

The top environmental concern in all four countries is widespread degradation of soil, water, forest and other key resources needed to meet human needs.

*"What is happening here now is total destruction, of values, of people, of resources." –
Tanzanian NGO leader*

In East Africa, environment and development agendas are seen as inextricably linked. The majority of people in Ethiopia, Kenya, Tanzania and Uganda are very poor (see Table 1 for indicative statistics of the state of well-being in these countries). Poverty is both a driver and a consequence of environmental problems. Economic, health and environmental concerns and issues impact directly on each other and unless all are addressed in an integrated way, people have very few paths to escape from poverty.

Table 1. Poverty in East Africa

Country	Human Development Index (HDI) Rank	Gross National Income per capita (USD)	Average Economic Growth		Probability at Birth of Not Surviving to Age 40
			Rate as % rise in GDP (1995-2005)	Population Not Using an Improved Water Source	
Ethiopia	169	220	5%	78%	33.3%
Kenya	148	680	3%	39%	35.1%
Uganda	154	340	6.6%	40%	38.5%
Tanzania	159	400	5.3%	38%	36.2%

Source: World Bank 2007, WRI 2007

East Africa possesses a wealth of natural resources and associated ecosystem services, but most are currently under extreme pressure and many are being utilized unsustainably. While the Gross Domestic Product (GDP) in the four countries is now rising fairly quickly, insufficient attention to environmental planning threatens the sustainability of this economic expansion. Much of this growth is, in fact, coming at the expense

of natural capital, including fertile agricultural land, forests and water. Lost value from forest depletion alone is equivalent to 40% of Gross National Savings (GNS) in Uganda and 120% in Ethiopia, where it wipes out the country's GNS (World Bank 2006).

Fertile, well-watered agricultural land constitutes only a small proportion of the land area in the four countries, but agricultural production, the sector contributing to the largest portion of GDP in all four countries, has grown very significantly in absolute terms (see Table 2). However, it is actually less productive *per capita* today than it was 20 years ago (ASARECA 2005), due to a combination of rapid population growth, degradation of the natural resource base of soil, water and agricultural biodiversity (crop genetic diversity and supportive wild species such as pollinators), inadequate institutional support and weak markets.

Table 2. GDP from Agriculture in East Africa

Country	GDP Earned from Agriculture	% Arable Land	% Arable Land that is Irrigated	Difference between 1985 and 2005 Food Production Index per capita*
Ethiopia	47.7%	11%	3%	+13.2**
Kenya	27.0%	9%	2%	-1.8
Uganda	32.7%	36%	0%	-9.3
Tanzania	44.5%	6%	4%	-33.6

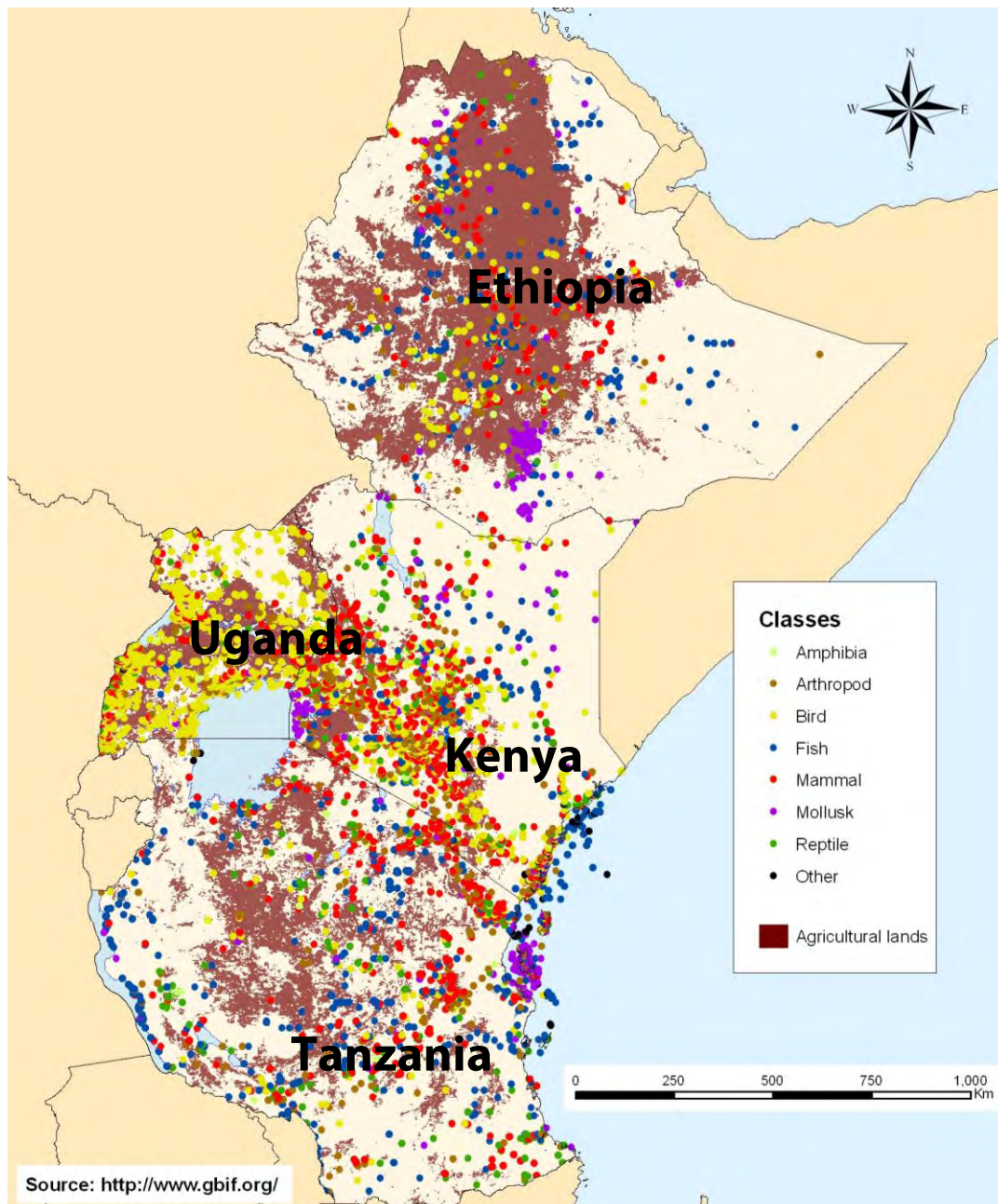
*Food Production Index per capita is the "net food production (after deduction for feed and seed) of a country's agricultural sector per person relative to the base period 1999-2001. The food production per capita index covers all edible agricultural products that contain nutrients; coffee and tea are excluded" (www.earthtrends.wri.org). Compare to a world increase of +11.3 between 1995 and 2005.

** Ethiopia's earliest data is from 1993.

Source: FAO 2006; World Bank 2007

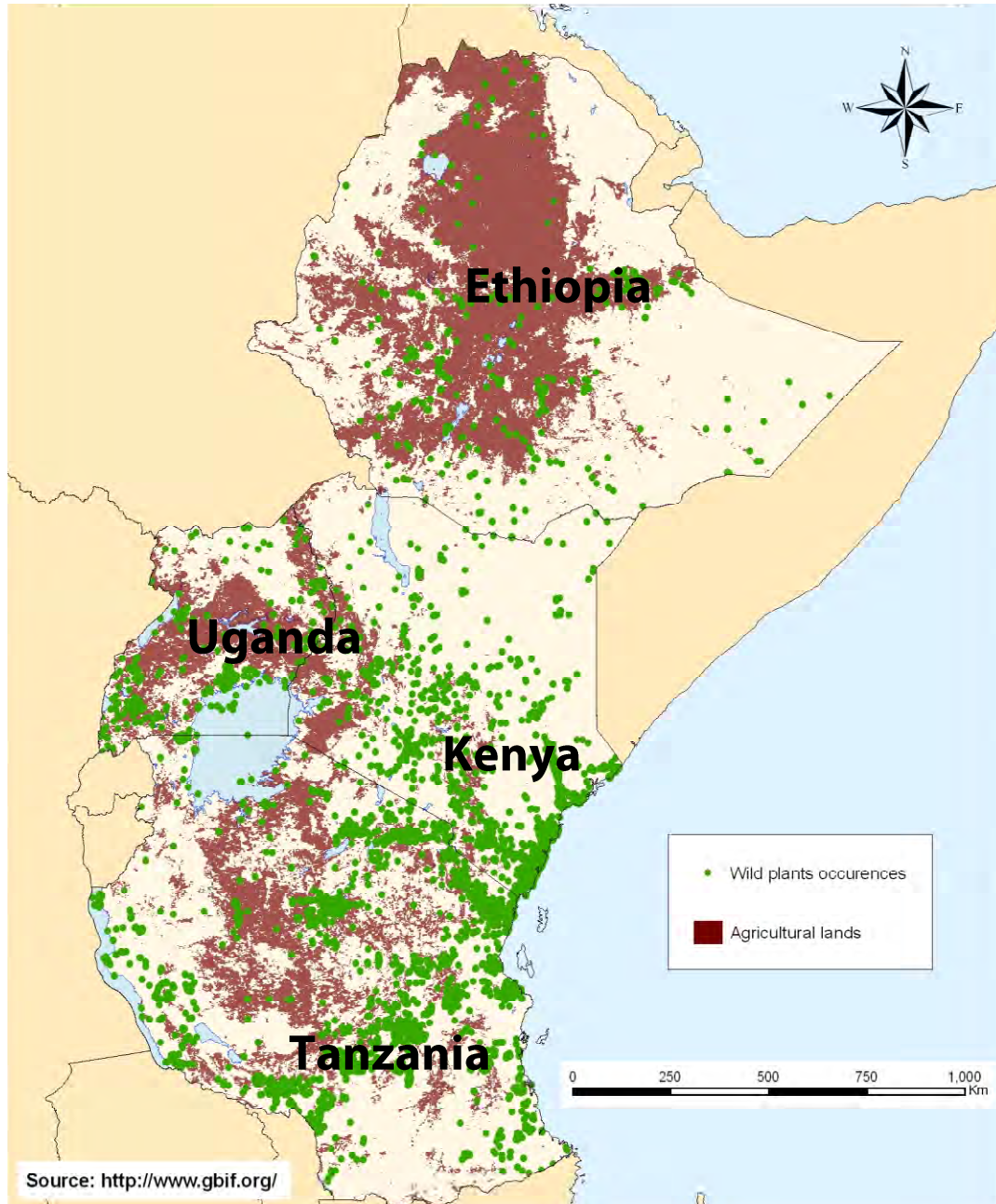
Crop, livestock and forest production dominate land use, and the expansion of these sectors and associated rural settlements has led to large-scale loss of natural habitats, wetlands and forests. Most of the countries' major watersheds are intensively farmed. Figures 1 and 2 illustrate the close correlation between agricultural lands and faunal and floral biodiversity, with many agricultural areas overlapping with the region's biodiversity 'hotspots'. Unless agricultural land use patterns and production practices are purposefully planned to have a positive – or at least neutral – effect on ecosystem services, globally and regionally important biodiversity, agricultural production itself and the rapidly growing tourist industry will be put at further risk.

Figure 2. East African Agricultural Lands and Faunal Biodiversity



Source: Collet and Jarvis 2008

Figure 3. East African Agricultural Lands and Floral Biodiversity



Source: Collet and Jarvis 2008

The region faces serious challenges related to water quality and quantity. An estimated 38-40% of the population in Kenya, Uganda and Tanzania, and 78% in Ethiopia, lack access to improved water sources (see Table 1). Over-burdened drinking water systems are now also being used for irrigation. Watersheds are already heavily populated and cultivated, in ways that have reduced water infiltration and storage and increased soil erosion and sedimentation of dams. Serious conflicts are anticipated between water demand for

agriculture and industrial use critical for economic development, for hydroelectric power, and for local day-to-day use by rural and urban populations.

Escalating climate change and other environmental stresses will test stakeholder capacities and institutions

“Communities where we work are reporting unusual climatic changes, beyond customary variability. It’s not a distant threat, it’s a real problem.” – NGO researcher

All four countries have experienced both droughts and floods in recent years, with considerable loss of life, environmental assets and infrastructure. At least part of this is the result of global climate change. If national coping strategies for existing climate variability are weak, the signs are that future climate change will leave the countries even more vulnerable, especially given the dependence of a majority of the rural poor on rain-fed, marginal land (ILRI 2006; WWF 2006). However, East Africa is one of the few regions where some positive glimmers can be extracted from the dire global predictions. Modelers predict that the region as whole will get wetter by 2050, in contrast to many other regions of Africa where rain-fed agriculture could halve by 2020 (IPCC 2007). Still, according to Lane and Jarvis (2007), yields of wheat, barley and sugar cane will decline, although crops such as yam, banana and strawberry may benefit. These projections on benefits should be taken with caution as they do not take into account trends of migration to arid areas or pressures on farmers as they manage shifts in crop varieties and outbreaks of new pests. Furthermore, there are few agricultural institutions in the region that follow climate change debates, let alone work to build resilience to it. One researcher expressed the opinion that “it is very early stages in addressing climate change here – we are still at the early political awareness stage, although there are traditional means to reduce vulnerability that we can rely on.”

Population growth rates and total fertility rates remain very high among the rural poor, accelerating demand for environmental goods and services

“A key issue for population policy is damage to land due to population pressure, including increased use of marginal lands where no technologies yet exist to manage or protect them from damage.” – Ethiopian academic

Ethiopia, Kenya, Tanzania, and Uganda together have a population of 173 million, which is expected to grow by 66% over the next 25 years. Population growth and total fertility rates remain very high among the rural poor, even if they have come down over the last two decades (see Table 3). In many cases, rural population pressure and environmental degradation have spurred migration to rapidly growing urban settlements that lack infrastructure and services, aggravating problems of waste management, and energy, water and sanitation shortages that undermine the potential social and economic benefits of urbanization (Bolnick *et al.* 2006).

Table 3. Population Trends in East Africa

Country	Total Population, 2007	Population Growth Projection (2005-2030)	Total Fertility Rate 2000 (lowest/highest income quintile)		Current Urban Population Growth		% Rural Population Growth Rate
				% Urban Population	Rate	% Rural Population	
Ethiopia	77,154,000	53M	6.3/3.6	16%	4%	84%	2%
Kenya	35,553,490	8M	7.8/3.4	21%	4%	79%	2%
Uganda	29,898,598	36M	8.5/4.1	13%	4%	87%	3%
Tanzania	39,458,709	18M	6.5/3.0	25%	4%	75%	2%

Source: World Bank 2007; WRI 2007

While current and projected population growth is widely recognized as a major strain on rural communities' capacity to attain sustainable livelihoods, population analysis and planning are not well integrated into sectoral investment or environmental planning. Policy makers often make the incorrect assumption that recent declines in growth rates, largely connected to the tragedy of HIV/AIDS and to previous investments in reproductive health, will continue without sustained investments in family planning, for which there is high unmet demand. Whether population growth is a threat to the environment depends in part on patterns of sustainable natural resource-based economic growth and investment (Tiffen *et al.* 1994; Mortimore and Harris 2003). As emphasized by one individual working on Millennium Development Goals (MDGs) in the region, “during these next 10 years, economic transformation must be accompanied by a demographic transition.”

3. NEW OPPORTUNITIES FOR SUSTAINABLE DEVELOPMENT IN EAST AFRICA

“Those who want to help us need to take risk ... and trust us.” – Regional civil society network leader

“Sustainable development? It’s about turning problems into opportunities.” – Regional representative, international development NGO

Despite daunting economic, environmental and demographic trends facing East Africa, new opportunities are creating real cause for optimism, spurred by creative innovations at the level of communities, businesses, civil society and government agencies, new waves of investment from within and outside of the region, shifts in environment and development policies and the strengthening of some key institutions. Managed and supported appropriately, these developments have the potential to greatly improve the region’s prospects for sustainable development.

EMERGING INVESTMENT OPPORTUNITIES

“International institutions and businesses are looking to invest in carbon, biodiversity and eco-tourism – all things that Tanzania has real potential for. How can we attract them?” – Tanzanian Government Official

The current and predicted increase in demand for East Africa’s natural resources is presenting formidable challenges, but it is also presenting new opportunities

The private sector, domestically and internationally, as well as international donors, have been increasing their investments in natural resources. The domestic private sector has had a very short-term focus on income generation, largely due to a lack of secure rights to land in many areas, the inability to raise significant finance for long-term investment, and poor information about emerging markets for environmentally-friendly products and services. Where environmental assets are concerned, ‘quick money’ is now more easily made by selling off minerals and timber to foreign buyers. A farmer federation leader expressed concern that “currently the private sector is uninterested in sustainability.” Although private business in the region is not significantly involved in pro-poor, pro-environment, pro-community development, there are some promising initiatives including payments for environmental services (PES) schemes, certified agricultural and forest products, ecotourism, and some examples of corporate-community partnerships. Some international donors in agriculture, environment and development are also starting to show some signs of supporting integration of environmental issues in their investments (albeit primarily climate change at present).

There is a rapid rise in international and national demand for agricultural and natural resource-based products from the region

While livelihood security is increasingly dependent on natural resources, commercial demand for agricultural and natural resource-based products, for both domestic and export markets, is growing rapidly. Rising incomes together with rapid population growth have accelerated domestic demand for food and forest products, but global trends have been the more critical price drivers for many commodities. World prices for basic food commodities have risen steadily since 2000, but a dramatic spike between 2006 and 2008, while benefiting some farmers, has created food crises in urban and rural areas throughout the world. In this two-year period, the average price of corn increased by 125%, rice by 217% and wheat by 139% (Steinberg 2008) – and very recently nearly all such prices have collapsed, again due to global trends towards recession in many economies. While some of these surges are due to distortions based on trade policies and speculation, rising demand for agricultural products from rapidly developing countries such as China and India, and policies promoting biofuels in the US and Europe, have created real market scarcity. For example, China's overall trade with Africa in 2006 at USD 55 billion was 10 times the level of 1995 (Canby *et al.* 2008) with imports into China dominated by natural resource commodities including oil, natural gas, minerals and timber. Since 75% of the working population in the region depends on agriculture for their livelihoods, in theory these trends could be a great boon. However benefits still accrue most to those who control marketing and there are only small segments of these markets that reward sustainable production. Indeed, many exports to China are illegal – resulting from illegal felling and trade from Tanzania (Milledge *et al.* 2007) and Mozambique (Bossel and Norfolk 2007). Tanzania is currently the only country in East Africa with significant legal exports of timber to China (Canby *et al.* 2008).

The recent investment boom in biofuels is a notable trend that has stoked both enthusiasm and concern. In Ethiopia, 1.15 million hectares are either granted to foreign companies or are under negotiation for biofuels production (Doussou-Bodjrenou *et al.* 2007). The Government of Uganda has even sought to de-gazette national parks so they can be planted with palm oil and sugarcane for biofuels. In Tanzania, the government is fast-tracking biofuels initiatives as a solution to energy shortages, and is targeting vast areas of its most fertile areas of land. Some see biofuels as an engine of economic growth, poverty reduction, access to clean energy, and environmental rehabilitation. There are indeed some clear win-win possibilities where, for example, oil seeds are grown around farms, producing fuel which can be processed and used locally, thereby saving foreign exchange; this is being promoted throughout East Africa. However, noting the fiscal and other incentives in Organization for Economic Cooperation and Development (OECD) countries that are leading to high demands from abroad, and the agricultural requirements for growing biofuels efficiently, others fear neo-colonial financial and land tenure arrangements that will benefit only international investors and local elites while replacing an 'energy problem' with exacerbated water, food and/or ecological problems, destroying the (agro)ecosystems upon which many rural communities depend and displacing people and their livelihoods. The future will depend on the speed with which strong institutions and policies emerge to regulate or provide pro-poor, pro-environment incentives for the industry (Milder *et al.* 2008) and development leaders and practitioners in the region see this as an urgent priority.

Markets for eco-friendly products and environmental services are beginning to emerge in East Africa

A core challenge for sustainable development is that environmental values, whether positive or negative, are not reflected in prices or other business incentives. Farms and businesses that produce in an ecosystem-friendly way are usually paid the same for their product, but may incur more short-term costs than those who do not. New markets are now emerging globally that promise to incorporate those environmental values directly. First, these include eco-friendly product and service markets that privilege sources verified to have been produced sustainably, such as organic and biodiversity-friendly food, fair trade products, certified timber, and eco-tourism. Second are new markets and payment systems for ecosystem services, including an accelerating carbon market, biodiversity protection and payments for watershed services.

Eco-friendly products and services

Certified organic food production is growing rapidly in East Africa and provides an opportunity for added value as a key market chain innovation to increase market competitiveness for African small-holder farmers. Market under-supply and high forecasted growth give Africa's organic small and medium producers a real chance of developing partnerships with domestic, US and European supermarket chains. Outgrower agricultural schemes helping small-farmers supply agro-industry could be designed to help them meet standards for environmental management, as well as product quality.

Tourism already accounts for significant portions of GDP in Kenya and Tanzania, and the overall the number of visitors for nature tourism in the region is projected to double by 2020. Opportunities for biodiversity conservation can come from environmentally-friendly tourism, in terms of financing protection of particularly charismatic species, and design of facilities and infrastructure.

Carbon offset markets

Carbon markets, buying and selling the right to emit greenhouse gases, have been booming since 2006. Analysts believe that the global market reached 4.2 billion tons of carbon transacted in 2008, up 56% from 2007. These trades are projected to be worth USD 92 billion (Point Carbon 2008). Although the opportunities in carbon markets are vast globally, East Africa has been largely left out. In fact, only 2.6% of projects currently implemented under the Clean Development Mechanism (CDM), one of the primary options offered under the Kyoto Protocol for developing countries to benefit from carbon markets, are in Africa. For the four countries covered by this study, there are only three cases (all in Uganda) where money has actually changed hands in a CDM project (Katoomba Group 2007). Although new CDM-eligible projects are in the pipeline, East Africa has been largely left out of this and other regulated markets, those markets having marginalized terrestrial offset opportunities, which East Africa is well suited for, in favor of energy projects for which East Africa is not well positioned. However, some excitement has been brewing over the opportunities that may be offered by a post-2012 trading regime (after the Kyoto Protocol expires), in which payments for reduced emissions from deforestation and degradation (REDD) and perhaps even soil carbon offsets may be included. Pilot REDD schemes are already being tested in East Africa, particularly in Tanzania. Despite the challenges for East Africa in the regulated markets, dozens of land-based projects are in the pipeline in the voluntary carbon markets (Hamilton *et al.* 2008).

While they represent a major opportunity and offer great potential, these markets also present a threat if the funds are not informed by – and are not required to secure – the many other environmental, social and economic benefits provided by land associated with carbon stores. The challenge will be to design these projects in ways that bring positive impacts for biodiversity, watershed protection and local livelihoods. One example of an effort in this direction is the Climate, Community and Biodiversity Alliance (CCBA), a partnership between leading companies, NGOs and research institutes which certifies projects that reduce greenhouse gases, conserve biodiversity and support livelihoods.

Payments for biodiversity

Traditional payments for biodiversity conservation, made by conservation groups and tourists, continue in the region alongside emerging opportunities from voluntary and regulatory mechanisms such as ‘biodiversity offsets’. These are payments made by investors in oil, gas, infrastructure and other activities, where even very good design will result in biodiversity losses, to conserve or restore those same types of ecological resources within the broader habitat. Such payments could bring significant resources to support public and community conservation initiatives (ten Kate, Bishop and Bayon 2004).

Payments for watershed services

Markets for watershed services, in which downstream users compensate parties upstream for stewardship of water quality and quantity, are also rapidly developing in East Africa. For example, in the Uluguru Mountains in the Morogoro Region of Tanzania, four villages are receiving payments from a public water utility in Dar es Salaam to improve land use practices within the city’s watershed.

These eco-market pilot activities are also having the effect of raising awareness among the private sector, governments and communities of the potential economic benefits from ecosystem stewardship. All actors, however, must proceed with caution. As one interviewee noted, “engaging the full range of African voices is critical in these newly forming markets, so that environmental and social standards match local needs rather than just the values of foreign consumers”.

A major increase in agricultural development funding is under way

In 2003, African governments agreed to invest at least 10% of their budgets in agriculture over the next five years (Hanson 2008) and progress has been made towards this goal. External development funding for agriculture is also increasing, even if some of the bilateral agencies have substantially reduced their support to the sector. The Alliance for a Green Revolution in Africa (AGRA), which is supported by the Bill and Melinda Gates and Rockefeller Foundations, has invested USD 330 million across the agricultural value chain on seeds, soil health, market development, agricultural education and policy (AGRA 2008), and it is committed to significantly increasing this amount in the coming years. The Millennium Challenge Corporation has already invested nearly USD 1.7 billion in African agricultural development, and the World Bank is also becoming a stronger supporter of agricultural investment in Africa. The China Development Bank has granted loans worth several hundred million dollars to agricultural processing companies, mostly in

East Africa, with much more to come (Magnowski and Fertey 2008). As one interviewee said, “the world talks of having to feed Africa, but we should now consider the business idea of Africa feeding the world”.

Domestic investment is still focused on commercial crop production for exports and supplying domestic urban consumers, rather than for very local needs. International investment almost invariably focuses on increasing exports. Developed country donors and foundations may have the interest of poor farmers in mind, but not enough of this investment is designed to ensure environmental sustainability of these agricultural production systems, much less a positive impact on other ecosystem services such as biodiversity conservation or watershed protection. Those in charge of environment in the donor agencies are working to make the internal argument to invest in environmental resources for economic growth, livelihoods and safety nets. Meanwhile, the heads of those same agencies are struggling to respond to high-level political decisions within many OECD countries that development assistance should include significant funds for climate change mitigation and adaptation – appearing again to favor large-scale transfers to treasuries or through multilateral development banks.

There are some bright spots, however, where conservation strategies have been integrated into agriculture investments. The “Productive Safety-Net Program in Ethiopia” and the FAO-Netherlands Partnership Program, for example, are supporting initiatives that integrate environment with food security. The United States Agency for International Development (USAID) and other bilateral development agencies, private foundations such as the David and Lucile Packard Foundation, the Summit Foundation, the William and Flora Hewlett Foundation and the Christensen Fund as well as conservation organizations such as the Jane Goodall Institute, World Wide Fund for Nature, Conservation International and Wildlife Conservation Society support a range of integrated projects that aim to address the linkages between population, health, poverty, food security, cultural diversity and natural resources.

POLICY AND INSTITUTIONAL OPPORTUNITIES

“The infrastructure is here, there are institutions doing pioneering work, ready to be linked to new questions (trade, biofuels, business, ecosystem services), to international debates, and to the larger dimension of local livelihood issues and strategies.” – Africa representative, donor agency

The policy and institutional context is improving

Policies and institutions necessary for the integration of environment and development are beginning to develop in East Africa, although significant barriers remain. The region has exceptional analytical talent and a group of excellent universities, but these resources are not being fully utilized to deal with the long-term challenges requiring integrated solutions. National and local policies are beginning to shift to address changing environment and development conditions, but often the policies are not being fully implemented. Countries often work together and learn from each other, particularly when dealing with cross-boundary issues, but regional cooperation needs to be strengthened. At the local level, integrated, landscape scale institutions are emerging. In many of these cases, NGOs fill institutional gaps and play a lead role in innovation and advocacy.

At a policy level, there has been considerable reform of national policies and legislation for environment and natural resources in the past decade

The former near-universal view of policymakers that the environment can be sacrificed for economic growth and poverty reduction is beginning to fade, and there is increasing political will to resist, and to install alternatives to, prevailing unsustainable forms of resource utilization. The New Economic Partnership for Africa (NEPAD), through its Comprehensive Africa Agricultural Development Programme (CAADP) has established sustainable land and water management as a central pillar. However, policy gaps remain between sectors. Institutions responsible for development, environmental, agricultural and health planning and action on the ground often focus narrowly on the sector for which they are responsible, and mechanisms for coordination can be weak or non-existent. This is mirrored in the separation of professional and academic disciplines.

Recent efforts to integrate environmental concerns into Poverty Reduction Strategies are a sign of progress, but actors in the region feel that there remain major challenges with implementation and harmonization. Indeed, in some countries, the pace of formal policy reform is well ahead of implementation, as noted by a Tanzanian academic: “Policies are reformed before they are tested and implemented, and people are confused”. Stakeholders and financial resources are also not yet sufficiently mobilized to support innovation and scaling up, and the systems and capacities needed to turn policy into action remain weak and underfunded. This is particularly true at the local level where rapid and uncoordinated processes to devolve power from the central government have left some districts unaware of policies or ill-equipped to implement them. As a Tanzanian group concluded, “we have constructed a small bridge between environment and development in planning processes, but not in investment, empowerment and action.” (Box 6 describes some of Tanzania’s administrative breakthroughs that are more conducive to environmental integration – notably in planning and budgeting).

There is a history of regional collaboration at government and civil society levels, both formal and informal, that can be built upon

The colonial histories of Kenya, Tanzania and Uganda fostered some regional collaboration, which has regained momentum particularly with the revival of the East African Community (EAC) in 1999. Strengthening regional relationships has the potential to enhance economic growth and environmental governance, particularly on cross-border issues, as reflected in initiatives such as the Nile Basin Initiative, the Lake Victoria Initiative and a number of biodiversity conservation programs. Many informants in this study endorsed the idea of future activities for sustainable development being built on collaboration. Ethiopia also has links within the region, but these are weaker and more efforts are needed to involve Ethiopian institutions more directly in regional processes.

There are many locally proven approaches for environmentally sound land management and restoration

The region has a wealth of experience in locally tested, cross-sectoral approaches to resource management and participatory development. These are often led by community organizations and operate at a landscape

scale. However, projects like these are often not recognized by policymakers and donors, have poor access to financing, and funders have (generally mistaken) perceptions of their low financial returns. One researcher in Ethiopia echoed a widespread sentiment that “most necessary knowledge [for sustainable development] is already in this country; we just need to scale up. It’s an issue of communication.”

NGOs and landscape-level, integrated field approaches can link grassroots action with district and national programs and policies

NGOs are playing an evolving role in linking and bridging sectors. Over the past few decades, governments in East Africa have shifted considerably, from viewing these groups as a threat to recognizing their valuable role in grassroots implementation of public agendas, often filling gaps in government services and capacity. The situation however varies between countries, with Ethiopia having public policies that are less favorable to civil society than the other countries of the region, resulting in a weaker capacity among NGOs. Many NGOs focus on local sustainable development and resource management, some concentrate on managing natural resources to provide environmental services for human benefit, while others promote an agenda of protecting globally significant biodiversity. Many NGOs are forming strategic partnerships with government agencies, private sector and grassroots organizations, and strengthening their technical capacities for scaling up successful initiatives while continuing to pilot innovative approaches.

4. WHAT INITIATIVES ARE ALREADY WORKING FOR ENVIRONMENT AND DEVELOPMENT IN EAST AFRICA?

To achieve sustainable development, East African countries must manage natural resources to provide for the livelihood needs of local producers and consumers, to meet the demands of export markets, and to sustain the functions of ecosystems. These objectives must all be met within considerable environmental and institutional constraints. A barrier consistently found throughout the consultations and research in East Africa is that sectors suffer from insufficient linkages between each other. Ministries do not work sufficiently together in their planning processes, and they are not systematically seeking out synergies and efficiencies from integrated projects. Agricultural investments do not sufficiently take into account ecological context, while environmental investments do not have the best information on associated livelihood needs and market demands. Priority areas for biodiversity are not reflected in infrastructure planning.

In the course of this study, numerous initiatives were identified in the four countries that do pursue integrated solutions. These advances and successes are drawn from all quarters of society including community organizations, national and local governments, NGOs, academic institutions and the private sector. They can be clustered around the following categories:

- Community-based management of natural resources for local livelihoods;
- Innovations in natural resource-based business that benefit communities and the environment, including markets for environmental services;
- Integrating population issues into development activities;
- Connecting initiatives within landscapes;
- Promoting integrated approaches in the formal policy; and
- Policy research and networks for advocacy.

COMMUNITY-BASED MANAGEMENT OF NATURAL RESOURCES FOR LOCAL LIVELIHOODS

There are many locally proven approaches for environmentally sound resource management and restoration in agricultural landscapes. Communities tend to recognize the necessity of integrated approaches to local environmental and economic management in a way that policymakers or international donors might not. There are successful cases of community-driven development, but they require appropriate support in order to be scaled up, including secure access to natural resources, tenure rights over resources, and support for sharing knowledge within and between communities.

Although the literature has been historically poor on indigenous or farmer-driven approaches, there is now convincing documentation of the concrete benefits of appropriate natural resource and ecosystem management to agricultural productivity and income in East African farming systems. Important syntheses have been produced by the Regional Land Management Unit (RELMA), the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), the World Agroforestry Centre (ICRAF) and other research centers and universities, as well as by the Sub-Saharan Africa assessment for the International Assessment of Agricultural Science and Technology for Development (IAASTD).

Box 1. Kijabe Environmental Volunteers (KENVO)

The Kijabe Environment Volunteers (KENVO) is a community-based organization created in 1996 by a group of young people living near the Keirita Forest on the Kikuyu Escarpment in Kenya. The founders were responding to the degradation of the forest and high rates of youth unemployment. KENVO's initial work centered on community education, through programs in schools and wider public education events, on the value of forests and the key factors that were leading to their destruction in the area. Early activities also included indigenous tree planting projects.

KENVO's work with forests and community education led to the recognition among group members that sustainable livelihood opportunities and farming activities in particular, are central to a comprehensive approach to community environmental management. As a result, KENVO began to organize forums for farmers to work together to exchange knowledge and collaborate to protect catchment sites, forest patches and biodiversity. They are now working with farmers on knowledge sharing and marketing activities. KENVO has collaborated with farmers to identify and document best management practices, established a farmer information center to facilitate peer-to-peer learning, and organized farmer field days. To create incentives for more sustainable agricultural practices, they have conducted a market assessment, facilitated the formation of a farmers' marketing group, and linked farmers with financial institutions that can provide credit. KENVO has also initiated some specific income generating activities around the forest including bee keeping, community tree nurseries, and ecotourism facilities.

This example illustrates how something that began as a somewhat narrowly focused local forestry group has been able to grow into a broad integrated rural development initiative.

Source: www.kenvokenya.com

New approaches working closely with community-based organizations, such as women, farmer, forest user and conservation groups and watershed management committees, are proving more flexible and cost-effective than previous programs administered directly by government bureaucracies. These local initiatives see little separation between their efforts to promote livelihoods and conservation. In the case of the Kijabe Environmental Volunteers (KENVO), for example, a community forest conservation group is now supporting local agricultural development (Box 1). Sustainable land management (SLM) initiatives, like the Association for Conservation Tillage, Landcare and national programs associated with TerrAfrica, are promoting conservation tillage, rainwater harvesting, agroforestry and other technologies and local collective action that span production and conservation action. Small grants for farmer organizations from the United Nations Development Programme (UNDP) and the Government of the Netherlands have supported farm investments with environmental benefits. The African Wildlife Foundation and the Jane Goodall Institute

have both begun major programs of work to support agricultural development with small farmer organizations working in and around critical wildlife habitats.

INNOVATIONS IN NATURAL RESOURCE-BASED BUSINESSES THAT BENEFIT COMMUNITIES AND THE ENVIRONMENT, INCLUDING MARKETS FOR ENVIRONMENTAL SERVICES

Although current patterns of investment and business development in Africa do not favor pro-poor and pro-environment enterprise, emerging ethical, natural resource-based innovations have the potential to bring substantial benefits to communities while preserving and enhancing the environment. The Coastal Farm Forest Association of Tanzania is one successful case (see Box 2). Similar initiatives and promises exist in forestry, honey and other non-timber forest products, eco-certified agricultural products and eco-tourism. To improve their market position, small- and medium-scale enterprises need to pursue strategies such as vertical or horizontal integration, improved quality and efficiency, and more targeted marketing. A key factor in establishing such business innovations has been the provision of technology and business training for local farmers and businesses, including management advisory services, market information services, market intermediation, and technical assistance and training (Scherr *et al.* 2003).

Markets for ecosystem services have begun to develop in all four countries. Carbon markets, in particular, offer incentives to mobilize investments to conserve or rebuild forests and vegetative cover, tipping the financial balance in favor of higher-biomass, higher-productivity, sustainable agriculture, agroforestry and community forestry systems. Such investments can also be designed to help communities to adapt to climate change. As noted earlier, the Clean Development Mechanism (CDM) has largely bypassed East Africa largely because of the difficulty of registering land based offset projects. However, efforts are being made to improve East Africa's prospects. A UNDP and the United Nations Environment Programme (UNEP)

CDM capacity-building project is including Kenya, Tanzania and Ethiopia. Pro-Poor Rewards for Environmental Services in Africa (PRESA) is providing technical and policy support to small-holder PES projects. The conservation organization WWF has teamed up with rural development NGOs, CARE and their national partners to promote payments for ecosystem services with farmers in Uganda and Tanzania. The Katoomba Group (see Box 3) is working in East Africa on 'incubator' programs to bring ecosystem service products, including carbon, biodiversity and water products, to market.

Box 2. The Coastal Farm Forest Association

Threats to Kenya's 80,000 wood carvers, including the overexploitation of forests, led to the formation of the Coastal Farm Forest Association. This group is a large cooperative of carvers who are linked to a dedicated marketing and sales company, Kenya Coast Tree Products. Forest Stewardship Council (FSC) certification of the Association's products has boosted both sustainability and profitability for tree growers (Macqueen 2007). This initiative is part of a wider East Africa Coastal Ecoregion conservation plan to connect the biodiversity-rich, but highly fragmented forest habitat in the area. It illustrates the conservation and development potential of well-designed natural resource-based businesses.

Source: Macqueen 2007

INTEGRATING POPULATION ISSUES INTO DEVELOPMENT ACTIVITIES

Population issues are real, but they cannot be addressed in isolation from other issues of development (De Souza *et al* 2003). The East African experience shows that a focus on population, in many instances, provides a useful point of entry for an integrated development approach in areas where population, agriculture and environment are critical and inter-connected. This perspective can also bring the under-appreciated needs and perspectives of women and children into focus. Integrated population initiatives tend to succeed when they link conservation and agricultural groups with decentralized health and family planning services; empower women and households; involve local governments; cross-train participating institutions; and mobilize funding from other donors and government agencies with related programs.

Box 3. Katoomba Group for Eastern and Southern Africa

Payments for ecosystem services (PES) in East Africa are now primarily occurring on an *ad hoc* basis through small-scale pilot projects. Information gaps, lack of capacity to design and manage projects and the absence of institutions to support on-the-ground implementation have largely hindered efforts to scale up. The East and Southern Africa Katoomba Group (KG) aims to address these impediments by providing a forum of innovators to support the development of PES in ways that also contribute to sustainable development. National PES working groups in Kenya, Uganda and Tanzania are actively involved in KG activities. Current work is identifying PES initiatives—both potential and existing—that offer rich learning opportunities around the development of PES in the region. ‘Site-structured learning’ will provide a forum for sharing site-based lessons as well as a conduit for problem solving. The Katoomba Group “incubator” services support selected PES schemes to develop quickly and effectively. The group promotes policy dialogue about PES, as well as mobilizing interest among potential buyers of ecosystem services. The Community Forum supports local community organizations interested in participating in PES, and the KG has developed user-friendly tools to help interested land managers assess the potential for PES and get started in developing new initiatives.

Source: Katoomba Group 2008

As illustrated by the pioneering work done in Ethiopia with support from the David and Lucile Packard Foundation, this integration at the level of field interventions can usefully inform advocacy work and guide policy reform, by highlighting the environmental factors that are responsible for migration and other demographic trends as well as the environmental impacts of demography, by informing the definition of compatible national goals and targets in population and environment, by identifying policy measures and directions that can help society move towards these goals and targets, and by revealing the policy instruments – in population, environment, or other sectors – that may have perverse, negative impacts on sustainability (Haile 2004).

Box 4. Population, Health and the Environment (PHE) Initiative in East Africa

In 2007, a group representing development planners, NGOs, researchers, and community representatives from Ethiopia, Kenya, Rwanda, Tanzania, Uganda, and the Democratic Republic of the Congo launched the East Africa Population, Health, and Environment (PHE) Network in Addis Ababa. PHE is an integrated approach to development that recognizes the linkages between poverty alleviation, environmental protection and sustainable livelihoods, and views fertility rates as a key variable in all of these. PHE is a much broader concept than the acronym suggests: it can include not only family planning and conservation, but also disaster mitigation, gender mainstreaming, HIV/AIDS programming, food security promotion, security and governance, social entrepreneurship, environmental health promotion, and economic development – whatever causes or symptoms link P, H and E.

The goals of the East Africa PHE Network are: to serve as a communication mechanism for knowledge sharing on program design and implementation; to enhance communication among different stakeholders (researchers, development planners, and program managers) working to achieve PHE objectives in East Africa; to promote stakeholder interest in PHE linkages at the national and regional levels; and to disseminate PHE research and data.

Source: Environmental Health 2007

CONNECTING INITIATIVES WITHIN LANDSCAPES

Many district governments in the four countries covered in this study have established cross-agency and multi-stakeholder forums, as have some large watershed and ecosystem-scale projects (see Box 5 for example of Landcare in Uganda). National governments in all four countries are also supporting decentralized district-level planning. Practical poverty-environment solutions, even when successful, are scattered throughout the region and are often poorly known in their own landscape. Organizations are needed to document, disseminate, connect to other groups and scale up these approaches, and there are numerous examples of ones that are currently successful.

In western Kenya, a longstanding platform for coordinating agroforestry initiatives among agencies and farmer groups is considered quite successful. Platforms in Uganda include district-level multi-stakeholder forums and Substantive Farmer Forums, with an estimated reach of about 10,000 households per district. At least 49 multi-stakeholder forums are operational, primarily established through Uganda National Agricultural Advisory Services (NAADS) investment. In Kenya, by contrast, investment from national governments or major donors has been minimal. The establishment and financing of existing platforms has been driven by the farmers themselves, with costs covered by membership fees or by NGOs. Platforms are small in reach and focus and primarily concerned with facilitating market access, through bulk buying of inputs and sales of farmer produce. While the situation differs between countries, it is clear that the basis exists, on the ground, for a more systematic effort aimed at linking, strengthening and scaling up community initiatives.

Box 5. Landcare in Uganda

Landcare is a good example of a mechanism that support and facilitates networking, mutual learning and collective strengthening among local initiatives. It is a movement of farmer-led organizations with backing from local government, the private sector, and technical experts that focuses on landscape management to improve agricultural productivity by sustaining natural resources. It originated in Australia, but has been adapted to a range of contexts in 17 countries. NGOs, community-based organizations (CBOs), and local and national governments in a given country collaborate to train Landcare group facilitators who work with communities to develop collective action and investment plans to address farm- and landscape-level land management problems and opportunities.

In Eastern Uganda, the Kapchorwa District Landcare Chapter (KADLACC), working in the Mt. Elgon area, which contains a national park of high biodiversity importance as well as vulnerable farming communities surrounding it, is a platform for institutions including local farmers groups, community development associations, soil and water conservation and agro-forestry associations, research organizations, and district and local government representatives. KADLACC works with the poor and vulnerable communities in the degraded, densely populated watersheds and landscapes in and around Mt. Elgon to address issues of low agricultural productivity. Priority areas for KADLACC members include collaborative watershed management; documentation of on-farm innovations; demonstration site development; facilitated peer-to-peer learning processes to enhance knowledge exchange; partnership and network building; and marketing and enterprise development activities. Demonstrated on-farm productivity improvements for staple crops, including maize and bananas, have been complemented by soil and water health improvements on-farm and within the surrounding landscape, as well as enhanced income generation options for collective enterprise development activities, including livestock rearing and fruit production

Sources: Catacutan. Ed. 2008; Kapchorwa District Landcare Team 2006

PROMOTING INTEGRATED APPROACHES IN THE FORMAL POLICY PROCESS

Substantial progress has been made in the past few years in reforming national policy frameworks, with all governments in the region having developed comprehensive and often quite progressive poverty reduction strategy documents, as well as having formulated or revised national policies dealing with environment, population and other sectors relevant to sustainable development. All these documents pay attention to the need for improving integration, both horizontally between sectors and vertically between national and local levels. Tanzania's National Strategy for Growth and Reduction of Poverty, known as MKUKUTA (see Box 6), and the Kenya 2030 Vision are good examples of policy statements that deal with all the critical issues and that offer integrated strategies to achieve stated objectives of poverty reduction and sustainable development. But – in these as in other similar cases – the challenges lie in the translation of the policy intents and directions into concrete changes in governance, capacities, production systems and the delivery of social services.

The MKUKUTA experience suggests that the process of policy formulation is as important as the content of the policy that is being formulated, and that the type and quality of the process used will determine, to a large extent, how the policy will be implemented. “Unless you change the way governments make policy, you won't have lasting impact”, says a United Nations official with extensive experience in Africa. Participatory processes of policy formulation have shown that they can help in generating more credible and more grounded analyses of issues and needs, that they create new linkages between institutions and sectors that are not used to working together, that they nurture a sense of ownership of and commitment to the policy

directions and measures identified, and that they build transparency and legitimacy. In other words, the processes themselves begin to ‘wire together’ the new institutions required for integrating environment and development.

Box 6. Mkukuta: Environment at the Heart of Tanzania’s Development

Poor people are disproportionately dependent on environmental *assets* such as soils and water, lacking access to other assets. Poor people are also highly vulnerable to environmental *hazards*, lacking ways to evade floods or pollution. Yet few countries have built these dual environmental concerns into the foundations of their poverty reduction efforts. Recently, Tanzania’s National Strategy for Growth and Reduction of Poverty, known as MKUKUTA, has pioneered environmental mainstreaming – at least at planning level. A multi-stakeholder Tanzanian ‘learning group’ helped to identify what has been achieved, to celebrate it, to validate it, and to brainstorm what comes next. Lessons from Tanzania include:

- The value of coordinating environmental mainstreaming through a high-level, non-sectoral ministry – the Vice President’s Office, has been key to revealing the wide range of ways in which environment can contribute to development outcomes.
- Many of the MKUKUTA’s successes can be attributed to the Government taking seriously the need for ‘country-driven, participatory planning’ – not merely taking donors’ *pre-set ‘priority sectors’* but looking broadly at the many contributions, including environmental contributions, that can achieve *development outcomes*.
- The links between poverty and the environment were explored and monitored by many development interests; being found to encompass livelihoods, health, security and economic growth, they were therefore seen as priorities for integration.
- Enabling the ministry of finance to ask key questions about the value of environmental assets, their use, associated revenue generation and value added, led to a probing public expenditure review on the environment.
- This in turn led to a four-times increase in environmental budget, and has pointed to key changes required in financial models and budget processes.
- Protecting environmental resources has come to be seen as a major part of poverty reduction, and no longer as a ‘brake’ on development.
- Leadership for environmental mainstreaming includes national, local, and external environmental champions, who spark change at many levels. Mainstreaming cannot be achieved by a special ‘mainstreaming project’ alone.

MKUKUTA bridged a planning gap between environment and development. But there are still challenges:

- *The environmental investment gap*: a need to make up for severe under-investment in environmental assets in the past – and to shift from trade-related asset-stripping to investment in natural resource assets.
- *The environmental capacity gap*: a need for information and monitoring systems so that environmental agencies can operate effectively, influence development, and track development progress.
- *The environmental empowerment gap*: effective devolution to local levels and to groups dependent on the environment, for example by clarifying and strengthening their environmental rights and responsibilities
- *The policy coherence gap*: rationalizing the MKUKUTA (a five-year planning framework for what *can* be done with environmental assets) and the new Environmental Management Act (a long-term legal framework which stresses what *cannot* be done).

Source: Assey et al. 2007

POLICY RESEARCH AND NETWORKS FOR ADVOCACY

To promote sustainable development and environmental management at a scale that will make a difference to countries in East Africa, institutions devoted to policy research and constructive, ‘evidence-based’ advocacy are critical. “Advocacy can be an instrument of leveraging because it creates awareness of opportunities and promotes partnerships”, says a Tanzanian academic who also works as a development consultant. As one policy analyst pointed out, “some people still think policies are immutable, and they perceive any policy change as a ‘coup’,” but another professor noted that “policymakers actually appreciate integrated analysis that reveal where change is needed.”

Many of those interviewed pointed to international organizations like ICRAF and the International Livestock Research Institute (ILRI) as principal sources of policy analysis related to development and environment in East Africa. But there are also many national institutions in the region with highly qualified staff and wide-ranging activities in policy research and advocacy, including the African Centre for Technology Studies (ACTS) (see Box 7), Kenya’s Institute for Development Studies, the Kenyan Institute of Public Policy Research and Analysis (KIPPRA); in Tanzania, the Economic and Social Research Foundation (ESRF) and Research on Poverty Alleviation (REPOA), and the Institute for Resource Assessment (IRA); in Uganda, the Centre for Basic Research, Todber Tumashamai, and Makerere University; in Ethiopia, the Forum for Social Studies and Addis Ababa University. Key elements for success in research include adequate manpower and authority, funding to free researchers from dependence on short-term consultancies, a research strategy that brings in diverse perspectives, and an ability to look both beyond borders (e.g. to the impact of Chinese and Indian trade and investment, and to the potentials of regional collaboration), and into futures (e.g. scenario planning to ensure robust strategy in a globalized world which is increasingly experiencing shocks to economic, social and environmental systems, and to provide suitable responses to climate and other changes).

Box 7. The African Centre for Technology Studies

East Africa has begun to develop national and regional institutions for independent policy analysis. A notable success example has been ACTS, a Nairobi-based international intergovernmental science, technology and environmental policy think-tank that works throughout Africa. The center synthesizes scientific and technological information to enable African countries to make effective policy choices. It works with partners and networks including academic and research institutions, national governments, UN bodies, regional and international processes and NGOs.

ACTS’ programs have evolved over the years in response to shifting national, regional and global development agendas and challenges. The center began its work by playing a key role in building the capacity of African countries to negotiate the provisions of the international agreements which were concluded at the 1992 Earth Summit in Rio de Janeiro (Agenda 21 and the Conventions on biological diversity, climate change and desertification). ACTS is now at the forefront of national, regional and international policy processes on environmental governance, energy, water security, health, and agriculture. This wide array of topics allows ACTS to take broad, intersectoral view in its work.

ACTS other key role is training. It leverages its scientific and policy expertise to run capacity-building courses, filling a perceived gap in Africa’s institutions of higher education, to train policy-makers and practitioners in areas of ACTS’ expertise.

Source: <http://www.acts.or.ke>

5. STRATEGIES FOR MAKING EAST AFRICA'S DEVELOPMENT SUSTAINABLE

The preceding section confirms that there are many exciting and promising initiatives in the region. In order for these to flourish widely, at a scale that will have a strong impact on economies, livelihoods and ecosystems, a favorable policy framework and political support from coalitions across sectors will be required. The question therefore remains of how to develop that robust policy framework and political support during the current 10-20 year window of unprecedented challenge and opportunity – when East Africa's environmental assets could *either* continue to be exploited and degraded by (foreign) elites *or* be managed, restored and used wisely in building sustainable economies. The challenge is to identify and implement the concrete strategies for environmental management and development interventions that could create the conditions to scale up successes. The present section proposes elements of a response to this question and this challenge.

Any strategy for addressing East Africa's rapidly evolving environment and development challenges should be guided by a clear vision, first, of the type of development that is desired, and second, of the processes that will best support that development. The challenges faced by the region are indeed formidable. But the voices, experiences, skills and institutions of the people with whom this study has engaged in the four countries point towards a vision where, in 20 years, patterns of development could be so transformed that natural resources would be both conserved and used as drivers of sustainable economic development and poverty reduction.

THREE PRINCIPLES THAT SUPPORT AN INTEGRATED APPROACH

Initiatives that are making progress towards environment and development goals tend to be based on integrated perspectives that appreciate synergies between ecological, economic and social contexts at all levels. The term *integration* is now widely used, often in varied and vague ways. Integration is about breaking down boundaries that are no longer useful – and that have in many cases been detrimental to development – and finding the groupings that are now more appropriate for a specific time and place. Examples of moves toward integration in this context would include biodiversity conservation into agricultural planning; population dynamics into environmental planning; environmental health issues into health planning; gender issues into development and environmental planning; and farmers' resource management practices into global public goods regimes. These examples can be characterized in three ways – integration at landscape level, integration at livelihood level, and integration of stakeholders in decision-making processes.

A landscape approach

A landscape approach employs *landscape* as a spatially organized framework and unit of analysis for evaluating relationships between people's activities and their ecological context (LMRC 2008). This approach to planning interventions aims to improve those relationships by focusing on selected landscapes of both ecological and social significance, as well as the institutions that enable sustainable, long-term landscape management. The boundaries of the landscape reflect the geographic areas that need to be considered in

responding to key stakeholder interests. The concept is similar to the *watershed* or *catchment* approach but may be defined by other factors, such as habitat for endangered wildlife species, a biological corridor linking protected forest areas through working landscapes, the foodshed of an urban center, the area supplying feedstocks for a biofuel project, or the boundaries of a carbon offset project. The landscape approach is needed particularly in situations where diverse users and managers of natural resources strongly affect the quality, or access of other stakeholders to, those resources. In East Africa, agricultural development must be managed in ways that protect watershed services or conservation of economically valuable wildlife, and forest conservation must be implemented in ways that benefit—or at least do not harm—livelihoods of local communities. In such cases, planning is far more efficient at a landscape scale rather than farm by farm. (At the same time, there is a danger that the process of taking particular approaches and instruments to a larger scale can ignore and lose the participatory, locally grounded dimension of the initial intervention.)

A livelihood approach

A livelihood approach is concerned with the well-being of individuals, families, households and communities as a key goal of development and as a major indicator of progress. It recognizes that human systems and communities are built and depend on ecological, economic, social and cultural assets that must be protected and enhanced. The approach puts people and their formal and informal institutions at the center of the development process. It seeks to capitalize on existing strengths but also accepts that change is an inherent part of the development process. It acknowledges the differences that exist within a given group, according to sex, age and culture, and aims to understand and improve the links and coherence between local, national and global institutions, including markets, from the bottom up.

A livelihood approach will also be concerned about rights and voice, seeking to redress imbalances of power in favor of the weak and marginalized. “The opposite of the silver bullets that are promoted by many external organizations is the long-term building of civil rights”, insists an academic with extensive experience in East Africa. Faced with the erosion of tenure and access rights, in part as a result of dominant development policies and processes, new initiatives in sustainable development must place the protection and building of rights at the center of their strategy.

Multi-stakeholder decision-making

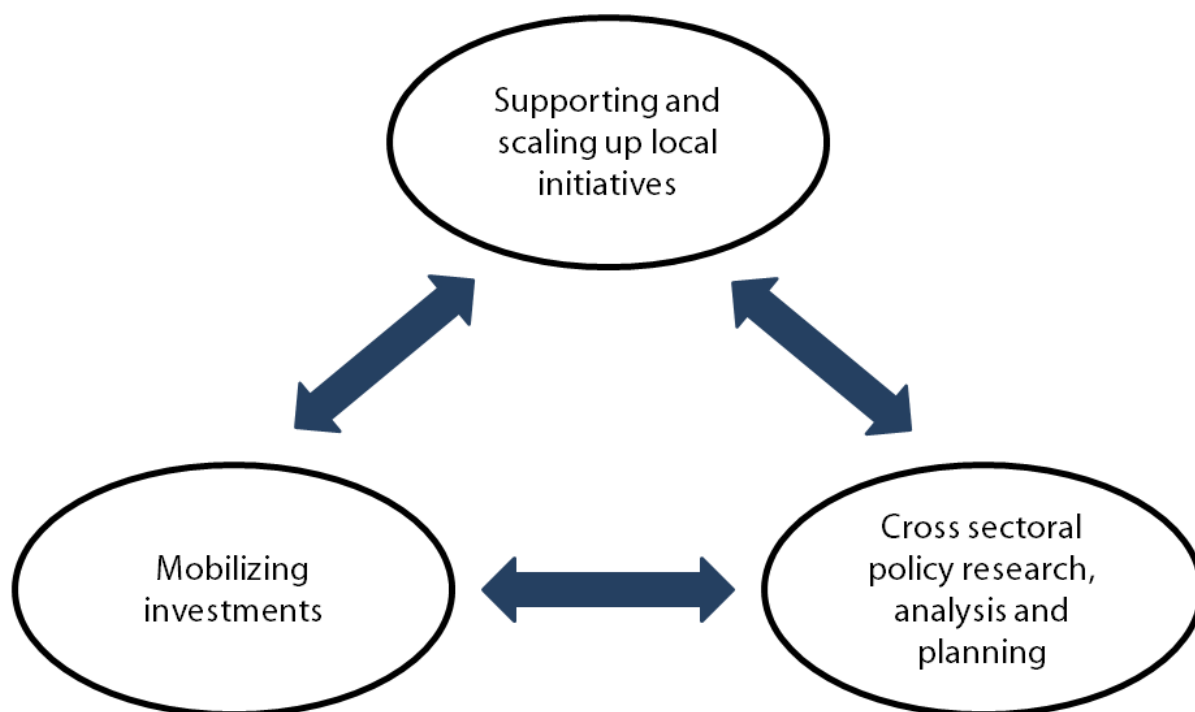
A participatory multi-stakeholder process respects the concerns, cultural values and priorities of diverse stakeholders, whether expressed for agriculture, or for health, population, business, etc. It explicitly seeks ways to pursue potential synergies, and to manage or overcome potential trade-offs between development and conservation strategy. This approach implies processes to build a shared vision among sectors and stakeholders that can guide investment programs. In this way, different groups may integrate efforts in diverse ways: simply joining forces for advocacy purposes; setting up projects whereby investing in one sector is a prerequisite for obtaining benefits from the other; or joint investments that mobilize greater support by appealing to different interest groups.

THREE AREAS OF ACTIVITY

Looking at the issues, the priority needs and the current responses – especially the innovations that may not yet have large-scale impact but that provide clear alternatives to unsustainable practices and policies, a suitable strategy would be to *invest in the linkages between people, business and natural resources*, acting simultaneously on three fronts:

- Support scaling up of integrated, community-based solutions to reduce poverty and sustain environmental services;
- Improve the policy environment and create enabling conditions by catalyzing and promoting cross-sectoral and futures-based policy analysis, planning and action; and
- Mobilize investment for sustainable resource-based enterprises that have the capacity to reduce poverty, generate growth and also provide greater environmental services on a sustainable basis.

Figure 4. Three key elements of a strategy for sustainable development



FIRST, SUPPORT LOCAL INITIATIVES AT SCALE

Improved capacity for community-led and local government landscape management is critical to addressing East Africa’s escalating environmental and development challenges. Lack of access to knowledge and locally-appropriate information on improved technologies and management options, coupled with poor knowledge

flows, continue to constrain farming communities in particular. Although farmer organizations and federations are developing in all four countries, they are still estimated to involve less than a fifth of all farm households; fewer still receive extension services for production or marketing. Nonetheless, some community and farmer organizations are managing to synergistically enhance agricultural productivity, watershed and biodiversity values and human well-being. At the local level, the tendency towards this kind of integration tends to happen organically where communities relying on natural resource-based livelihoods recognize that there is no conflict between environment and development, and where such conflict is not being signaled by outside agencies. But such initiatives must be supported. For example, communities must be trained in methodologies to manage their own resources and in market opportunities for ecosystem services. They may require platforms for community-to-community knowledge-sharing and access to small investment funds. This capacity building will also require a strengthening of local government and intermediary NGOs so that they can play a facilitation role between the local and regional, national and international governmental and non-governmental bodies.

This approach is based on the understanding that “scaling up” – one of new keywords in the development jargon – is much more than expanding the size and reach of an intervention. “It is much more than taking an idea that has worked at the micro-level and expecting it to work at the macro-level”, said a policy analyst with extensive experience in Africa. It is a complex process that involves understanding and transforming markets, influencing and reforming policy, establishing new systems and creating favorable conditions at all levels.

Linking and learning from community initiatives

Previous sections have identified examples of integrated community-led initiatives that work. However, they are still typically unknown to each other and are largely ignored by the authorities. These initiatives rarely move beyond the pilot stage, because external funding stops, they are poorly linked to government programs or knowledge systems, and the services on which they depend are not institutionalized. Moreover, pilot activities are poorly networked, so that exchange of knowledge and lessons is limited.

An opportunity exists in the historic changes under way that are creating the political and organizational context for a major push to scale up these community-based systems. The challenge now is to identify these decentralization initiatives – many of them now well-established in policy and legal terms – and make them work. One example is the meaningful participation in mandated community management of forests in Tanzania. Another is the Ecoagriculture-Kenya Forum and Uganda Ecoagriculture Working Groups – connecting innovators from farmer and community organizations, government and academia together to share knowledge to improve management in the home landscapes of group members, and to advocate for local and national policies that would help to scale up ecoagriculture in the country.

Strengthening the capacity of farmer organizations

The environmental priority for farmers is training on sustainable agriculture. Farmer organizations must also develop the capacity to deepen collaboration with ministries of agriculture and continue to support capacity-building through training-the-trainers initiatives, Farmer Field Schools, farmer-based extension and the provision of decision support tools. These support-to-farmer groups will be critical for both farm-level

innovations and landscape-level planning that integrate agriculture with water, carbon and biodiversity management. As one agribusiness leader argued, “extension needs to be re-shaped with an expanded syllabus to include soil, water, biodiversity, etc.” Farmers can utilize multi-stakeholder platforms within districts and landscapes, to improve coordination among agencies and NGOs.

Building capacity in the middle: local government and intermediary NGOs

A critical component in scaling up integrated development initiatives is the building of capacity ‘in the middle’, strengthening the institutions in local government and the intermediary NGOs that translate policy into action. Ecosystem-wide environmental initiatives spurred by inter-governmental processes (e.g. Nile Basin Initiative) and international NGOs (e.g. WWF and IUCN) have now acknowledged that a major constraint to effective implementation is the lack of operational programs with local farming communities, and they have begun to set up local institutions or links with CBOs. It is not the job of donors to create such initiatives from scratch. However, they can support models that undertake and coordinate the scaling up process. This means working with intermediary institutions to build local capacity to assess resources; to access and use appropriate technologies for information and communication (using local languages); to provide business training; to organize and supervise local planning processes that integrate environmental, agricultural and population concerns; to initiate and support innovation platforms that include producers and researchers, using progressive businesses as champions; and to advocate policy change in support of business innovation and pro-poor, pro-environment private sector development.

The fact that local organizations offer a real foundation of development needs to be recognized. Effective local organizations should be considered a real asset at the ‘end of the MDG delivery chain’: local government bodies, clinics, schools, magistrates, NGOs, CBOs, etc are in direct touch with poor groups and ‘deliver’ – rather than central government or any donor. They also focus on empowering poor people – especially to relate better to authorities, landlords, employers and service providers. Real development invariably involves the reduction of locally-experienced deprivations and risks – and effective local organizations help to secure food, energy, education, health, water-sanitation, justice, etc. Thus, in practice, local organizations’ staff, resources, knowledge, objectives, incentives, accountability to the poor and long-term presence explain much ‘aid effectiveness’. Indeed, it could be said that many aid agencies are only as effective as the institutions they fund.

SECOND, MOBILIZE INVESTMENT TO PROMOTE INTEGRATED DEVELOPMENT

There is now a window of opportunity to make a shift within East Africa, away from asset-stripping towards recapitalizing soils, water and biodiversity, away from resource inefficiencies in water and energy towards investment in efficient, pro-poor technology, and away from massive unemployment and disenfranchisement towards creating new, productive jobs and local enterprises. African participation is key: firstly, so that environmental and social standards match local needs (rather than just the values of e.g. foreign consumers); and secondly to gain poverty reduction benefits, both as consumers and especially as producers through employment and enterprise. As expressed by someone involved in promoting new community-based

enterprise in Tanzania, “the question is not whether we want business or not, it’s what kind of business we want”.

The strategies that can make a difference at this time must focus on improving African capacity to engage in various natural resource and environmental markets, to shape these markets in ways that are environmentally sustainable and socially responsible; and to attract and influence untapped and potentially beneficial public and private investment. Finally, they must aim to influence and improve the national policy frameworks, in order to help remove the constraints imposed by current policy and practice and to create enabling policy environments.

Providing advisory and brokerage services for investment in markets for pro-poor sustainable development

A lack of access to long-term financing opportunities is preventing many projects from getting off the ground, and investors are often unaware of good projects where these exist. Substantial advisory and brokerage services are therefore necessary to help these pro-poor, environmental-friendly markets. Improved networking is key for these markets to take off. Functional linkages must be developed between groups including national business schools, chambers of commerce, local urban and rural groups, international good-practice networks (e.g. the Global Forest and Trade Network), the leading authorities in natural resource management at national levels, and – crucially but more difficult – the government-run investment facilitation services such as the Tanzania Investment Centre or the Private Sector Foundation in Uganda.

Capacity development opportunities and capital should also be available to in-country enterprises, including poor groups and the informal economy, through improved connections, data, training, (peer) education, and seed funds for market development. Pilot environmental investments in a range of sectors should be supported in ways that offer useful lessons and create replicable models. Innovative business and partnership models should be promoted that reduce the transaction costs of engagement with large numbers of rural communities (e.g. for carbon and biofuels) and that focus on key markets that develop African and small farmer comparative advantage – carbon (see below), biodiversity, watershed services, natural products and tourism, as well as for developing products which African consumers need – notably clean energy and resource-efficient products.

National and international investment bodies also need advice on environmental investment opportunities in-country, and on environmental and social standards. Efforts should be made to attract foreign funds and banks that are socially and environmentally oriented and whose business models are already in line with these goals.

Leveraging pro-poor carbon finance

Community organizations, district and national governments and NGOs should be assisted to leverage new sources of carbon finance to achieve food security and ecosystem restoration goals, as well as offsets. These bodies require advisory services and links to carbon buyers. All four countries have promising carbon project potentials, as well as a high need to improve farmer income, and to recapitalize soils and farm biomass. All

these things bode well, but they have inadequate governance that would guarantee the security of carbon alongside other environmental and livelihood benefits, and improperly designed projects can actually do more harm than good. The four countries need to be in a good position to attract both project-level and national payment transfers, notably the new World Bank-administered climate technology and forest carbon funds, as well as other schemes governed by both voluntary and post-Kyoto regulatory frameworks alike. These may include the selling of ‘bundled’ environmental services in large area-based projects that link biodiversity and ecosystem conservation with carbon.

THIRD, CATALYZE POLICY ACTION TO PROMOTE INTEGRATED SOLUTIONS

It is much more difficult to overcome strict sectoral thinking at the national and international levels than at the local level. Bureaucracies, in particular, have deep historical roots and are still heavily reinforced by external donors. But this difficulty does not reduce the importance of national level integration, in policy and practice. It is the key to creating the enabling environment necessary for integrated development. Policy integration has succeeded when national centers for policy analysis are strong, cross-sectoral political alliances with government have been built, development partners have been supportive of locally-led processes, and links between government, civil society, CBOs, and private sector networks have thrived.

Filling the policy gaps

Policy cannot have the desired impact if it remains static. Investigation, innovation and change processes need to be enshrined in policy reform. All of the countries that have been the focus of this assessment have now developed comprehensive and poverty reduction strategies and national policies dealing with environment, population and other sectors, with mandates for improving integration. However, while some of their language is strong and progressive, gaps and inconsistencies remain. For example, biodiversity conservation needs to be better integrated into agricultural planning, and environmental health issues into health planning. Furthermore, while the region’s economic and environmental context changes rapidly there is a dire need for long-term horizon-scanning capacity to influence medium-term planning frames. Recognizing that significant recent advances in policy have derived from multi-stakeholder processes, it will be important to embrace all stakeholders in enhancing policy capacity and bridging the above disconnects: national and local policy-makers, community led organizations, bilateral and multilateral agencies and international foundations.

‘Sustainable development futures’ partnerships among these actors, if led by selected East African institutions, could build collective capacity in cross-sectoral, scenario planning and risk analysis work that contributes directly to policy formulation and the generation of major programs involving government, business and civil society. Such partnerships would focus on a policy research and advocacy agenda looking primarily at long-term issues that have strong transnational and trans-disciplinary dimensions.

Demonstrating the economic, social, and fiscal benefits of integration to policy makers

Research and monitoring of current and future investment patterns and impacts need strengthening, especially in relation to environmental sustainability and poverty reduction. East African advocates express a

need for support in making the economic case to their own treasuries, and then in constructing appropriate budgets that integrate environmental investments when they have won that case. They need access to information on the potentials and limits of their environmental assets, and the costs and benefits of using them for poverty reduction. They will also benefit from exposure to many ideas now proven for environmental fiscal reform that can support environment, raise funds, and ensure pro-poor benefits (see e.g. OECD-DAC 2005).

At the same time, East African advocates could and should play a key role in helping to make the case internationally for policy change. For example, they could promote the idea of tax incentives by OECD governments to encourage pension funds to contribute to global public goods such as environmental services and poverty reduction in developing countries; or to change foreign investment rules so that they require a certain proportion in the form of micro-loans or micro-insurance.

Revisiting the population dimension of sustainable development and placing it appropriately within policy discourses

The burgeoning Poverty, Health, and Environment (PHE) country learning groups of leading community innovators, researchers and policy makers that are being convened throughout East Africa (see Box 4) are helping to distil the main lessons from efforts of PHE initiatives and providing a mechanism to communicate this information. These models are varied and most often involve the integration of sectors beyond ‘P’, ‘H’ and ‘E’ (Haile 2004, Pielemeier 2007). Many organizations are already successfully building and maintaining relationships across sectors. Even the groups on the leading edge of integration, however, must continue their move from *multisectoral* to *intersectoral* work. This implies a shift from simply bringing together representatives of each sector on projects towards having them absorb each others’ messages and integrating these ideas into their own core work. Experience has also shown that integrated processes are assisted enormously when they are supported at the highest levels of government.

FROM DESIGN TO ACTION

The next 10 to 20 years will be a critical period for East Africa. Many of the social, economic and environmental trends identified in this brief study are distressing and must urgently be righted. These changes must come from an integrated sustainable development agenda that is led nationally and often locally, *not* by an idealized international agenda that – like structural adjustment or other recent international imperatives – becomes yet another driver to which East African stakeholders need to *respond* or *adjust*. From now on, the starting point should be the countries’ and the stakeholders’ realities, where these realities are shaped by local institutions and perspectives. This agenda must reach across sectors and scales of governance, but also work within the natural ‘laws’ of ecosystems. Many of the seeds of this integrated resurgence are already germinating. With wise, strategic policy and investment they will be able to bloom.

This study offers a set of possible options to current and emerging challenges, emphasizing those which are not currently receiving sufficient attention and that could make a difference – in the lives of people, in the governance of countries and communities, in the performance of national economies, and in the functioning

of ecosystems on which all of these depend. It is hoped that some of these ideas will prove helpful to actors within and outside the region.

APPENDIX 1: LIST OF PEOPLE CONSULTED

National and local government, universities and civil society in East Africa

Ethiopia

Alem Hadera Abay, Millennium Village Project	Mohamed Gelma, Oromiya Development Association	Sibru Tedla, Addis Ababa University
Yeraswork Admassie, Addis Ababa University	Tilahun Giday, Pathfinder International	Markos Teklu, Walta Information Centre
Hamid Ahmed, Amhara Development Association	Berhanu Gisenbet, Guraghe People's Self Help Development Organization	Tekle Terfolidet, Walta Information Centre
Million Alemayehu, Organization for the Rehabilitation and Development of Amhara (ORDA)	Afewerk Hailu, Ethio-Wetlands and Natural Resources Association	Hafue Woldu, EOC-DICAC
Tigist Alemu, Consortium of Reproductive Health Associations	Bekele Hambissa and Moges Gobena, Ethiopian Environmental NGO	Zerihun Woldu, Addis Ababa University
Kassahun Belachew, Institute of Biodiversity Conservation	Ashewafi Kalefon, Ethiopian Orthodox Church-Development and International Church Aid Community (EOC-DICAC)	<i>Kenya</i>
Million Belay, MELCA (Movement for Ecological Learning and Community Action) Mahiber	Reshad Kemal, Oromia Environmental Protection Office	Helen Atshul, Farm-Africa
Shewaye Deribe, Federal Environmental Protection Authority	Dabie Konshie, Salam Environment and Development Association	Mary Wamuyu Baaru, Ministry of Agriculture
Sue Edwards, Institute for Sustainable Development	Bedru Lemal, Guraghe People's Self Help Development Organization	Enock Kanyanya, Nature Kenya
Masresha Fetene, Addis Ababa University	Yared Mekonen, Consultant	Daniel Karaba, MP, Keruguya/Kutus constituency
Messele Fisseha, Ministry of Water Resources	Genet Mengistu, Ministry of Finance and Economic Development	David Kuria Kimani, Kijabe Environment Volunteers
Tewoldebrehan Gebregziaber, Environmental Protection Authority	Mieso Nebi, Centre for Development	Wanja Kinuthia, National Museums of Kenya
Alemayehu Gebreyilm, Sustainable Natural Resource Management	Fekaumed Negash, Ministry of Water Resources	Romano Kiome, Ministry of Agriculture
	Kendie Rufael, EOC-DICAC	Eng. Mahboud Maalim, Ministry of Water and Irrigation
	Tamiru Sebsibe, Sustainable Land Use Forum	Anita Msabeni, Kenya National Federation of Agricultural Producers
		Patrick Muraguri, Africa 21st Century
		Francis K Muthami, Ministry of Agriculture

Alice Muthoni, Kijabe Environment Volunteers/Consultant	Damian Bell, Sokwe-Asilia	Oswald Mashindano, Economic and Social Research Foundation
Joseph Mutua, Kenya, Network for Dissemination of Agricultural Technologies	Blandina M. Cheche, Vice-President's Office	Desderius Mbekenga, Relief to Development Society
Leah Mwangi, Kijabe Environment Volunteers	David Erickson, Cullman & Hurt Community Wildlife Project	Walter M. Mbunda, UMATI (Family Planning Association of Tanzania)
Francis Mwaura, Senior Lecturer & Environmental Consultant	Emmanuel E. Hanai, Institute of Resource Assessment-UDSM	Donald Mmari, Research on Poverty Alleviation
Eric Nahama, Ministry of Environment and Natural Resources, Forest Department	Emmanuel Kallonga, Kahikazi Catalyst	Alais Ole Morindat, Tanzania Natural Resource Forum
Alfred Nderitu, MP, Mwea constituency	Amanulas Kibona, Women Development for Science and Technology Association	Jackson Muro, Tanzania Pastoralist Hunters & Gatherers Organization (TAPHGO)
John Maina Nginyangi, Ministry of Agriculture	Euster Kibona, Environmental Protection and Management Services	Janemary Ntawila, Oikos
Michael Makokha Odera, FAO-Netherlands Partnership Program	Idris Kikula, Dodoma University	Cassian Sianga, Tanzania Natural Resource Forum
Boniface O. K'Oyugi, Population Studies and Research Institute	Feroz Kurji, Researcher/Guide	Andrew Williams, Tanzania Natural Resource Forum
Ralph L. Roothhaert, Maendeleo Agricultural Technology Fund	Oscar Lema, Tanzania Traditional Energy Development and Environment Organization (TATEDO)	Pius Yanda, Institute of Resource Assessment-UDSM
Zaddock M. Syonguh, MP, Nairobi	Fred Simon Lerise, Professor, University of Dar es Salaam and Director, Consulting Environmental and City Planners	<i>Uganda</i>
Judi W. Wakhungu, Africa Centre for Technology Studies	Mark Lever, Tanganyika Christian Refugee Service	Okia Clement Akais, Faculty of Forestry
Ole Petenya Yusuf-Sham, Sompole Community Trust	Servacius Likwelile, Tanzania Social Action Fund	Allan Amumpe, Sawlog Production
<i>Tanzania</i>	Edward Loure, Ujamaa Community Resource Trust	Simon Amunau, Straight Talk Foundation
Haidari Amani, Economic and Social Research Foundation	Idda Makawia, Women Development for Science and Technology Association	Hudson Andrua, National Forestry Authority
Tamim Amjee, Dar es Salaam Regional Chamber of Commerce, Industry and Agriculture		Twesigye Bashir, Advocates Coalition for Development and Environment (ACODE)
		Mateete Bekunda, Faculty of Agriculture, Makerere University

Byamukama Biryahwaho, Nature Harness Initiative	Robert Khaukha, Ministry of Agriculture and Fisheries	Rose Nankya, Eco-Trust
Keizire Boaz Blackie, Ministry of Agriculture and Fisheries	Denis Kyetere, National Agricultural Research Organisation	Vincent Ntege, Uganda National Farmers Federation
Cyprian Ebong, National Agricultural Research Organisation	Ronald Lutalo, Environment Alert	Geresom Okecho-Ochwo, National Agricultural Advisory Services
Francis Esegu, Forestry Resources Research Institute (FORRI)	Chebet Maikut, Uganda National Farmers Federation	Gershom Onyango, Forestry Inspection Division
Caleb Gumisiiriza, Uganda National Farmers Federation	Josephine Mboga, Sawlog Production	Kityo Peter, National Farmers Association
Abuni Joseph, Empowering Forest Resources Management	Peter Wamboga Mugirya, Farmers Voice	Steve Rubanga, Conservation Through Public Health
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Cornelius Kazoora, Consultant, Sustainable Development Centre	Sara Namirembe, Empowering Forest Resources Management	Joshua Zaake, Environment Alert

Universities outside East Africa

W. M. Adams, University of Cambridge	Lynne Gaffikin, President, Evaluation and Research Technologies for Health, Inc	Katherine Homewood, Anthropology Department, University College London
Filippo Berardi, Imperial College		

Foundations

Walt Reid, Sahlu Haile, and Sono Aibe, the David and Lucile Packard Foundation	Roy Steiner, Bill and Melinda Gates Foundation	Michael R. Wright, John D. & Catherine T. MacArthur Foundation
John Lynam, Gatsby Foundation	Gary Toenniessen, Rockefeller Foundation	
Peter Matlon, Rockefeller Foundation	Ken Wilson, Christensen Fund	

International NGOs and country affiliates

Fikirte Belete, Pact Ethiopia	Tiringo k/Gabriel, Canadian Physicians for Aid and Relief	Lydia Mwakanema, WWF Tanzania
Dawit Belew, Plan Ethiopia	James P. Leape, WWF International	Richard Mwesigwa, CARE-Uganda
Alastair Bradstock, FARM-Africa	Bernard Meier, German Agro Action	Amani Ngusaru, WWF Tanzania
David Cook, Jane Goodall Institute	Mesfin Mengistu, Christian Relief and Development Association	Erasto Njavike, Jane Goodall Institute
Bantirgu Hailemariam, Canadian Physicians for Aid and Relief	Simon Milledge, TRAFFIC	Barbara Pose, CARE Ethiopia
Kate Jongbloed, Canadian Physicians for Aid and Relief	Jennifer Morgan, WWF-UK	Alice Ruhweza, Katoomba Group
Habtmu Jada, Plan International	Daniel Myella, WWF Tanzania	Hussein Sosovele, WWF Tanzania
George Jambiya, WWF Tanzania	Dr. Hermann Mwageni, WWF Tanzania	Patrick Tumusiime, CARE-Uganda
Edward Kimakwa, WWF Tanzania		Kelly West, IUCN Eastern Africa

Bi-lateral and multi-lateral donors and UN agencies

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Gabriel Batulaine, Embassy of Finland, Tanzania	Kahana Lukumbuzya, Royal Danish Embassy, Tanzania	Ephraim Nkonya, IFPRI
Arati Belle, World Bank, Washington D.C.	Kidest Lulu, USAID, Ethiopia	Christian Peter, The World Bank, Tanzania
Christophe Crepin, TerrAfrica	Saida Mäki-Penttilä, Embassy of Finland, Kenya	Frank Place, World Agroforestry Centre
Oyvind Dahl, Embassy of Norway, Ethiopia	Gertrude Lyatuu, UNDP-Tanzania	Andrew Preston, UK Dept for International Development
Antti Erkkilä, Embassy of Finland, Kenya	Amon Manyama, UNDP-Tanzania	Diane Russell, USAID, Washington, D.C.
Henry Gordon, World Bank, Tanzania	Mateo Marquisio, TerrAfrica	David Smith, UNEP, Nairobi
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	Victoria Mushi, Canadian International Development Agency, Tanzania	Roy Trivedy, DFID Tanzania Office

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Seyfu Ketema, Director, ASARECA,
Ethiopia

Gaster Kiyangi, Global Water
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Simon Thuo, Global Water
Partnership, Uganda

Gete Zekele, Global Mountain
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APPENDIX 3: GOVERNMENT DOCUMENTS

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ACRONYMS AND ABBREVIATIONS

ACTS	Africa Centre for Technology Studies
AGRA	Alliance for a Green Revolution in Africa
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
CBO	Community-based organization
CCBA	Climate, Community and Biodiversity Alliance
CDM	Clean Development Mechanism
DFID	UK Department for International Development
EAC	East African Community
EP	Ecoagriculture Partners
FAO	Food and Agriculture Organization of the United Nations
FSC	Forest Stewardship Council
GDP	Gross domestic product
GNS	Gross national savings
HDI	Human Development Index
IAASTD	International Assessment of Agricultural Science and Technology for Development
ICRAF	World Agroforestry Centre
IIED	International Institute for Environment and Development
IPCC	Intergovernmental Panel on Climate Change
ILRI	International Livestock Research Institute
IUCN	International Union for Conservation of Nature (formerly the World Conservation Union)
KADLACC	Kapchorwa District Landcare Chapter
KENVO	Kijabe Environmental Volunteers
KG	Katoomba Group
MDG	Millennium Development Goal
MKUKUTA	National Strategy for Growth and Reduction of Poverty (Tanzania)

NAADS	National Agricultural Advisory Services
NEPAD	New Partnership for Africa's Development
NGO	Non-governmental organization
OECD	Organisation for Economic Co-operation and Development
ODA	Official development assistance
PASDEP	Plan for Accelerated and Sustained Development to End Poverty (Ethiopia)
PEAP	Poverty Eradication Action Plan (Uganda)
PEP	Poverty and Environment Partnership
PES	Payments for environmental services
PHE	Population, health and environment
PRESA	Pro-poor rewards for environmental services in Africa
REDD	Reduced emissions from deforestation and degradation
RELMA	Regional Land Management Unit
SLM	Sustainable land management
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
USD	United States dollar
WWF	World Wide Fund for Nature

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