Policy Brief

POPULATION REFERENCE BUREAU

FEBRUARY 2009

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INTEGRATING POPULATION, HEALTH, AND ENVIRONMENT IN RWANDA

An integrated population-health-environment (PHE) approach to development recognizes the interconnections between people and their environment and supports cross-sectoral collaboration and coordination.

2.6%

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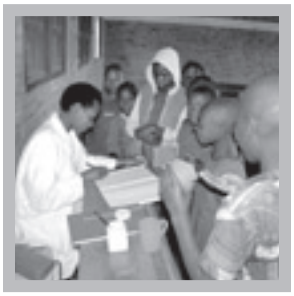


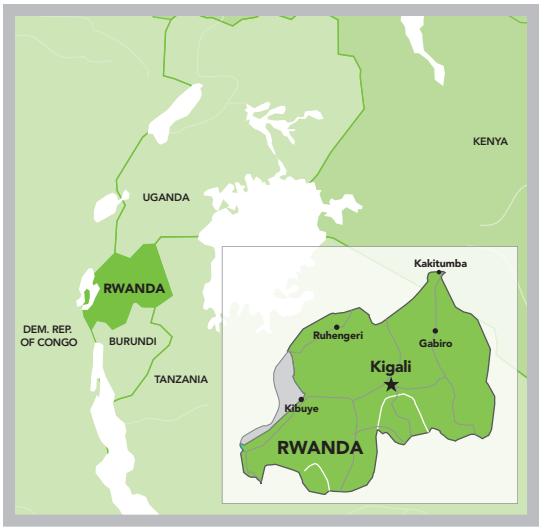
Pulcherie Mukangwije, FHI, 2008

A nurse administers anti-helminth drugs to students in Nyamagabe district in the Southern Province of Rwanda to combat intestinal parasites.

The last decade in Rwanda's history has been one of transition and rebirth. Ten years ago, the country was emerging from several years of strife and civil conflict; in 2009, urban and rural areas are energized with the promise of steadily improving economic, social, and health conditions. Despite this impressive transformation, Rwanda faces various challenges, many related to the complex relationships between population trends, poverty, and environmental conditions. Rapid population growth and the resultant dwindling landholdings, for example, have pushed more people onto landscapes poorly suited for agriculture, grazing, and settlement, such as steep hillsides and urban watersheds. As a result, an increasing number of households are vulnerable to food shortages and water scarcity and are more susceptible to disease and poor health. Thus, continued improvement in the quality of life of Rwanda's citizens depends in large part on finding innovative and integrated solutions to complex population, health, and environment problems.

Fortunately, the links between population, health, and environment are now largely recognized by policymakers in Rwanda, especially since the end of the transition period in 2003.[1] Indeed, almost all of Rwanda's national-level policies acknowledge the need for cross-sectoral collaboration in order to effectively address the complex problems and issues currently facing the country. In practice, however, institutional coordination and integrated planning and program implementation are happening slowly and sporadically, with few projects and programs to date successfully integrating cross-sector initiatives.[2] Most projects and programs—whether implemented by the government or NGOs, at a national scale or at the community level—continue to follow the traditional sectoral approach, aligned with government services and institutional structures. Yet a growing body of evidence shows that in many cases, desired programmatic outcomes can be achieved with greater cost-effectiveness, increased programmatic and administrative efficiencies, and higher rates of community participation and support by employing an integrated, holistic approach to development.[3]

An assessment of the overall "state of integration" was recently undertaken by an interdisciplinary team led by the Centre for Resource Analysis in Kigali to explore in more detail population-health-environment interactions and the opportunities for and challenges of cross-sectoral collaboration and integrated programming in Rwanda (see Box 1, page 2).



A Population, Health, and Environment Approach to Development

An integrated population-health-environment (PHE) approach to development recognizes the interconnections between people and their environment and supports cross-sectoral collaboration and coordination. As its name suggests, the approach places particular emphasis on the population, health, and environment sectors. However, the underlying philosophy is fundamentally one of integration. It can accommodate other sectors, such as agriculture and education, and be successfully applied to achieve a range of development goals from poverty reduction to food security.

In Rwanda, the importance of addressing development issues in an integrated fashion is reflected in the recently implemented (2006) Poverty-Environment Initiative (PEI), supported jointly by the United Nations Development Programme (UNDP) and the UN

BOX 1

Rwanda Population, Health, and Environment (PHE) Assessment

This policy brief is based on the Rwanda PHE Assessment written by Charles Twesigye-Bakwatsa of the Centre for Resource Analysis, with assistance from members of the Rwanda PHE Assessment team.

PRB coordinated a comparative study of population, health, and environment integration in East Africa. Teams from Ethiopia, Kenya, Rwanda, Tanzania, and Uganda assessed the state of PHE integration in their respective countries, including identifying relevant stakeholders; assessing the policy environment for cross-sectoral collaboration; highlighting the most salient population, health, and environment issues; and describing the current state of integration among projects, programs, and policies.

The methods used for this assessment include a review of relevant policies, laws, and project documents; key informant interviews; and field visits to case study sites. The Rwanda PHE Assessment was made possible with funding from the U.S. Agency for International Development (USAID).

Environment Programme (UNEP). In the first phase of this initiative, an integrated ecosystem assessment (IEA) was conducted in Bugesera district in southeastern Rwanda between 2006 and 2007. The IEA concluded that population pressure and poverty were among the main drivers of declining availability of and access to ecosystem services such as clean water, food, and energy, and that these shortages have had a profound effect on Bugesera residents' health and well-being. The IEA also concluded that integrated approaches would be more effective in ecosystem rehabilitation and in reversing the negative impacts of environmental changes on human well-being.[4]

Rwanda's Development Frameworks

VISION 2020

Rwanda's Vision 2020 is the country's overarching national planning and policy framework into which other strategies, plans, programs, and policies are meant to fit. The global vision of the government of Rwanda as set out in Vision 2020 is to guarantee the well-being of its population by increasing productivity and reducing poverty within an environment of good governance.

Adopted in 2000, Vision 2020 highlights population-health-environment interactions and recognizes that the country's problems cannot be tackled in isolation:

> "Rwanda's high population growth is one of the major causes of the depletion of natural resources and the subsequent poverty and hunger. And poverty remains a major cause of poor health and vice versa … Future and current population policies should go hand in hand with strategies to overcome problems in the health sector. Family planning is crucial for reducing birth rates … and bringing population and [the country's] natural resources into balance." [5]

MILLENNIUM DEVELOPMENT GOALS

In September 2000, Rwanda became a signatory to the United Nations Millennium Declaration, pledging to achieve the Millennium Development Goals (MDGs) by the target date of 2015.[6] Reflecting its commitment to the global partnership to reduce extreme poverty, the government of Rwanda has aligned its development policies and programs with MDG targets. So far, Rwanda has made noteworthy progress toward meeting two of the eight MDGs: achieving universal primary education (Goal 2), with 96 percent of school-age children enrolled in primary school (girls' enrollment has surpassed that of boys'); and promoting gender equality and empowerment of women (Goal 3), with 50 percent of seats in parliament held by women.

ECONOMIC DEVELOPMENT AND POVERTY REDUCTION STRATEGY (2008-2012)

Rwanda's Economic Development and Poverty Reduction Strategy (EDPRS) provides a medium-term framework for achieving the country's long-term development aspirations as embodied in Vision 2020 and the MDGs—namely, economic growth, poverty reduction, and human development.

Intended as an operational tool, the EDPRS is supported through detailed sectoral strategic plans and is the country's main mechanism for mobilizing and allocating public expenditure resources. The EDPRS promotes three flagship programs: Sustainable Growth for Jobs and Exports; Vision 2020 *Umurenge*;[7] and Good Governance. Although emphasis is squarely placed on promoting economic growth in Rwanda, the strategy also includes targets for effective environmental management, slowing population growth, and improving health.

Population Trends and Policies

Rwanda's population growth over the last four decades has been unprecedented—from approximately 2.6 million in 1960 to 8.2 million in 2002 and 9.6 million by mid-2008. If the current annual population growth rate of 2.6 percent persists, the country's population is projected to reach 14.6 million by 2025.[8] Though Rwanda's total population is small in comparison to most other countries in Africa, its population density of 365 people per square

BOX 2

Rwanda's Genocide of 1994: Its Legacy and the Road to Recovery and Reconciliation

The civil war in Rwanda, which began in 1990, and the subsequent episode of genocide in 1994, left a horrific legacy of poverty, ill-health, and human devastation: displacement of millions of people, a significant reduction in the number of adult men, a large number of orphans, many households without permanent shelter, a reduction in small-scale farming, an increase in the prevalence of AIDS, the loss of human resources and infrastructure, and the emigration of thousands of Rwandans to the Democratic Republic of Congo.

The Rwandan government, with support from the international community, has made progress in the difficult process of moving from emergency to long-term development. About 3.5 million Rwandan refugees have been repatriated and resettled. A Unity and Reconciliation Commission was established to consolidate the government policy of redressing the legacy of divisive politics that has been a prominent feature of Rwanda for many decades. Through a Genocide Survivors Fund, the government provides support in education, shelter, health, and income-generating activities to the most vulnerable survivors. Furthermore, traditional justice systems were established to facilitate local trials of genocide participants.

Economic recovery has been consistent since 1994 when real gross domestic product (GDP) declined by 50 percent and inflation stood at 65 percent. The average rate of expected annual growth is projected at 8 percent over the next 15 years, and the government has set a goal of raising the per capita income from $370 in 2007 to $900 by 2020.

On the political front, the government of Rwanda has made progress in maintaining the inclusiveness of the broad-based government. A policy of decentralization has been initiated to involve people in local communities in decisionmaking, allowing the Rwandan people to play an active role in the transformation of their society from one of devastation and despair to one of peace and prosperity.

Note: The male/female ratio in Rwanda is 47/53; it is estimated that there are 1.26 million orphans in Rwanda; out of an estimated 250,000 women who were raped during the civil strife of the 1990s, at least 175,000 were reported to have been infected with HIV.
Sources: Data are taken from the government of Rwanda, accessed online at www.gov.rw, on Sept. 15, 2008; Rwanda PHE Assessment; and Judy Manning, Kamden Hoffman, and Jessica Forrest, *Rwanda 2008 Community Health Needs Assessment* (CHNA) (Washington, DC: USAID, 2008).

Pulcherie Mukangwije, Family Health International, 2008

Destination Nyungwe Project staff, teachers, and parents demonstrate proper hand-washing and hygiene practices at a primary school in Nyamasheke district in the Western Province of Rwanda.

kilometer is the highest on the continent and is often cited as a contributing factor to poverty and environmental degradation.

Women's health status is compromised by early and repeated pregnancies and inadequate (though improving) family planning and maternal health care services, especially in rural areas. High fertility—lifetime births per woman in Rwanda is 5.5—has implications for both infant and maternal morbidity and mortality.[9] Data show that 70 percent of births take place without skilled medical assistance and a low utilization of basic obstetric care.[10] The maternal mortality ratio remains high at 750 deaths per 100,000 live births, and the infant mortality rate is 62 deaths per 1,000 live births.[11]

Population structure and distribution in Rwanda have been profoundly reshaped by the civil war and genocide in the 1990s, which killed up to a million people, left thousands of orphans and widows, and significantly changed traditional family structures (see Box 2). There are now concerns within the Rwandan government and among development partners that—should the current population growth rate continue—economic growth, political stability, and ongoing recovery and reconciliation will be undermined.[12]

Although many of Rwanda's population and health indicators are still unacceptably poor, there has been some noteworthy improvement in reproductive health service delivery and outcomes since the aftermath of the war and genocide (see table, page 4). For example, in 1994, contraceptive prevalence stood at just 4 percent; by 2005,

Population and Health Trends in Rwanda, 2000 to 2008

PHE INDICATOR	AROUND 2000	2005	2008
Population size (millions)	8.2 (2002)[a]	9.2[b]	9.6
Population growth rate (% per year)	2.4[b]	2.6	—
Population density (per sq. km.)	321 (2002)	349[b]	365
Lifetime birth per woman	5.8	6.1	5.5
Percent of married women using contraception (modern methods)	4	10	27
Infant deaths per 1,000 live births	107	86	62
Maternal mortality (deaths per 100,000 live births)	1,071	750	—
Urbanization (% urban of total pop.)	—	17	21
HIV prevalence (% of total pop.)	4.3 (2001)[c]	3	—
Percent rural population with access to improved water source	—	22	—

— Not available.

Sources: Rwanda Demographic and Health Surveys 2000 and 2005 and Interim Demographic and Health Survey 2008, except where noted.
[a] 2002 Rwanda General Population and Housing Census.
[b] UN Population Division, *World Population Prospects,* online data (http://esa.un.org/unpp/index.asp, accessed Jan. 21, 2009),
[c] UNAIDS/WHO, *Epidemiological Fact Sheet on HIV and AIDS, 2008 Update, Rwanda.*

it had increased to 10 percent. Results from a 2008 survey reveal that contraceptive use has increased again to 27 percent of married women of reproductive age. The survey also shows a marked decline in the infant morality rate—from 86 deaths per 1,000 live births in 2005 to 62 in 2008.[13]

The National Office of Population (ONAPO) was created in 1981 to address broad sociodemographic issues that had become a challenge to Rwanda's development. One of the major results of this program was the formulation of the first National Population Policy (1990). The policy was later reformulated, and the current National Population Policy (2003) envisages using an integrated approach to addressing population growth by improving health and survival of children and women as incentives for smaller families; providing education and employment; and building an institutional structure that integrates gender, governance, health care, environment, and nutrition.

The population policy implementation, however, suffered setbacks when ONAPO was phased out in 2003 to avoid duplication of the Health Ministry's own efforts in providing family planning and reproductive health services. After the closure of ONAPO, responsibility for population policy implementation was transferred to the Ministry of Health. Although the closure of ONAPO has streamlined the coordination and implementation of reproductive health and family planning in Rwanda, it has also narrowed the spectrum of cross-cutting population issues such as migration and urbanization on the policy agenda.[14] A revision of the National Population Policy is currently ongoing and being coordinated by the Department of Development Planning in the Ministry of Finance and Economic Planning.

Health Status and Policy Responses

According to the National Health Sector Policy (2005), malaria and AIDS are the two biggest health problems in Rwanda, and accordingly, the prevention, treatment, and control of the two diseases are the country's best-funded health care programs. Access to safe water and sanitation are also important health issues in Rwanda and have received increased attention in the past several years.

MALARIA

Malaria is one of the leading causes of outpatient attendance (about 50 percent of all health center visits are due to malaria) and is the primary cause of morbidity in all districts of Rwanda. Since 2000, close to 1 million cases of malaria have been recorded each year countrywide, with more than half of both hospital visits and deaths occurring among children under age 5. Malaria is also a significant health risk for pregnant women and their unborn children, particularly first-time mothers and women with HIV.[15]

The increase in the malaria incidence rate from 3.5 percent in 1982 to 48 percent in 2003 is linked to many population, health, and environment factors. Among these are changes in disease resistance to treatments; changes in household spraying policies and financing; greater population density and population movements; changes in climatic conditions (rainfall, temperature); and growth of human and economic activities such as rice farming, brick-making, and mining that increase breeding areas for mosquitoes.

To combat malaria in Rwanda, the National Malaria Control Programme is being implemented with support from various donors, including the President's Malaria Initiative (PMI) of the U.S. government. The PMI supports four key areas: indoor residual spraying of insecticides in homes; provision of treated mosquito bed nets; provision of antimalarial drugs; and treatment to prevent malaria in pregnant women.

The Malaria Control Programme is recognized as one of the few programs in Rwanda that has benefited from effective cross-sectoral collaboration.[16] Successful program integration is attributed to five key factors: early recognition by top-level decisionmakers within the Ministry of Health of the cross-cutting nature of malaria to include economic, gender, and environmental considerations; substantial capacity-building support from the World Health Organization (WHO), USAID, and other agencies; a comprehensive

multisectoral malaria control policy and strategy implementation; useful policy-oriented research; and effective application of lessons learned and good practices from other health and malaria control initiatives in the region.[17]

Furthermore, the decentralization process—which has mandated greater delegation of responsibilities to local authorities, especially since 2005—has facilitated ownership and active involvement of health care programs by local political leaders and other nonhealth personnel. The increased participation of local leaders and other stakeholders outside the health field has enhanced community mobilization and service delivery, which are important requisites for successful implementation of multisector programs like malaria control.

> Environmental problems are serious in Rwanda's burgeoning, unplanned, often congested urban centers, especially Kigali.

HIV/AIDS

HIV prevalence in Rwanda was estimated at 3 percent in 2005, down from 4 percent in 2001 and 7 percent in 1995.[18] Infection rates vary by sex (2.3 percent among males, 3.6 percent among females) and location (7.3 percent in urban areas and 2.2 percent in rural areas).[19] Even with the positive gains made in reducing HIV/AIDS in Rwanda, AIDS remains a leading cause of death in the country, second only to malaria.

With funding from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), the World Bank-funded Multi-Sectoral AIDS Programme (MAP), and bilateral agencies, Rwanda has increased its HIV/AIDS prevention, care, and treatment efforts to include volunteer counseling and testing (VCT) services; support to orphans and other vulnerable children (OVC); and the provision of anti-retroviral prophylaxis to HIV-positive men and women, including HIV-positive pregnant women for prevention of mother-to-child transmission (PMTCT).[20]

The complex links between HIV/AIDS and the environment are just beginning to be understood.[21] However, emerging evidence suggests that AIDS can lead to an accelerated rate of resource extraction when people turn to natural resources to replace household income lost after an income-earning family member dies from an AIDS-related illness or is too sick to work.[22] The result is often increased resource dependence and intensity of use. Furthermore, HIV/AIDS can lead to loss of trained and experienced people within the conservation community, and may also undermine efforts in community-based natural resource management.

WATER AND SANITATION

Rwanda's urban population share increased from just 5 percent in 1995 to 17 percent a decade later. The rate of urbanization is accelerating and Rwanda's urban population is expected to reach 30 percent by 2020.[23]

Environmental problems are serious in Rwanda's burgeoning, unplanned, often congested urban centers, especially Kigali. For example, only 15 percent of sewage is managed by municipal authorities, and about 55 percent of urban households have no access to solid waste disposal facilities. Cholera, dysentery, and other water-borne diseases are common throughout Rwanda. Although 92 percent of the country's population reported having access to a latrine, only 38 percent meet acceptable hygiene standards. In hilly terrain, shallow pit latrines, even when properly used, pose a pollution threat to domestic water sources.[24]

Between 2000 and 2005, the percentage of people with access to an improved water source remained constant at just 64 percent, and access actually declined in Kigali, from 88 percent to 82 percent.[25] In rural areas, expanding agricultural activity has destroyed watersheds and increased soil erosion—causing water runoff and sedimentation and reducing the volume of water flowing downstream. In some urban areas, the rising cost of water, which is often delivered by tanker trucks, is becoming prohibitive for many urban poor.

Though much work remains to be done to improve the health and well-being of Rwandans, the health sector is poised is make significant progress in achieving its health goals. Along with the education sector, the health sector has made the biggest inroads to successfully integrating its programs across sectors in accordance with Health Ministry principles: acceptability and quality of health care, effectiveness and efficiency, intersectoral coordination, community participation, decentralization, and integration. The Health Sector Policy recognizes that "actions in the health sector will have a more sustainable impact if they are integrated and fundamentally incorporated into the national development programs. Intersectoral consultation and collaboration with ministerial partners is essential in the implementation of major health strategies." [26]

Environment

Rwanda is endowed with a diversity of ecosystems, ranging from moist steep mountains to flat dry plains. Almost all valleys are wet with natural sources of water and the soils have continued to support at least two growing seasons of food and cash crops. But Rwanda's mountainous topography and growing human population have resulted in increasingly severe environmental degradation: soil erosion from cultivation of steep slopes; pollution and sedimentation of water sources; and loss of forests, protected areas, and biodiversity to new human settlements.

Rwanda has three national parks: Akagera National Park (ANP) in the east, Nyungwe National Park (NNP) in the southwest, and

Volcanoes National Park (VNP) in the north. Natural forests now cover only a small part (20 percent) of Rwanda's total land surface, but have high biological diversity, with several species endemic to the forests.[27]

Natural resource management and biodiversity conservation are extremely challenging in the face of high population growth, low levels of literacy, and extreme poverty. In Rwanda, these challenges have been compounded by the 1990s war and genocide, which led to the loss of approximately 190,000 hectares of forests and protected areas, as well as much of Rwanda's cadre of valuable environmental professionals and advocates.

Since 1994, the settlement and resettlement of displaced persons and returning refugees has reduced the coverage of Rwanda's protected areas even further. In 1993, protected areas covered 15 percent of Rwanda's total land area, but by 2006, this had shrunk to 8 percent.[28] Two-thirds of the Akagera National Park, for example, was excised for resettlement by Rwandans who returned to the country after decades of exile. What remains of the 2,000 hectares of Gishwati Forest Reserve is now almost entirely settled.

Environmental governance, until recently, has been very weak. Only after the ratification of Rwanda's Constitution in 2003 were the main documents and governing bodies established for the environmental sector. They were the National Environmental Policy (2003), the Organic Law on Conservation and Protection of Environment in Rwanda (2003), and the Rwanda Environmental Management Authority (REMA) (2006).

Within this newly decentralized government structure and under the auspices of Rwanda's Vision 2020 and EDPRS, there are emerging opportunities for PHE integration.

The National Environment Policy recognizes the strong links between population, health, poverty, and environment and contains policy statements and strategic options with regard to population growth and sustainable land-use management. Among its stated objectives is the improvement of "the health of the Rwandan people and promotion of their socioeconomic development through the sustainable management and utilization of natural resources and the environment."

However, policy and legislative gaps remain. For example, there is no policy on wildlife management and conservation outside protected areas, and conflicts with communities in and around protected areas persist without effective policy guidance on how to deal with them. Perhaps more significant, REMA has been overwhelmed by the requirements for human resources, finances, and coordination for integrating environmental concerns at all levels of government and across sectors.

Cross-Sectoral Collaboration in Rwanda: PHE Integration at the Policy Level

Most of Rwanda's existing national policies and strategies embrace the spirit of cross-sectoral collaboration and coordination. However, institutional capacity is not yet adequate to turn policy intentions into integrated initiatives at the district and community levels (see Box 3).

In addition to strengthening capacity, integration will require harmonization of institutional visions and goals, work cultures and ethical norms. Public sector reforms that enhance decentralization are underway in Rwanda and allow for greater cross-sector integration through local government planning and budgeting. Territorial reform policy in the country aims to strengthen decentralized governance for the benefit of local populations and to streamline development efforts to be more effective, efficient, and responsive to local communities.

Within this newly decentralized government structure and under the auspices of Rwanda's Vision 2020 and EDPRS, there are emerging opportunities for PHE integration. For example, the Common Development Fund (CDF), which was established to support implementation of local development projects under decentralization, also provides a framework for encouraging integrated development, especially in rural infrastructure such as roads, education and health care facilities, terracing for soil erosion control, reforestation, and water supply facilities, among others.

Also noteworthy in the shift toward cross-sector integration in Rwanda is the adoption of a sector-wide approach (SWAP) to planning, resource mobilization, and implementation, in contrast to the traditional institution-specific frameworks used in the past. It has progressed well in health and education and is emerging in lands and agricultural sectors. In conjunction with SWAP, a comprehensive monitoring and evaluation framework has been developed that brings together all sectors to assist monitoring and evaluation of the progress toward attaining EDPRS targets.

Finally, the establishment of two new policy research institutions is encouraging: The Rwanda Research, Science, and Technology Council and the Institute for Policy Analysis and Research (RIPAR) promise to enhance evidence-based policy formulation and help raise financial resources for interdisciplinary research.

Integrated Projects and Approaches in Rwanda: PHE at the Community Level

The Rwanda PHE assessment found that most policymakers and development partners in the country now prefer a coordinated multisectoral approach to development at the policy level. A 2005 review of integrated population-health-environment programs in the Philippines and Madagascar offers some evidence that this approach has community-level programmatic benefits as well. The review concluded that, very often, integrated PHE programs add value beyond their single-sector components and are more programmatically efficient.[29]

One of the added benefits of integrated programming—according to the results of operational research and the views of NGO practitioners—is the potential for reaching larger numbers of beneficiaries. PHE programs have been especially effective at increasing the participation of women in conservation activities and the participation of men and youth in family planning and health activities. Additional benefits of integrated programs documented through operational research include: reduced operating expenses; avoidance of duplicated effort; strengthened cross-sectoral coordination at the local level; greater community goodwill and trust; and increased women's status and self-perception in project areas, especially when programs include microcredit or other livelihood activities.

Even with all the benefits associated with integrated programming, many challenges exist in implementing integrated approaches. Donors continue to influence programming by heavily shaping the thematic scope, content, and location of many projects. Although recent reforms in Rwanda have expanded the framework for cooperation between donor agencies and local authorities, the local capacity to determine and influence program design is still limited.

In addition, insufficient human resources and institutional capacities have constrained integrated PHE initiatives. Monitoring and evaluation (M&E) has been one area in particular that has been criticized for being deficient in PHE programs. The complexity of integrated programs that work across sectors, often with multiple implementing partners and differing M&E systems, can make it difficult to track impact or properly attribute impact to a particular project or set of interventions.[30]

Despite these challenges, several integrated projects in Rwanda have brought positive change to people and the environment in a relatively short amount of time. The following four projects are among the success stories.

DESTINATION NYUNGWE PROJECT: PROFITABLE ECOTOURISM THROUGH IMPROVED BIODIVERSITY CONSERVATION IN RWANDA

The Destination Nyungwe Project (DNP) has implemented an integrated approach to conservation of the Nyungwe National Park (NNP) by linking ecotourism, health, and biodiversity conservation interventions.[31] The project seeks to protect biodiversity in the Nyungwe protected ecosystem—which is threatened by human encroachment, illegal wood and honey gathering activities, and mining operations—by strengthening protected area management, mainstreaming environmental issues into district development plans, and promoting environmental awareness and stewardship among the communities surrounding the park.

The main strategy for achieving these goals is through development of ecotourism as a means of providing an economic benefit from conservation to nearby communities. At the same time, the project is responding to the priorities of local communities by improving health care services (including family planning and maternal and child health services), developing nonagricultural employment opportunities, and strengthening production and marketing of food crops and crafts that can be sold to tourist hotels and marketplaces.

Although the DNP is both small (activities are carried out in just three sites) and new (activities began in 2006), the project has made some notable achievements in a short two-year time period:

- DNP staff participated in several district planning meetings, convincing local authorities in Nyamagabe and Nyamasheke to include environmental activities in district plans.
- The project has assisted communities surrounding the national park to develop cultural tourism products and services (such as dance and drama shows and local crafts) and has provided financial and technical support to community-owned microenterprises.

BOX 3

Key Factors for Successful Program Integration and Multisectoral Collaboration

Rwanda's Malaria Control Programme is considered a model for successful program integration and multisectoral collaboration. The programme highlights five critical factors for achieving integration:

- Support for multisectoral collaboration from top-level decisionmakers.
- A comprehensive policy and well-developed strategy for program implementation.
- Strong institutional capacity.
- Relevant interdisciplinary and policy-oriented research.
- Effective application of lessons and best practices.

- Three health centers have been rehabilitated and adequately stocked and staffed. These investments have increased access to health care for 15,000 people and helped to establish trust and goodwill among communities toward the project.
- The project has provided family planning counseling and communicated consistent reproductive health messages. As a result, contraceptive prevalence rates have increased in all three project sites—ranging from 14 percent in Kitabi to 38 percent in Rangiro—exceeding the 9 percent average at the three target health centers prior to project intervention.

The Destination Nyungwe Project has identified three main reasons for its early successes:

- Experienced implementing organizations and committed local leadership. The project undoubtedly benefits from the strong institutional capacity and experience of its four main implementing partners—International Resources Group (IRG), Wildlife Conservation Society (WCS), Family Health International (FHI), and the Cooperative League of the United States.
- Existence of appropriate political structures at the local level and local leaders who are willing to help sensitize and mobilize communities to actively engage in project meetings and activities.
- Clear identification and engagement of key stakeholders and target groups.

MAYANGE MILLENNIUM VILLAGE PROJECT

The Millennium Villages Project (MVP) is a United Nations initiative aimed at empowering and working with impoverished rural communities in 10 countries in Africa to achieve the Millennium Development Goals within 10 years. The MVP aims to enable poor people to improve their quality of life by implementing comprehensive programs in agriculture, health, education, business development, infrastructure, energy, and environment. To do this, the MVP brings together a range of experts, including scientists from the Earth Institute at Columbia University and the World Agroforestry Center (ICRAF), as well as local development professionals and community-based organizations.

Mayange Millennium Village is located in one of the driest and least populated areas (25,000 people) of Bugesera district in southeastern Rwanda. It was selected as a MVP site because of its high incidence of poverty, chronic food insecurity, and high concentration of socially vulnerable groups, including orphans, female-headed households, and newly resettled refugee returnees.

After an assessment of Mayange's most dire needs, three priority issues were identified: agricultural productivity and food security, health and sanitation, and environmental sustainability. Project activities began in 2006 and include integrated interventions such as: refurbishment of existing health centers and establishment of new health posts in remote areas; distribution of treated mosquito nets; additional training for community health workers to provide home care services for HIV/AIDS patients, antenatal services for pregnant women, and increased access to family planning; adoption of improved farming practices that conserve soil and increase water retention; and expansion of improved water coverage.

The project has realized several notable achievements since its inception in 2006, including increased agricultural productivity, rehabilitation of health centers and improved health service delivery, provision of clean water, and increased primary and secondary school enrollments.

Like the Destination Nyungwe Project, the Mayange MVP points to the importance of local leadership and community engagement to project success. The project has worked with community development committees (CDCs) and related local administration structures, created during Rwanda's decentralization process, to reach out to community members, recruit project advocates, and identify and support community leaders. Additionally, cross-sectoral collaboration and coordination has been strengthened by the formation of a multisector institutional committee, involving members of key ministries and agencies, local government, donors, and civil society organizations.

After an assessment of Mayange's most dire needs, three priority issues were identified: agricultural productivity and food security; health and sanitation; and environmental sustainability.

SUSTAINING PARTNERSHIPS TO ENHANCE RURAL ENTERPRISE AND AGRIBUSINESS DEVELOPMENT PROJECT

The Sustaining Partnerships to Enhance Rural Enterprise and Agribusiness Development (SPREAD) Project focuses on improving rural livelihoods by supporting coffee farmers to grow, process, and market high-quality specialty coffee. To do this, the project supports and strengthens coffee cooperatives throughout Rwanda by linking them to the export market and improving their quality management. Additionally, the cooperatives have proved to be an effective mechanism to communicate conservation and health messages to mostly small, underserved farming communities.

Early conservation and agribusiness results have been impressive. Farmers have invested in soil conservation measures and have

improved soil fertility by using organic manure instead of chemicals. With technical support from the project, farmers are able to address inefficient water use and pollution by installing water recycling and waste management systems.

In addition, coffee extension workers are now being trained to provide health care information during home visits and cooperative meetings. Due to poor transportation and communication networks in remote agricultural areas, this is the first time that many farmers have been able to access reliable information—about family planning, malaria control, immunization, sanitation and hygiene, HIV prevention, and nutrition. Perhaps most important, farmers invested in health insurance for their families as a result of their increased incomes and possibly due to the increased health messages they received. In response to farmers' requests, the project is partnering with local health organizations to implement additional health activities, such as providing family planning and voluntary counseling and testing (VCT) for HIV services.

RWANDESE HEALTH ENVIRONMENT PROJECT INITIATIVE

The Rwandese Health Environment Project Initiative (RHEPI) is a community-based initiative that aims to improve the health and well-being of the rural communities it serves by promoting sustainable agricultural practices and raising awareness about HIV/AIDS, nutrition, and water and sanitation issues.

Operating in Rwanda's Eastern Province since 2006, RHEPI maintains two demonstration centers that showcase improved water and sanitation technologies (such as irrigation, water treatment/purification, and water supply systems) and sustainable agricultural practices. In addition, the project trains farmers to serve as resource persons in their own communities and works closely with churches to deliver integrated messages about water and sanitation, HIV/AIDS, environmental protection, and sustainable agriculture. RHEPI's low-budget, community-based approach has reached over 2,000 people living in the project's two targeted districts.

Pulcherie Mukangwije, Family Health International, 2008

Primary school students learn about proper hygiene from Destination Nyungwe Project (DNP) staff and teachers in Nyamasheke district in the Western Province of Rwanda. The DNP protects biodiversity by strengthening protected area management, mainstreaming environmental issues into district development plans, and promoting environmental awareness and stewardship in local communities.

Increasing Understanding of PHE Linkages

The Rwanda PHE assessment identified three communication channels that present opportunities for increased understanding of population-health-environment interactions at both policy and local levels:

- **Traditional forums**. The post-genocide government was successful in implementing challenging programs like local justice, unity and reconciliation, and decentralization by deliberately invoking the cultures, traditions, and values respected and upheld by all Rwandans. Dialogues about program objectives, processes, and communities' needs and concerns took place within special community-level meetings, such as a monthly countrywide community-service obligation (*umuganda*), participatory planning meetings (*ubudehe*), and national dialogue sessions (*urugwiro*). With adequate planning and preparation, the PHE theme could be introduced and discussed at these important indigenous gatherings.
- **Media.** The media also provides opportunities for communicating PHE issues and integrated approaches. In Rwanda, state control over the media has loosened considerably since its divisive campaign during the genocide, and independent media is growing quickly. During the last three years, more than 10 additional private and community radio stations have sprung up in Kigali and around the country, several newspapers have begun publishing in different languages, and Internet infrastructure is expanding beyond the capital. These diverse media provide opportunities for PHE messages to reach local and national target groups. There are emerging best practices in health communication in Rwanda, such as Urunana by Health Unlimited and Family Health International, discussed further below, from which lessons could be applied to effectively communicate PHE messages through national and local media outlets.
- **PHE Network**. The newly established East Africa PHE Network—launched in Addis Ababa in 2007—will help improve communication about PHE issues among policymakers, researchers, and practitioners within Rwanda and throughout eastern Africa. The PHE Network serves as a forum for information exchange about cross-cutting PHE issues, community networking, accessing resources,

and advocacy for greater cross-sectoral collaboration across the East Africa region. Country-specific PHE working groups have been established in Ethiopia, Kenya, Rwanda, and Uganda.

The Way Forward for PHE Planning and Integration

In order to strengthen planning for cross-cutting PHE issues and promote cross-sectoral collaboration in Rwanda, the following actions are suggested:

- **Carry out an analysis of institutional interest in and capacity for PHE integration**. An in-depth stakeholder analysis would identify the institutions and organizations engaged in cross-cutting issues, how the issues or activities are interlinked, and the institution's or organization's capacity to effectively plan and implement cross-sector work. An in-depth analysis would also help identify specific training needs, research and funding priorities, and potential partners and donors.
- **Develop a framework for institutional coordination and policy dialogue**. There is need for an interagency framework that brings together different professionals, policymakers, and practitioners from various disciplinary backgrounds and sectors related to PHE issues. Regular dialogues about approaches to integration and documenting and sharing practical case studies and best practices in East Africa are needed. The establishment of the East Africa Network and Rwanda PHE Working Group will help in this endeavor. Policy dialogue will require the design and implementation of an effective advocacy campaign to educate policymakers about PHE interactions and place PHE issues on the policy agenda.
- **Develop a multimedia communication strategy**. Literacy rates are still low in Rwanda, with only 60 percent of women and 71 percent of men able to read and write; but most Rwandans listen to radio regularly. The Urunana Development Communication, a multimedia program implemented by Health Unlimited, has been successful in using radio and television to convey HIV/AIDS, reproductive health, malaria control, and other evidence-based health messages to the general public. This approach to health communication has been successful in other parts of the world as well, and has the potential to sensitize people to population-health-environment interactions and promote an integrated approach to development.
- **Explore the urban dimension of PHE interactions**. Increasing rural-urban migration is straining urban authorities' capacity to provide services. The congested, unplanned settlements are prone to health and environmental hazards such as poor sanitation and air quality and contaminated drinking water. The urban dimension of PHE interactions needs to be more fully explored to identify what and how policy responses can be designed to effectively address urban problems. This would also complement the government of Rwanda's strategy of encouraging sustainable urbanization as a way to promote rational land use.

Raising awareness of the links between population, health, and environment among policymakers, development planners, and project implementers; strengthening institutional capacity for cross-sectoral collaboration; and identfying and supporting community leaders and advocates are essential for successful cross-sector integration in Rwanda. Progress in these areas will lay the foundation for more effective participatory development efforts that increase human well-being and sustain healthy environments.

Acknowledgments

Melissa Thaxton prepared this policy brief. She is an independent consultant and former policy analyst at PRB. Special thanks go to Dr. Charles Twesigye-Bakwatsa of the Centre for Resource Analysis for serving as lead author of the Rwanda PHE Assessment—on which this brief is based—and to the members of the Rwanda PHE Assessment team: Timothy Karera, USAID; Eric Kagame, USAID; Alex Mulisa, Poverty-Environment Initiative and REMA; Pulcherie Mukangwije, Family Health International; Ian Munanura, World Conservation Society; James Rubakisibo, Rwandese Health Environment Project Initiative (RHEPI); and Dancilla Mukakamari, Association Rwandaise des Ecologistes (ARECO-RWANDA NZIZA). Thanks also to Roger-Mark De Souza, Sierra Club; Irene Kitzantides, USAID Global Health Fellow; John May, World Bank; and Jason Bremner, PRB, for reviewing various drafts of the brief and providing insightful comments and suggestions.

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