

INTEGRATING POPULATION, HEALTH, AND ENVIRONMENT IN ETHIOPIA

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Ethiopia's diverse cultural, religious, and linguistic heritage reflects its location at the crossroads of Africa and the Middle East. Some of the first human settlements arose in this region, which means that Ethiopians have interacted with their natural environment for millennia. The ox-plow system—the dominant form of agriculture in Ethiopia—arose in the highlands more than 2,000 years ago. The highlands are also home to moorland, grassland, and woodland habitat, which contain considerable biodiversity. Despite some species loss, Ethiopia still claims a wealth of natural resources, though it is increasingly under threat.

In recent decades, this ancient center of more than 100 ethnic groups has been known for recurrent famines, epidemics, and conflicts. However, policymakers within and outside Ethiopia are determined to break the cycle of food insecurity and poverty through sustained economic growth, while preserving the country's unique natural heritage. A development model that integrates population, health, and environment factors may be the best way to achieve these goals. A versatile development model that strives to integrate population and environment has been implemented in countries similar to Ethiopia in recent years, with encouraging results.¹ Known as cross-sectoral or integrated population, health, and environment (PHE), this holistic approach has potential for application in Ethiopia and is compatible with the government's new poverty reduction strategy.

The Population, Health, and Environment Approach to Development

The integrated PHE approach to development recognizes the interconnections between people and their environment and supports cross-sectoral collaboration and coordination. The approach places particular emphasis on the population, health, and environment sectors. However, the underlying philosophy of the approach is one of integration. It



can accommodate other sectors and be successfully applied to achieve a variety of development goals, including poverty reduction, food security, and gender equity.

According to a recent (2005) review of current PHE programs in the Philippines and Madagascar, integrated PHE programs often have better results than single-sector programs and are more programmatically efficient. One of the most valuable benefits of integrated programming is the potential for reaching expanded target audiences.² PHE programs have been especially effective in increasing the participation of women in conservation activities and the participation of men and youth in family planning and health activities. Integrated programs have also reduced operating expenses by increasing efficiency and strengthening cross-sectoral coordination at the local level; galvanizing and maintaining greater community goodwill and trust; and increasing women's status and self-perception in project areas, especially when PHE programs include microcredit or other livelihood activities.

Drawing lessons from these and other countries where PHE programs have been successfully implemented, this brief explores the PHE context, challenges, and opportunities for pursuing an integrated approach to development in Ethiopia (see Box 1, page 2).

Box 1

Ethiopia Population, Health, and Environment (PHE) Assessment

This policy brief is based on the Ethiopia PHE Assessment written by Dessalegn Rahmato, Yeraswork Admassie, and Yared Mekonnen in 2007.

The Population Reference Bureau coordinated a comparative study of population, health, and environment integration and cross-sectoral collaboration in East Africa. Teams from Ethiopia, Kenya, and Tanzania 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 to conduct the assessment in Ethiopia included a review of relevant government policies and project documents, key informant interviews, and focus group discussions. The Ethiopia PHE Assessment was made possible with funding from the David and Lucile Packard Foundation.

An Overview of Ethiopia

Political History

Distinguished as the only noncolonized country in sub-Saharan Africa, Ethiopia was governed by a monarchy that started in the mid-19th century and—except for a few years during World War II—lasted until 1974. The last emperor, Haile Selassie, ruled the country for nearly half a century. Haile Selassie's government exploited natural resources to seek much needed economic growth. Yet, it appeared unaware of the limited carrying capacity and negative effects of poorly devised government policies on these resources.³

A 1974 revolution and Haile Selassie's removal was followed by a difficult transition from imperial to socialist rule. Mengistu Haile Mariam emerged as the country's new leader.⁴ During his 17-year rule, Mengistu's government was marked by macro-level policies that negatively affected natural resources and constrained social development, which further weakened food security in Ethiopia.⁵ Mengistu's government was toppled in 1991, ending a 30-year civil war with Eritrea and installing new leadership.⁶ Under Meles Zenawi, who became prime minister in 1995, Ethiopia became a federal state and gradually devolved limited power to the regions.⁷

Socioeconomic Situation

Ethiopia is the second most-populous country in Africa, yet it is one of the least urbanized countries

in the world: 85 percent of the population is rural.⁸ Population density is varied and follows altitudinal and agroecological lines. The highlands (*dega*) are the most densely populated, while the lowlands (*kolla*) have the lowest population densities.

The economy remains largely agrarian: Coffee and animal hides are the main exports. About 15 percent of the country's population is pastoral: They move seasonally with their herds of livestock (mainly goat, sheep, cattle, and camel) to find water and forage. Pastoral regions represents approximately 60 percent of the country's land mass and are among the most inaccessible and food insecure. Long ignored in national policies and development efforts, pastoralists are consistently among Ethiopia's poorest of the poor.⁹

An erosion of people's rights to use, manage, and develop land, as well as restrictions on travel and transport during the socialist regime, have had long-term negative impacts on natural resources and economic development in Ethiopia.¹⁰ Long-running conflicts with such neighbors as Eritrea and Somalia since the 1960s have diverted scarce financial resources from development to military spending.¹¹ Like many other countries in Africa, Ethiopia has recorded double-digit economic growth in recent years; however, this progress has been offset by rapid population growth and recessions during drought years.¹² An addition of 2 million people per year, poor economic and social indicators, an agricultural sector that is less productive today than it was 20 years ago, and dependency on foreign aid coalesce to paint a bleak outlook for Ethiopia.¹³

Population and Health

In the 1960s and 1970s, mounting evidence demonstrated links between population pressure and a shrinking natural resources base in Ethiopia.¹⁴

Migration and both voluntary and involuntary government resettlement—generally from higher to lower elevations—to alleviate population pressure, altered socioeconomic ties between farmers and pastoralists, increasing the conflict between them.¹⁵ Inheritance customs led to a steady decrease in rural land holdings, from an average of 0.50 hectares (ha.) per person in the 1960s to 0.21 ha. per person in 1999.¹⁶ Food insecurity rose, in part, because land and natural resources became more scarce and began to deteriorate. The first accurate

national census in 1984 revealed a population of 42 million, increasing at 2.9 percent per year—much larger and faster growing than previously thought. Ten years later, the 1994 census confirmed the trend, recording a population of 53 million.

Yet, population was not a concern of the imperial or socialist governments, in power between 1928 and 1991.¹⁷ The transitional government ended this laissez-faire approach, and declared a National Population Policy (NPP) in 1993, with support from the United Nations Population Fund.¹⁸ Objectives of the NPP include improving maternal and child health, a significant increase in contraceptive usage, and a dramatic reduction in fertility.¹⁹ The policy notes the need to educate people about the links between family size, human welfare, and environmental security. This policy was not well implemented, but the government appears to have recommitted to the NPP in 2007 by establishing the National Population Council (the body intended to create the policy's implementation plan). This revitalizes the policy's coordination body and complements the launching of a National Reproductive Health Strategy in 2006.²⁰ But, the policy of dissuading rural-to-urban migration continues to affect land use and strain the natural resource base, as the rural population increases.²¹

Ethiopia's maternal mortality remains among the highest in the world, with the maternal mortality ratio estimated to be around 673 maternal deaths per 100,000 births in 2005.²² Improved access to family planning and other reproductive health services—especially in rural areas—could combat maternal mortality significantly.²³ The 2005 Demographic and Health Survey in Ethiopia found that 15 percent of married women of reproductive age used a contraceptive—a low rate, but a marked increase from 8.1 percent five years earlier.²⁴ One in every three Ethiopian women has an unmet need for family planning—that is, they would prefer to avoid a pregnancy but are not using a contraceptive method. One in 13 Ethiopian babies dies before reaching age 1, and one in eight does not survive to their fifth birthday.

The public sector, supported by nongovernmental organizations (NGOs), is the major provider of family planning services, which are free and integrated into the primary health care system. Service delivery is supplemented through NGO-



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Local tribes band together and search nomadically for water after being displaced due to severe droughts in Ethiopia.

supported community-based programs (primarily through community-based reproductive health agents, or CBRHAs), and private-sector supported social marketing. In addition, the government's new health extension worker (HEW) program is designed to expand coverage for primary health and family planning services at the community and household level.

Environmental Challenges and the Policy Response

Ethiopia is known for its wealth of natural resources and biodiversity, which results from extreme altitudinal variation (4,620 meters above to 116 meters below sea level) and a tropical location. The area is home to the Ethiopian wolf (*Canis simensis*, the rarest canid in the world) and Walia ibex (*Capra walie*).²⁵ Alpine moorlands above 3,300 meters harbor unique flora and fauna and serve as important water catchment areas. About half of the country is a high plateau region, cut in two by the Great Rift Valley. But, 5,000 years of land cultivation and demographic expansion have degraded the natural environment.²⁶

The actual rates of soil erosion and deforestation are debatable, but most agree that both are occurring on a large scale. Soil erosion is believed to affect 82 percent of the country; only 2.4 percent of the country remains forested, down from an initial estimate of 40 percent forest cover. Moreover, the effects are linked: The fuelwood shortage due to deforestation has direct implications on soil fertility, since animal waste and crop residues are collected as fuel rather than left as natural fertilizers and stabilizers in fields. Eighty percent of the country's population lives in the highlands, which cover only 45 percent of the country. But the rich highland soil is becoming less fertile; droughts are more frequent and intense; and water resources are declining, due in part to the loss of vegetative cover and corresponding soil erosion. Furthermore, climate change may be altering the predictability of rainfall in Ethiopia.

Environmental Policy and Government Response to Environmental Degradation

Apocalyptic warnings about Ethiopia's natural environment began in the 1950s, sown in part by expatriates who were not always familiar with the country's landscape. Ethiopian environmentalists and policymakers internalized this legacy of environmentalism rooted in ecological calamity, and

formulated policies bent on avoiding catastrophe, with long-term implications. For example, when the Ethiopian Wildlife Conservation Organization (EWCO) was created in 1965, it adopted an exclusionary protected areas policy that prohibited human access and required forced resettlement. The policy does not acknowledge traditional land uses (for example, pasture usage in times of drought), and has limited the country's conservation success.²⁷ People living adjacent to protected areas were neither involved in the management of, nor received benefits from the parks, and do not necessarily support them.²⁸ During periods of instability, such as the 1991 transition, nearby populations sometimes damaged park infrastructure and shot or poached animals within the parks. Furthermore, civil war and political crises have limited tourism and revenue-sharing opportunities.

Public programs to rehabilitate land through reforestation, terracing, and other methods, such as those instituted by the socialist government in the 1980s (with funding from the World Food Program) were coercive and top-down, and not popular among rural populations. The lack of ownership of the environmental assets created by the programs undermined the sustainability of coercive reforestation on communal land, and when socialism collapsed, destruction of infrastructure and extensive deforestation ensued.²⁹

The current government enacted a National Environmental Policy in 1997, which aimed to enhance the quality of life of Ethiopians by promoting sustainable development through sound management and use of natural resources.³⁰ Policy goals include preserving essential ecological processes, life support systems, and biological diversity; encouraging sustainable exploitation of nonrenewable resources; improving the environment of human settlements; and promoting understanding of the essential linkages between environment and development.³¹ Unfortunately, the policy has been difficult to translate into on-the-ground actions.

Current local programs include reforestation and construction of erosion control structures. The government's Productive Safety Net Program, implemented at the watershed level, builds and protects community assets such as woodlots and common grazing lands. The program has been slow to achieve its objectives.³² The situation may improve because of recent policy changes and

PHE Measures for Ethiopia and Three Other Countries With PHE Programs

	Ethiopia	Madagascar	Philippines	Tanzania
Total population, millions	77.1	18.3	88.7	38.7
Land area (sq. km.)	1,104,000	587,000	300,000	945,000
Rate of natural increase/ year	2.5%	2.7%	2.1%	2.6%
Percent urban	16%	26%	48%	23%
Total fertility rate (lifetime births per woman)*	5.4	5.2	3.4	5.4
Percent of married women using contraception (modern methods)	14%	17%	36%	20%
Percent malnourished children (< age 5)	47%	42%	28%	29%
Percent of population living below < US\$2/day	78%	85%	48%	90%
Percent of rural population with access to improved water	11%	34%	77%	62%
Threatened species	111	538	475	533

*The average number of lifetime births a woman would have given current birth rates.

SOURCES: World Bank, *World Development Indicators 2007*; C. Haub, *2007 World Population Data Sheet*; World Bank, *Country at a Glance* (2006); World Bank, *Capturing the Demographic Bonus in Ethiopia*, Report No. 36434-ET (2007); and World Conservation Union, *2006 Red List of Threatened Species*.

the blossoming of environmentalism in Ethiopia, which has yielded many grassroots civil society and advocacy organizations.

Population, Health, and Environment Compatibility

The historic interaction between humans and their environment in Ethiopia provides a basis for developing sustainable, integrated community development models useful for PHE programs. Ethiopia's demographic, health, and environment situation make it a good candidate for PHE programming (see table).

Rising Vulnerability: Population Pressure, Environmental Degradation, and Poverty

The intertwined challenges of high population growth, environmental degradation, slow technological adaptation, and rural development have deepened rural poverty and vulnerability in Ethiopia. The stagnation of the agricultural economy and its failure to innovate as the rural population has increased translates into less available food per person. The nationalization of land and the ensuing redistribution and reallocation of farmland appears to have decreased farmers' motivation to invest in sustainable land management.³³ Land policies are thought to have led some farmers to have more children and to encourage their children to marry at younger ages to benefit from land redistributions or to avoid the loss of land. As farm size has shrunk, the "micro-farm" systems have become more prone to collapse under natural disasters, weakening traditional resilience to food insecurity. These vulnerabilities combine to produce higher rates of child and adult malnutrition, undermining the health of present and future generations.³⁴

Environmental and natural resource degradation are in themselves outcomes of growing population pressure. Natural resource degradation leads to reduced crop production, fewer animal holdings, and less biomass, which lowers per capita caloric intake. Resource degradation also compels farmers to adopt more labor-intensive methods of crop cultivation and to travel longer distances to access water, fuel, construction material, and grazing sites, which leads to a progressive deterioration of farmers' standard of living.

Land scarcity due to a larger population—and the unequal distribution of that population—

compels people to cultivate marginal land, such as high-altitude pastures and steep hillsides. Accompanied by deforestation and vegetative removal, cultivation of marginal land drives environmental degradation. In addition, the loss of common pasture and other nonarable land means that families are forced to keep fewer and smaller livestock, which in turn yield less manure and decreased soil fertility.³⁵ Land is further deprived of the organic matter essential for replenishing its fertility as farmers are forced to collect manure for fuel because of the lack of available wood due to deforestation.

Land fragmentation contributes to increased risk because holders of smaller plots are more reluctant to adopt new technologies and are unable to practice traditional land management practices such as fallowing and crop rotation.³⁶ Larger families with correspondingly smaller per-capita land assets are more dependent on common property resources such as forests and grazing lands. They exert more pressure on these lands for fuelwood, forage, and water. Women and girls must travel longer distances in search of water, which can undermine their health and consume time they could devote to education or other pursuits.

Demographic pressure, land scarcity, and land fragmentation drive greater rural vulnerability and poverty, marked by decreased food security, inadequate response to such natural disasters as drought or pest infestations, weakened resilience to shocks, and poor health.³⁷ In summary, it is not just the supply of food, fodder, and fuel that is under threat, but the resource base itself—and the lives that depend upon it.



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A community-based family planning distribution agent with her baby outside the health facility.

Box 2



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A man tills the soil with cattle in Plan International/Ethiopia's demonstration agricultural project in the Amarya Region of Ethiopia.

National Population Policy: Rural-Urban Migration Reform

The stipulation in the National Population Policy (NPP) discouraging rural-to-urban migration poses an obstacle for increasing household income. The slow rate of urbanization and the concentration of the population in rural areas has not been adequately addressed by the 1993 NPP. Policymakers could abandon policies of moving people from high-density to low-density rural regions and encourage the growth of cities. Cultural differences, disease prevalence (such as malaria or trypanosomiasis), and poor infrastructure combine to make resettlement unappealing.¹

Ethiopia's land policies have blocked rational seasonal migration and the free flow of people and capital, paving the way to the emergence of a dichotomized society in which a family is either rural or urban.² The urban and rural worlds are separated to the disadvantage of both: Rural areas are drained of their best human and material resources without getting much in return, and urban populations are effectively barred from the rural areas, from agricultural enterprise, and from contributing to the material and social development of rural areas.

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²Yeraswork Admassie et al., "Social Viability Module Ethiopia: Spatial Population Balance and Rural Viability in Ethiopia" (paper presented at the Roles of Agriculture Project International Conference, Agriculture and Development Economics Division (ESA), Food and Agriculture Organization of the United Nations, Rome, Oct. 20-22, 2003).

Opportunities for PHE Integration— Potential Stakeholders

More than 2,000 NGOs are engaged in development in Ethiopia. Their missions are diverse, ranging from research and policy to advocacy and the environment. Most NGO investments in the health sector are in reproductive health and family planning. These NGOs typically offer community-based reproductive health (CBRH) programs, which were initiated in the mid- to late 1990s in rural areas with high population densities and somewhat more-educated populations. CBRH programs are funded by USAID, UNFPA, and the David and Lucile Packard Foundation. The major implementers in rural areas are the Family Guidance Association of Ethiopia (FGAE), Pathfinder International/Ethiopia, and regional development associations and women's organizations. CBRH methods include home visits, community mobilization, and marketplace education sessions, with referrals to public health clinics.³⁸ The biggest investments for environmentally focused NGOs are in agriculture and food production, specifically soil and water conservation, with a smaller segment devoted to conservation and natural resources management. NGOs have also made significant contributions in the water sector, in the provision of safe water and small-scale irrigation schemes.

Cross-sectoral PHE programs—which in some countries also encompass economic growth, good governance, and/or education—are well-received at the community level. They are cost-effective and often attain measurable results within short time spans.³⁹ Several NGOs in Ethiopia are currently implementing integrated projects that include population, health, and environment interventions, while other sector-specific NGOs are poised to implement PHE projects in partnership with other organizations. Examples of these types of organizations and their projects follow.

CARE Ethiopia is involved in a variety of development projects, in addition to emergency feeding. CARE is a partner in the Awash National Park Conservation and Development Project. Started in 1990, the Awash project arose from the realization that exclusionary conservation policies put in place by EWCO were not effective. The Awash project entailed researching and developing a new park management plan based on community participation.⁴⁰ CARE and other development organizations were recruited to provide development

services, including health services, to pastoralist communities near the park. The successful Awash model could be adapted for other national parks in Ethiopia. Furthermore, CARE's involvement with PHE projects in other countries would be an asset for future PHE work in Ethiopia.⁴¹

Pathfinder International/Ethiopia is the leading reproductive health and family planning (RH/FP) NGO operating in the country. Pathfinder provides subgrants to local implementing partners, and uses a network of more than 8,000 Pathfinder-trained community-based reproductive health agents (CBRHAs) to share information about family planning and provide referrals to participating health facilities. Because of Pathfinder's close community ties and extensive CBRHA network, they are well-suited to partner with environment, health, and water organizations to launch a comprehensive PHE approach.

What Can Be Done to Achieve PHE Integration in Ethiopia?

Policy Reform

The government needs to actively pursue its national population policy in line with its poverty reduction strategy (after amending the urban migration language, discussed in Box 2). Amendments to the national population and environment policies could provide specific strategies for integrating PHE at the sectoral, institutional, and program/community levels, build partnership and institutional capacity for PHE, and set up mechanisms to coordinate PHE among sectors and ministries. The environment policy also needs to be strengthened by adding specific practical actions to pursue.

Adopt Unique PHE Programs for Farming and Pastoral Areas

The government has initiated a land certification process in select regions, which could improve tenure security and motivate landholders to use the land and its resources more sustainably. In addition, tenure security might lead more couples in farming areas to consider limiting their family size. Integrated PHE projects could focus on those regions most likely to accept family planning. The seasonal mobility of pastoral populations presents different challenges to PHE programming. The government's poverty reduction strategy has made

little progress among pastoral populations so far. But PHE programs that provide access to water, along with other services, could serve as an entry point for government efforts to reduce poverty.

Population and Environment Hotspots

The management of protected areas is now the responsibility of local governments; however, emphasis should be placed on granting local communities more autonomy to help manage protected areas. In addition, there is a great need for enhanced conservation planning and natural resources management in Ethiopia. The best PHE approach would acknowledge that ecosystem services, environmental degradation, and population pressure are inter-related. Environmental hotspots, such as Simien Mountain National Park, are often located in remote areas and are pockets of extreme poverty, even by Ethiopian standards. Participatory management and income generation, access to infrastructure, health, and education are all natural components of PHE projects. The Awash National Park Conservation and Development project provides a model for such an approach (see CARE Ethiopia above).



A shepherd stands on a hillside overlooking the Blue Nile Falls in the highlands of northern Ethiopia.

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A young girl in Ethiopia carries a baby while also carrying wood that she gathered for the household fuel.

Women and PHE

Despite the emphasis placed by various policies and agencies on the specific needs of women, gender parity in the provision of services and encouraging women's participation in the community are far from the norm in Ethiopia. The participation of women in PHE initiatives would move toward these goals. PHE programs could help couples have the number of children they want as well as address the high unmet need for family planning services. The 2005 Ethiopia Demographic and Health Survey found that 34 percent of women had unmet need for family planning, 20 percent of women wanted to space their pregnancies, and the remaining 14 percent wanted to limit the number of births. PHE projects could also help diversify contraceptive options in Ethiopia by ensuring availability to the most rural populations. The involvement of women in PHE programs would also directly support the government's new plan to increase contraceptive prevalence to 55 percent. Female education and empowerment are critical determinants of fertility, and providing girls with access to education is likely to reduce the fertility rate.

The Public Sector

PHE programs can capitalize on the transformation of the government's poverty reduction program (Plan for Accelerated and Sustained Development to End Poverty, or PASDEP 2006), which should increase community networks, knowledge, and access to education that would complement PHE efforts. In addition, PHE programs could take

advantage of government extension workers—in both health and agriculture—to support community-based education initiatives. And, PHE approaches could expand the NGO-supported network of community-based reproductive health agents. Creating communication channels across sectoral governmental ministries at the national, regional, and local level will be vital.⁴²

The NGO Sector

While PHE integration might be just beginning in Ethiopia, program integration is fairly common, particularly at local levels. Thus, it would be possible to expand on the Integrated Rural Development (IRD) model used by some NGOs, and the River Basin Approach of the Ministry of Agriculture to more formally encompass PHE goals. NGOs could improve staff training and scale up current social marketing programs that use private market mechanisms to distribute contraceptive supplies. Cross-trainings could be organized for sector-specific NGOs that are interested in becoming involved in PHE. Alternatively, partnerships could be established to pair health NGOs with environment NGOs (and vice versa) in order for multiple organizations to implement parallel PHE programs simultaneously. In both scenarios, NGOs will need to collaborate to harmonize their approach and coordinate interventions.

Capacity Building, Advocacy, and Research

Both the public sector and NGOs require considerable capacity building to carry out PHE programs. Capacity building would entail staff training programs, sharing experiences, and national conferences to cultivate learning opportunities. The NGO community and the government would also need to educate donors on the value of an integrated approach and their desire to mainstream it in Ethiopia. In addition, appropriate and innovative use of mass media could foster behavior change regarding family planning and the sustainable use of natural resources. Baseline data should be collected before projects begin to properly assess future achievements and correct shortcomings. Finally, new PHE programs could employ a monitoring and evaluation system that would permit analysis of results via clear and measurable indicators.

Conclusion

There are many opportunities and entry points for pursuing a more holistic way to address the complex interactions between humans, their health, and the environment in Ethiopia. The country faces daunting challenges. There are wide regional imbalances, with extreme levels of deprivation in the lowland and pastoral areas. As in many developing nations, Ethiopians are particularly dependent on natural resources. Thus, the management of those resources directly affects people's livelihoods. A highly rural population like Ethiopia's is likely to be receptive to an integrated PHE approach as it could contribute to better management of natural resources and corresponds well to their development needs. PHE programming could be adapted to respond to the unique population, agro-ecological, and environmental conditions present in specific regions of Ethiopia.

Rural development typically employs a sectoral approach, aligned with the division of government services and institutional structures. The revitalized National Population Policy notes the need to demystify the nexus between poverty, demographics, and the environment. And, the national environment policy describes the links between demographics and the environment. In addition, the government's poverty reduction document recognizes the scale and urgency of demographic and environmental problems, and identifies them as cross-cutting issues. The case for a holistic approach is highlighted in the PASDEP, but a methodology is needed for implementing cross-sectoral development. PHE programming could provide significant inroads to remote rural regions, where fertility is almost twice as high as in urban areas. PHE approaches can also enhance women's empowerment as well as increase men's involvement with family planning. Since female education is a critical determinant of fertility in Ethiopia, PHE programs could include school-based programming.

Recent changes in state structure, such as decentralization, bring development closer to the community and could make service delivery more efficient and effective. These changes offer promising options for integrated PHE programming. Improved coordination could encourage cross-sectoral or parallel program integration. Integrated programming can also capitalize on opportunities

created by decentralization for closer government-NGO ties. There is great potential for cross-sectoral development approaches in Ethiopia. With adequate support from within and outside the country, a more inclusive development strategy could be implemented in Ethiopia.

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- ⁶ A border dispute between Ethiopia and Eritrea led to full-scale war again in 1999; a peace agreement was signed in 2000, but the stalemate over the disputed border boundary has yet to be resolved.
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- ¹¹ Jacobs and Schloeder, *Impacts of Conflict on Biodiversity and Protected Areas in Ethiopia*.
- ¹² Sahlú Haile, personal communication, 2007.
- ¹³ Sahlú Haile, "Population, Development, and Environment in Ethiopia," *Environmental Change and Security Project. Special Report*, Issue 10 (2004): 43-51.
- ¹⁴ McCann, *People of the Plow*.
- ¹⁵ Jacob and Schloeder, *Impacts of Conflict on Biodiversity and Protected Areas in Ethiopia*. The socialist government instituted a controversial "villagization" program in 1987, which forcibly relocated households away from their historically dispersed settlement patterns into rigidly planned villages. The government claimed to have relocated one-half of the country's rural population by 1988. Villagization devastated farm-level productivity and led to food insecurity, in large part because it forced a switch from perennial, diverse crops to a maize monoculture, a less nutritious and harder to store annual crop. See McCann, *People of the Plow*.
- ¹⁶ World Bank, "Capturing the Demographic Bonus in Ethiopia." In the ríst land holding areas, the customary practice is for land to be divided among all siblings. In the south, generally only male siblings inherit property.
- ¹⁷ A National Office of Population was established during the second half of the socialist era, though it did not enact any policy.
- ¹⁸ Haile, "Population, Development, and Environment in Ethiopia." Other federal policies favorable to improving women's health and increasing access to family planning include the Health Policy and the National Policy on Ethiopian Women.
- ¹⁹ Haile, "Population, Development, and Environment in Ethiopia." The goals of increasing contraceptive usage from 4 percent to 44 percent and reducing fertility from 7.7 children per woman to 4 by 2015 were ambitious and the lack of a monitoring and evaluation plan for the NPP made it difficult to gauge progress (World Bank 2007).
- ²⁰ Formerly known as the National Office of Population (NOP) (World Bank 2007).
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- ²⁷ Jacobs and Schloeder, *Impacts of Conflict on Biodiversity and Protected Areas in Ethiopia*. Awash National Park is the only exception; in the early 1990s EWCO and development organizations paired up to create a community-based management plan. Largely seen as a success, Awash was the only national park not subjected to invasion and damage during the transition to democratic rule in 1991.
- ²⁸ Ethiopia's protected area system includes nine national parks, four wildlife sanctuaries, and seven wildlife reserves.
- ²⁹ Tedia and Lemma, "Environmental Management in Ethiopia?"
- ³⁰ Haile, "Population, Development, and Environment in Ethiopia"; and World Bank, "Capturing the Demographic Bonus in Ethiopia."
- ³¹ The Environmental Protection Authority oversees the implementation of the National Environmental Policy, and monitors and evaluates environmental impact assessments.

³² World Bank, "Capturing the Demographic Bonus in Ethiopia."

³³ Tedia and Lemma, "Environmental Management in Ethiopia?"

³⁴ Charles Teller et al., "The Demography of Hunger: Case Studies of Population/Land Pressure in Vulnerability to Food/Nutrition Insecurity in Ethiopia" (paper presented at the Conference of the International Union of the Scientific Study of Population, Tours, France, July 2005).

³⁵ The overall number of livestock is increasing in Ethiopia as the overall population increases, which has increased overgrazing.

³⁶ McCann, *People of the Plow*.

³⁷ Teller et al., "The Demography of Hunger."

³⁸ In urban areas, NGOs such as FGAE and Marie-Stopes International/Ethiopia run family planning clinics.

³⁹ Pielemeier, *Review of Population-Health-Environment Programs Supported by the Packard Foundation and USAID*.

⁴⁰ Jacobs and Schloeder, *Impacts of Conflict on Biodiversity and Protected Areas in Ethiopia*.

⁴¹ CARE has implemented integrated development and conservation projects in Uganda in Bwindi Impenetrable, Mgahinga Gorilla, and Queen Elizabeth national parks, among others; and in Madagascar's Masoala National Park.

⁴² Specifically, between the Ministry of Health, which is responsible for health; the National Population Office, under which population falls; and the Federal Environmental Protection Agency, which is responsible for the environment.

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