



developments

Winter/Spring 1999

SD's Locust Plague Prevention

Bridging the Emergency Response-to-Development Continuum

By Alan Schroeder

Long before the concept of the office of SD was conceived, Moses asked God to deliver a devastating plague to Pharaoh's land. God obliged. In 1491 BC, Moses described the results in *Exodus*:

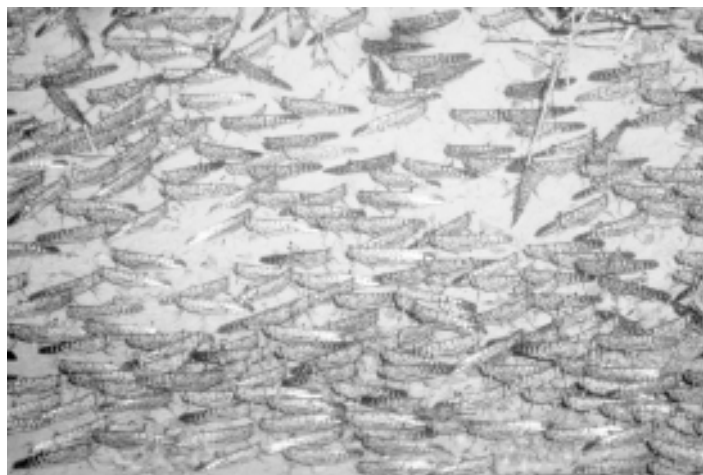
They covered the surface of the land till it was black with them. They devoured all the vegetation and all the fruit of the trees that the hail had spared. There was no green left on tree or plant throughout all Egypt.

That was only in Egypt. Places farther south, like Abyssinia, had suffered repeated crop devastation at the mandibles of locusts for thousands of years. In fact, the southern Red Sea coastal plains were the probable source of the plague wrought by Moses.

Clouds of desert locusts continue to strike fear in the hearts of Sahelian and north African farmers to this day. As recently as the spring of 1998, swarms of desert locusts were building once again in the Red Sea coastal plains and threatening crops in Eritrea, with the potential to move across the Sahel, and on to the north. But, due to the rapid response of well-trained farmer leaders and ministry of agriculture field officers, and improved coordination capabilities of donors like USAID, working with United Nations' Food and Agriculture Organization (FAO), the outbreaks were controlled before they could develop into a full-blown plague.

In 1986, the situation was far different. Good rains following a long drought, giving rise to a flush of new vegetation, provided excellent conditions for egg-laying and plenty of food for locusts. Moreover, many of their preferred breeding areas were laid with land mines as wars raged between Eritrea and Ethiopia, north and south Sudan, and around the Western Sahara. Along with unpreparedness, these conditions kept survey and control operations to a minimum in these important areas. As a result, record population levels of locusts were reached in a matter of months. From there populations expanded exponentially, and for almost three years between 1986 and 1989, they threatened agricultural produc-

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Alan Schroeder

A locust swarm amasses in Mauritania.

Small Enterprise Growth through Business Linkages in South Africa

By Donald C. Mead

Around the world, modern, forward-looking businesses interact with other enterprises through a complex web of commercial relationships. Many efficient managers find it cost-effective not to do everything themselves "in-house." Instead, they purchase some goods and services required for production activities from other enterprises that specialize in particular aspects of the production process. These purchases and sales, which we refer to as business linkages, are pervasive characteristics of efficient and productive economies.

South Africa is expanding the scope of these commercial transactions. Many large corporations are moving towards a lower degree of vertical integration; many are reaching beyond their traditional corporate partners, sometimes to smaller suppliers. While there is a long tradition of support for small business in South Africa, much of the energy in the past has been devoted to the promotion of small, white-owned businesses. In recent years, there has been considerable discussion of the ways in which that process can be opened up to newly established enterprises that had

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South Africa Business

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been excluded under the old apartheid regime.

Through an SD Equity and Growth through Economic Research (EAGER) project activity, the University of Natal and the University of the North, in cooperation with Michigan State University, recently examined the nature of these business linkages, the extent to which they currently provide opportunities for improvement for historically disadvantaged small enterprises, and the steps that can be taken to expand such opportunities. The major findings of the study follow.

Many business linkages are currently in place involving transactions between major corporations and historically disadvantaged small suppliers. Interviews with about 75 large enterprises indicated that virtually all did some purchasing from small, historically disadvantaged suppliers. Most bought from only a few, but some buyers had ongoing commercial relationships with 20 or more small, disadvantaged suppliers, many in the service areas that included catering, office cleaning, transport, manufacturing, or construction-related activities. In some cases, the suppliers were close to the core activity of the large partner. The clearest example of this was in foot-

wear, where several steps in the production process were routinely outsourced. Among service activities, several appeared to be quite efficient, growing rapidly, and generating good returns for workers and owners.

Buyers established linkage contracts with three principal motivations: to improve their businesses; to serve the community; and to avoid rules, regulations, and payment of taxes. While the latter was clearly true in many cases, a number of suppliers paid all relevant taxes and fees while employing workers who were members of unions and covered by standard labor benefits. These were generally the most efficient of the small suppliers and growing the most rapidly.

Some linkage contracts were more helpful than others to historically disadvantaged small suppliers. The key determining factors were the contract characteristics (size, period covered, stability), and the degree to which the contract provided a channel for the supplier to learn how to improve. When the motivation for the contract was community service, these factors were much less likely to be present. In such cases, linkages generally resulted in frustrations for the buyer and little developmental impact for the supplier. Where the motivation was commercial, by contrast, the buyer had an incentive to serve as mentor to suppliers, helping them im-

prove their efficiency and productivity. Unfortunately, the interviews uncovered relatively few cases where the buyers played a significant role in mentoring their suppliers.

There is considerable interest on the part of both buyers and suppliers in expanding the involvement of historically disadvantaged small enterprises in business linkages. Several initiatives are currently under way, and others are just starting. To be most effective, institutional support for the promotion of linkages needs to start from several principles:

- ◆ The driving force must be economic, not a paternalistic goal of community service. All promotion activities must have an orientation that starts from markets, working back to suppliers to help them take advantage of these opportunities.
- ◆ The institutional structure must be cost-effective, taking into account the limited resources available to support this activity. Specialization and focus among promotion agencies can be important in helping achieve this objective. Buyer mentoring, a key factor in many successful linkages, also contributes to cost-effectiveness.
- ◆ There are three building blocks for the promotion of linkages: information, capacity-building, and capital. While each may be needed to bring a contract to successful fruition, in general, one organization should not attempt to supply all three.
- ◆ Issues of imbalance of power between buyers and sellers are important and must be addressed in establishing programs for linkage promotion. The study discusses some approaches to this issue.

Much has already been achieved in the expansion of business linkages involving historically disadvantaged small enterprises in South Africa. The interviews make clear that there is a strong will on all sides to do more. With stronger institutional support, there is much more that can be done.

Donald C. Mead (mead@pilot.msu.edu) is principal investigator of this EAGER/Private Sector Strategies for Growth and Equity study. This article previously appeared in the autumn 1998 issue of EAGERreport. To learn about other EAGER research activities, visit the EAGER web site at <http://www.eager.com>.

Effective Use of the Internet in Seven Steps

Making the Internet Count: *Effective Use of the Internet in Seven Steps*, a new publication from USAID's Leland Initiative project, outlines a process to help organizations figure out how to make the best use of the Internet. The materials and exercises in this manual provide a "do-it-yourself" way to help organizations achieve their goals through use of the Internet.

The manual is intended to help NGO decision-makers and staff, educational institutions, and government agencies take advantage of this powerful technology. It outlines a seven-step process for introducing or expanding Internet usage in an organization, how to think through an organization's current information use,

what it takes to get connected to the Internet, and how an organization can plan to get the most from the Internet.

The information and exercises in the manual have been used with more than 800 participants from USAID's partner organizations in a series of training workshops conducted throughout Africa by the Leland Initiative.

For those in need of more in-depth information on the technical aspects of the Internet, the manual's appendices provide a wide range of additional resources. The manual is available online in full-text in French and English at <http://www.info.usaid.gov/regions/afr/leland/manual.htm>.

Stories Out of School



This special focus on basic education, sponsored by the Africa Bureau's SD Education Team, will be a regular feature in SD Developments. Missions and others interested in sharing thoughts and experiences are welcome to contribute material for future columns.

Nature Takes its Course

By Talaat Moreau

Recently, while working in Mali with the Mission's Youth Strategic Objective team, I was told a marvelous story by Abibaye Traore, a member of the Mission's education team. Save the Children community schools in Mali use local languages for teaching in the first two years of primary school. One day, an old man from the village was slowly walking past the school when he heard the teacher telling the children that trees and plants breathe. He was horrified at this blatant misinformation and told the village elders what he had heard. He felt very strongly that the teacher should be taken to task. The elders asked the young teacher to talk to them because they were concerned about what he was doing in the classroom. The teacher explained this natural biological process and taught them the facts of plant life. The elders were delighted and amazed. The moral of the story is that teaching in a local language is not just beneficial to children. Everyone learns.

Talaat Moreau (tmoreau@air-dc.org) is an education specialist contracted to the Africa Bureau's Education team through the Academy for Educational Development.

Ugandan Education Video Released

By Brad Strickland

The education team of Africa Bureau's Office of Sustainable Development (SD), together with USAID/Uganda, the World Bank, and Uganda's Ministry of Education, has produced a television documentary on the progress and continuing challenges of education reform in Uganda titled *Education for All: The Ugandan Experience*. The program examines education reform in Africa. It tells the story of Uganda's sweeping education reforms since 1990 and explains what ingredients have been crucial to its success.

Filmed in 1998 on location in Uganda, the 30-minute documentary examines how Uganda is striving to improve quality and access in primary education. In 1997, President Museveni announced that up to four children in every family would be entitled to free primary education. While the move toward universal primary education has opened up new opportunities for millions of Ugandan children who could not afford school, it has had a huge cost in terms of overcrowded classrooms and fewer resources to go around. Uganda faces enormous challenges as it takes on the dual task of improving quality and access for all students.

Uganda's experience in education reform is illuminated by attention to the human dimension of education—by looking at what the reform has meant to Ugandan teachers, principals, pu-

pils, and parents. Among the characters in the documentary are 14-year-old Emmanuel, an AIDS orphan who is struggling to get an education against all odds; teacher Jumba Tamale, who has taught for years, but is getting professional training for the very first time; and George Kaate, an outreach tutor and supervisor who tirelessly pedals his bicycle from school to school to help teachers improve their teaching methods.

Ugandan parents, students, teachers, and principals provided the crew with the best cast of articulate, sincere, and intellectually astute subjects possible. Careful advance planning and excellent local logistical support combined to make the production trip very efficient and successful. Kyung Yoon, execu-



School children in South Africa

The White House

tive producer of the World Bank's Global Links television series, through which the program will be aired on PBS in the United States, stated that in her experience, this was one of the smoothest production shoots ever.

Missions, ministries, NGO/PVO partners, and others interested in acquiring the entire Global Links series of documentaries on development topics are encouraged to contact the Global Links distribution coordinator, Christina Hoffman (choffman@worldbank.org), at the World Bank, or the USAID Africa Bureau education team. The series is made up of 16 programs from Africa, Asia, and Latin America: four on education, and others on health, the environment, and governance and all programs are available in English, French, and Spanish. The series is available to USAID Missions at no cost.

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Taking Hold of Initiatives: A Worthwhile Challenge

By Margaret McLaughlin

Many government offices hear the words “presidential initiative” and cringe—fearing that national agendas will compromise long-term plans, local empowerment, and/or sustainable development. Actually, the opposite can occur. Taking hold of an initiative by assisting national leaders in its design, implementation, and evaluation can be extremely beneficial—albeit challenging—to an agency, its headquarters, and field offices.

Four insights on this came from my recent tenure at the Corporation For National Service working on President Clinton’s Americorps and America Reads initiatives—the first galvanizing the nation’s citizenry to participate in community service and the second addressing the need for all U.S. fourth graders to read independently.

First, White House staff members recognize a national or international development need but, often, don’t have immediate access to statistically-based rationales on why there is a need and how pervasive it is. Agency offices whose primary responsibility is research have that data and can bolster their own professional credibility and mission by providing them.

Second, as an initiative is being planned, the factors influencing its long-term institutionalization need to be identified and addressed. No initiative should fail due to shortsightedness, and certainly no presidential initiative plans for such failure. Again, experienced agency units can offer knowledgeable guidance right from the initiative’s genesis regarding awareness, acceptance, and adoption strategies.

Third, with any presidential initiative, the medium is the message. For national and international agendas to reach the public developing and marketing the right message is crucial to its ultimate acceptance. Offering advice or persuasive and culturally sensitive language and dissemination techniques can be a useful service provided by agency staff. Of course, that doesn’t mean that every word suggested to a White House press officer is eventually printed; thus egos must be parked inside an agency’s front door. Often, though, data and illustrative anecdotes are honored in press releases, presidential speeches, and spontaneous public statements.

Finally, while a presidential initiative benefits from an agency’s input, it can also assist that agency in sustaining related long-term programs. By raising public awareness of a particular need and its resolution, even for a short period, an initiative can positively catapult an agency’s other new and ongoing programs into the public and congressional purview. This often solicits new partners who commit to an agency’s mission long after the initiative is implemented. In addition, beneficiaries often have a renewed trust in agency staff and programs. And equally importantly, staff members are revitalized in seeing their daily work used at a national level.

Taking hold of a presidential initiative despite the challenges can definitely bring benefits to all concerned.

Margaret McLaughlin (mmclaughlin@AFR-SD.org) is an education policy advisor with SD.

Third Biennial Basic Education Workshop to be Held in Senegal

USAID’s Africa Bureau is hosting a Basic Education Workshop for USAID education personnel in Dakar, Senegal, April 25-30, 1999. Since 1994, the Africa Bureau’s basic education team has hosted a workshop every two years to address critical issues germane to basic education reform and the implementation of USAID’s education programs.

This year’s workshop builds on the format and themes raised in the previous two. Each workshop has become increasingly participatory in its format and the identification of the themes presented, and driven by country needs. An electronic conference was set up earlier this year to enable Mission staff to identify their key areas of concern, allowing the workshop to be organized through a process of ongoing dialogue and small group discussion. As a result, this year’s workshop gives high priority to dialogue that will provide Missions with a basic education exchange that works toward sustainable, basic education.

Specific objectives of the conference are to:

- ◆ Explore issues that country teams face and devise plans and ideas to address them;
- ◆ Share experiences, insight, and information;

- ◆ Strengthen the practice of teams, partnerships, and networks;
- ◆ Enhance the understanding, use, and practice of feedback on the Africa Bureau’s Basic Education Strategic Framework, as well as to inform the analytic agenda;
- ◆ Develop a good feeling about attending an outstanding and exceptional workshop.

For additional information contact, Lilu Tesfa (ltesfa@air-dc.org), tel. (703) 527-5546.

Also of Interest... The annual conference of the Comparative and International Education Society will be held April 14-18 in Toronto, Canada. Among other topics to be explored are teachers’ perspectives on gender, theoretical insights derived from classroom-based research on gender, and cross-cultural perspectives on gender. For more information contact Heidi Ross (hross@mail.colgate.edu), tel. (315) 228-7660.

Locusts *Continued from page 1*

tion in 28 countries from India in the east to the Cape Verde Islands in the west. Disaster declarations poured into Washington from ambassadors from across the Sahel to South Asia.

In 1986, both ministries of agriculture and donors, who had neglected locust prevention measures for years, were caught unprepared when locust populations exploded. The ensuing three-year plague cost donors over \$300 million to protect crops. By the time the plague ended in early 1989, USAID alone had spent over \$63 million fighting it. Much of this assistance was for the purchase and spraying of pesticides. A total of 26 million hectares were sprayed, and to this day, tens of thousands of tons of unused and obsolete donated pesticides remain in Africa—many of them in leaking containers. The true environmental and human health impacts of that response remain unknown, however donors have pledged not to let it happen again.

Improved Coordination, Safety, and Environmental Protection

Since 1987, partly as a response to the plague and partly as an insurance mechanism against future plagues, USAID's Africa Bureau developed an activity called the Africa Emergency Locust/Grasshopper Assistance project (AELGA). The activity, under SD's Crisis Mitigation and Recovery Division, strives to help prevent and rapidly manage outbreaks of locusts, grasshoppers, and army worms in an environmentally sound manner. It also assists with the cleanup of past overstocks of locust pesticides that threaten human health and the environment.

AELGA still maintains a unique rapid response mechanism through FAO for stopping locust swarms from forming plagues, and it focuses attention on capacity-strengthening to address the deficiencies that led to the 1986 plague.

Better coordination of resources is now exemplified through FAO's work with donors, regional organizations, and affected countries. In 1997, FAO launched the EMPRES, or Emergency Prevention System for Trans-Boundary Animal and Plant Pests and Diseases Program, with funding from AELGA and seven other do-

nors. The program's principal focus is on minimizing the risk of desert locust plagues emanating from the Red Sea coastal areas. With headquarters in Asmara, the program quickly linked nine countries' locust watch staff through e-mail contacts for early warning and general reporting. And through cooperation with AELGA, EMPRES has also conducted training on strategy development and coordination, survey and early warning, and timely, environmentally sound locust outbreak interventions.

Between 1989 and 1997, AELGA helped FAO direct other initiatives aimed at rational pesticide management. First, the U.S. government, through AELGA, led FAO to ban the use of environmentally persistent and dangerous "chlorinated hydrocarbon" pesticides like dieldrin and DDT for use on locusts. Second, instead of shipping hundreds of thousands of liters of pesticides to African countries to control outbreaks, as was done in the late 1980s, FAO procures and delivers much smaller shipments. This is aimed at saving money and reducing overstocks that could result later in disposal concerns. And, third, AELGA helped implement an innovative concept of "pesticide triangulation," whereby a country in dire need of pesticides requests the shipment of overstocks of nearly-expired pesticides residing in another African country. AELGA then pays for the shipment through a grant to FAO. This saves AELGA the cost of new pesticides and saves the imminent costs of disposal. To date, AELGA has paid for the shipment of older but usable pesticides from Zimbabwe to Mozambique and from Morocco to Mauritania.

In 1991, AELGA, working with the German technical assistance group GTZ and the Shell chemical company, helped collect, repackage, transport, and incinerate 60 metric tons of dieldrin from Niger. In 1993, AELGA performed analytical tests on an older pesticide residing in several locations in The Gambia. These tests determined that the pesticide was still viable for use and did not contain highly toxic breakdown by-products. It was used later that year when locusts invaded from Senegal. In 1995, AELGA, working with the Dutch technical assistance group DGIS, helped eliminate 280 metric tons of vari-



Allan Showler

Eritrean farmers are trained in proper locust reporting and management.

ous products from Zanzibar. And in 1998, AELGA began to address the disposal of 1,152 metric tons (the largest stockpile in sub-Saharan Africa) of obsolete pesticides from Ethiopia. The State Department and the EPA are also tracking and helping with the coordination of disposal efforts, as part of AELGA's expanded virtual team.

According to the World Health Organization, thousands of pesticide poisonings occur each year in developing countries. To mitigate this, safety equipment now accompanies all of AELGA's pesticide donations. Pesticide handlers and applicators are given special training in advance. AELGA also provides blood test kits to determine the levels of pesticide exposure of pesticide handlers. Environmental compliance is also a concern. During the past 10 years, AELGA's staff has written environmental assessments for locust and grasshopper control efforts in 18 sub-Saharan countries.

Donors decided in 1989 to search for natural locust control organisms, as potential alternatives to synthetic pesticides. With funding from AELGA, some of these efforts have been successful. Since 1989, AELGA has sponsored projects searching for organisms such as naturally occurring fungi, viruses, bacteria, and protozoans that kill locusts and grasshoppers. Two species of fungi have emerged as highly effective locust-killing agents. Tests are

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SD Encourages Entrepreneurship in Natural Products

By Millie Morton

With the market for natural products, organic produce, and medicinal plants growing rapidly, many African countries see opportunities to initiate or expand production of these high value crops. In fact, most medicinal plants in use today have their origins in Africa. SD's Productive Sector Growth and Environment Division (PSGE) has a pilot activity to support rural entrepreneurs in Africa to increase the potential contribution of natural products to economic growth.

Many African farmers, researchers, and business development officers are already working with natural products. SD's activity is helping them identify markets and test options for transferring technologies through agricultural research stations, business, and farmer organizations. The activity is being carried out in partnership with the Herb Research Foundation, a U.S. nongovernmental organization, and the Agricultural Research Council in South Africa.

Initial work is taking place in South Africa and Madagascar, but last fall SD supported participants from nine African countries in the Agribusiness Symposium and Natural Products EXPO in Baltimore, Maryland. Participants were chosen because of their active involvement in the production, processing, marketing, or promotion of natural products.

For example, Jane Ngige, a food technologist with Biosystems Ltd., in Kenya, works with small-scale producers and businesses to increase the quality of production, add value through processing, and help prepare for audits to meet certification requirements for export. Joel Andrianmanantena, director general of the Tropic Trading Corporation in Madagascar, processes and markets fruits, vegetables, spices, and medicinal plants for markets in France. He is looking for new international market opportunities in the United States and for new processing and storage technologies to meet market requirements. Ibrahim Hacko is director general of Malian Industry of Food Products, a company that makes ice cream,

milkshakes, and juices with natural products and is developing a program to export natural products such as hibiscus, ginger, tamarind, and gum arabic. He is looking for markets for Malian natural products and for investors to assist his company and other agribusinesses.

The Agribusiness Symposium provided participants with an extensive orientation to the \$9 billion natural product industry in the United States. Presentations explained various facets of the herb industry. Jerry Brown, an agribusiness advisor in SD, described USAID's approach to supporting international trade in natural products and African regional and country programs involving agribusiness. He cited successful projects in Mali and



Symposium delegates (l to r) Mazuru Gundidza (Zimbabwe) and Fred Boadu (of Ghana, now at Texas A&M University) talking with a produce manager during a tour of a Fresh Fields market in Baltimore.

Uganda where USAID and local partnerships increased the productivity of hibiscus and other commodities. Rob McCaleb, president of the Herb Research Foundation, outlined the complex factors involved in assessing the commercial viability of producing herbs in a particular country and emphasized the importance of quality management. Steven Foster, an author on botanical subjects, discussed medicinal uses, cultivation practices, techniques for

harvesting wild herbs, and markets for specific herbs. Dr. James Simon, Department of Horticulture, Purdue University, discussed farming techniques and the value of developing sustainable production systems for these specialty plants.

Tours offered on-site views of the production and marketing of natural products. Participants visited the U.S. National Arboretum and the six-acre Herbal Vineyard Garden operated by Dr. James Duke, former chief of Medicinal Plant and Plant Taxonomy Laboratories at the Agricultural Research Service, U.S. Department of Agriculture.

Participants toured natural food and herb retail shops in Baltimore, including a Fresh Fields market where produce managers discussed purchasing criteria such as freshness, quality, organic standards, and supply and demand. The group also visited Koinonia Farm, a large organic farm, and viewed a variety of crops under cultivation.

The Natural Products EXPO featured more than 1,500 exhibits on natural foods, dietary supplements, and personal care products. Participants spent considerable time on their own, talking to exhibitors, gathering information about products, packaging and raw materials, and exploring opportunities for ongoing networking. A number of company representatives discussed potential business opportunities and answered questions.

Elton Jefthas, a horticulturist from South Africa, assisted with symposium activities as part of his participation in the African Fellowship Program, a program operated by SD to promote African involvement in development issues and encourage links among U.S. and African scientists and decision-makers. Jefthas coordinates the SD-supported pilot activity at the Agricultural Research Council in South Africa.

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HIV Transmission and Breastfeeding

Since the mid-1980s, when human immunodeficiency virus (HIV) was detected in breastmilk and cases of HIV transmission to infants during breastfeeding were documented, health policymakers and program managers have struggled to develop appropriate and feasible guidelines on infant feeding for mothers living in settings where HIV is present. Over the past decade, many studies have been carried out to improve our understanding of the breastfeeding relationship. A new technical paper by Elizabeth A. Preble and Ellen G. Piwoz titled *HIV and Infant Feeding: A Chronology of Research and Policy Advances and their Implications for Programs* explores the body of research on

this issue, including recent studies in Côte d'Ivoire, Kenya, Rwanda, Tanzania, and the Democratic Republic of Congo.

Several studies have estimated the contribution of postpartum transmission

during breastfeeding to the broader spectrum of mother-to-child transmission, which includes transmission before and during delivery. Mathematical models have also been developed to try to compare the risks of mother-to-child transmission of HIV with the additional mortality caused by alternative feeding practices. The paper is intended to inform program managers and others who are interested in learning more about HIV and infant feeding but who are not necessarily familiar with all of the technical issues in either of these fields. This publication was jointly sponsored by SD's Support for Analysis and Research in Africa (SARA) project and the Global Bureau's LINKAGES breastfeeding and nutrition project.

The findings of these studies generated a consensus on these facts: HIV can be found in the breastmilk of HIV-infected mothers, HIV can be transmitted to infants by breastfeeding, and mothers who themselves become infected while breastfeeding are at heightened risk of transmitting the virus to their infants. The studies, however, do not lead directly to clear policy and program guidance for mothers living in resource-poor settings where HIV is prevalent because many critical questions about HIV and infant feeding remain unanswered. These questions still exist because of limitations in HIV test technology and other issues related to the design, analysis, and interpretation of studies on this issue. Also, the mortality and other risks associated with artificial feeding in different environments are largely unknown.

In mid-1998, UNAIDS, UNICEF, and WHO released guidelines on HIV and infant feeding for decision-makers and health care workers. For the first time, these organizations have formally introduced the recommendation to provide HIV-seropositive mothers who decide not to breastfeed with replacement feeds. However, major gaps in knowledge of this issue still exist that pose serious challenges to the adaptation of these guidelines to specific settings and/or to the circumstances of specific mothers, and to the timely, appropriate, and widespread application of these guidelines in countries and communities where HIV exists.

The authors identify three broad categories of future research that they feel must be completed before an all-encompassing set of guidelines can be developed. Research is needed to identify risk factors for HIV transmission through breastfeeding, to test the efficacy and effectiveness (including costs, feasibility, and long-term impact) of different interventions to reduce transmission through breastfeeding, and to improve the operation and quality of programs to address mother to child transmission (including training needs and approaches, supervision and follow-up strategies, and social support requirements, among others). Until this research is finalized, women and the health workers who counsel, advise, and care for them will face immense challenges interpreting incomplete information and making the best decisions for themselves, their families, and their infants.

In the meantime, nutritionists and experts in AIDS and reproductive health continue to share what is known about HIV transmission and breastfeeding. In February 1999, a five-day conference on this topic was held in Maputo, Mozambique, bringing together participants from all over Southern Africa. The meeting covered perinatal transmission of HIV, breastfeeding and HIV, maternal and infant nutrition in the age of HIV/AIDS, infant feeding policies, replacement feeding, and prevention of HIV. There were also discussions on ethics, the code of marketing breastmilk substitutes, and approaches to nutrition for people with HIV/AIDS.

For further information, or a copy of the paper, contact Chris Poe (cpoe@aed.org), SARA Project, tel. (202) 884-8793.

Natural Products *Continued from page 6*

All of the participants were enthusiastic about the many opportunities to learn and network at the symposium. Their participation in an anticipated second phase of the SD pilot activity will help expand natural products development in several countries in sub-Saharan Africa. Already they are cooperating to create natural products networks so Africans can help each other grow high-value crops and market them effectively.

"The potential is enormous," said SD's Jerry Brown. "We are helping Africans build a foundation for expanded production and marketing of medicinal plants and natural products that are in high demand around the world."

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Senegalese mother and her infant

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currently underway to determine the impact on nontarget organisms such as other insects, and develop methods to produce the quantities of fungus needed for control operations. In the near future, it is hoped that formulations of these fungi will be used safely by crop protection officers and farmers with no health risk and little environmental impact.

Since many crop protection services were unprepared and untrained to handle the late 1980s plague, AELGA has strived to provide short-term, highly specialized training. Beginning in 1994, in response to requests from the crop protection services in Eritrea and Ethiopia, AELGA staff developed a three-phase training of trainers program. Topics include proper planning, survey, locust identification, reporting, pesticide application and safety, environmental concerns, and integrated pest management. During the first phase, a cadre of crop protection officers is trained. Next, the best of these specialists train field extension officers. And finally, a cadre of these extensionists train lead farmers. To date, all three phases have been completed in Eritrea, Ethiopia, and Botswana. In Eritrea and Botswana, nearly one third of those trained were women. Phase One training has been completed in Mauritania, Senegal, Burkina Faso, and Mozambique.

AELGA strives for as many training partners and as much interinstitutional co-

operation and coordination as possible. Over the years, AELGA has involved diverse training partners such as nongovernmental organizations, local development projects, African university staff, other donors, FAO, national agriculture research system staff, ministries of health, ministries of environment, meteorology administrations, regional pest control organizations, African private sector firms, USDA, EPA, and the Peace Corps.

Money and Environment Saved

Two potential plagues, one in 1995 and one in early 1998, were stopped in Eritrea. USAID Mission cable traffic from Eritrea indicated that both were stopped due to the rapid, coordinated actions of well-trained ministry staff, and that the good training was attributed to AELGA. Good



Alan Schroeder

Old pesticide stock piles in Africa leak into the environment.

donor coordination through FAO helped as well. From 1992 to 1994, locust outbreaks similar to those that exploded out of control in the late 1980s were again present in 21 countries. The outbreaks never reached plague status. A rapid coordinated response

by FAO, involving USAID and several other donors, controlled the outbreaks at a cost of only \$18.75 million, and with a pesticide coverage of only 3.9 million hectares, much less than the cost of \$300 million and 26 million hectares covered during the 1986-1989 plague. Reduced conflict in Eritrea and the Western Sahara helped matters, but much of their territories remained heavily mined and were thus inaccessible.

SD Developments is published quarterly by the Office of Sustainable Development, Bureau for Africa, U.S. Agency for International Development. It is designed to foster better understanding of SD's activities and to facilitate dialogue with our colleagues in Africa.

USAID

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Moreover, the Tuareg rebellion in northern Mali and Niger and a civil war in Somalia severely hampered scouting and control efforts in those countries. Most of these savings have been attributed to the readiness and experienced staff of donors like USAID, and its AELGA project, working in close coordination with FAO, regional organizations, and ministries of agriculture.

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