



RUMINATIONS

NEWSLETTER OF THE GLOBAL LIVESTOCK COLLABORATIVE RESEARCH SUPPORT PROGRAM



The Southern Tier Initiative will focus on pastoralists such as the Boran of southern Ethiopia. Photo by Santha Faiia.

USAID Mission's New Special Objective Targets Pastoralists

By Susan Johnson, Global Livestock CRSP

"The Four Horsemen of the Apocalypse, famine, war, pestilence and death are not religious abstractions in Ethiopia," remarked Dr. Doug Sheldon. "They have been unwelcome but frequent visitors."

Dr. Sheldon, Director of the USAID Mission to Ethiopia, recently visited UC Davis as part of a developing collaboration with the Global Livestock CRSP. Speaking to a capacity-filled room of faculty, staff and students,

Dr. Sheldon outlined the Mission's strategic plan for development in Ethiopia and answered questions about the development strategy for the country from USAID's perspective. The Mission faces a daunting challenge with approximately 22 million rural families food insecure and that number is expected to rise to 28 million by 2006.

Dr. Sheldon noted that over the past 30 years, Ethiopia has endured three wars, and three

(continued on page 8)

New Committee Formed to Review CRSPs

A subcommittee of the USAID Board for International Food and Agricultural Development (BIFAD) has been formed to improve communication and broaden involvement of the US university community in the activities of USAID. The Strategic Partnership for Agricultural Research and Education (SPARE) Committee is charged with identifying priority issues for Agency and

university action, review of CRSPs and other Agency science and technology activities and providing reports to USAID and BIFAD on those performance reviews. The SPARE Committee is currently preparing guidelines for CRSP reviews.

The scope of SPARE's activities include food security,

(continued on back page)

IN THIS ISSUE

LDRCT at CO2 Meetings	2
LEWS Scientist Begins PhD	3
SR-CRSP Model Updated	4
Coping Mechanism Survey	5
PARIMA Outreach	9
Bolivia Synthesis	10
AIDS Development Crisis	15

LDRCT Represented at International CO₂ Meetings

Two Central Asian members of the Livestock Development and Rangeland Conservation Tool (LDRCT) research team recently represented the GL-CRSP project at major international meetings.

Dr. Kanat Akshalov, Chief of the Technologies Department of Cereal Cropping at the Baraev

Grain Research Institute (Kazakstan), and Dr. Muhamet Durikov, Head of the laboratory of Forests and Rangelands at the National Institute of Deserts, Flora and Fauna (Turkmenistan) were invited to attend the meetings on desertification.

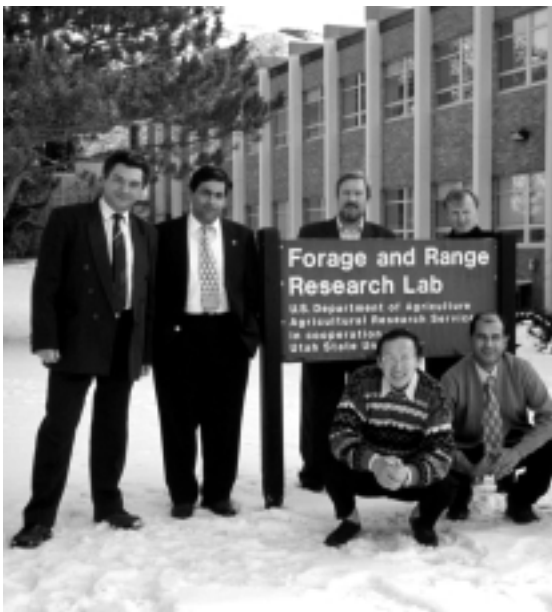
Dr. Akshalov presented a paper on farming systems in

Kazakstan and the CO₂ research being conducted by the LDRCT program at the International Symposium "Integration and Regional Activities to Combat Desertification - Present State and Future Prospects," held in Tsukua Scientific Center in Japan in December 2000. The meeting was organized by the National Institute for Environmental Studies, the Japanese Environmental Agency, and the Center for Global Environmental Research of Japan. Scientists from Japan, China, Mongolia, Australia, Denmark and Italy along with FAO representatives attended the meeting.

Dr. Durikov, the national coordinator of Turkmenistan to the United Nations Conference to Combat Desertification (UNCCD), attended the UNCCD meetings (COP-4) in Germany from December 8-26, 2000. CO₂ research being conducted in Turkmenistan will assist policy makers at the UN level and in Turkmenistan to address the problem of desertification in the region.

Last year, both scientists received training in the US on GIS and CO₂ modeling as part of an Association Liaison Office (ALO) for University Cooperation grant. 🤝

For more information: Kanat Akshalov niizern@nursat.kz; Muhamet Durikov crsp@vertnet.net



In 1999-2000, Kanat Akshalov and Muhamet Durikov (kneeling, from left to right) participated in extensive training at Utah State University and UC Davis. Pictured here with other training participants (standing, from left to right) Bakhtiyor Mardonov (Uzbek.), Mukhtor Nasyrov (Uzbek.), Valerii Nikolaev (Turk.) and Alexandr Nikolayenko (Kaz.). Photo by Doug Johnson.

Expert Workshop on Carbon Sequestration

Dr. Tagir Gilmanov, LDRCT team member, joined over 60 scientists and development practitioners for the Expert Workshop on Carbon Sequestration, Sustainable Agriculture and Poverty Alleviation.

The workshop explored the importance of carbon in agriculture and land use, as well as new avenues to reduce poverty among the rural poor in developing countries and enhance their food security. The meeting was convened in response to the emergence of greater economic opportunities for farmers, rapid increases in corporate interest in carbon trading and concern about the lack of state-of-the-art system for carbon measurements.

The consultation produced a provisional set of technical and institutional recommendations to create an integrated monitoring system for accounting and quality control that will permit small-holders to participate in a global carbon credit system. A follow-up meeting organized by FAO further modified the technical direction of the Intergovernmental Panel on Climate Change (IPCC) guidelines.

LEWS Ugandan Southwestern Zone Coordinator Arrives for Ph.D. Training

Mr. Steven Byenkya, research scientist with the National Agricultural Research Organization in Uganda, arrived at Texas A&M University (TAMU) on January 8, 2001 to start a new form of Ph.D. program in the Department of Rangeland Ecology and Management. Dr. Jerry Stuth, PI for the GL-CRSP Livestock Early Warning System Project (LEWS), designed and attained approval to start a **“Compressed Ph.D. Program”** targeted for working professionals in developing countries that have limited funds and time to pursue a degree. Byenkya was funded by the Danish International Development Assistance (DANIDA) as part of the Livestock System Research Program (LSRP) which is supporting advanced training of 10 Ph.D. and 10 M.S. students globally. Mr. Byenkya has been the zonal coordinator for the LEWS monitoring sites in South West/Central regions of Uganda. As part of their capacity building process, LEWS identified Steven as a key person for Ph.D. training in rangeland management. Working with Dr. Cyprian Ebong, National Coordinator of LSRP and the LEWS national coordinator, discussions began with DANIDA/LSRP. A research proposal was prepared in coordination with the LEWS-TAMU group and the LSRP Research Advisory Committee approved the training program.



Mr. Steven Byenkya is the first student matriculated in Texas A&M University's compressed PhD program. The program targets working professionals in developing countries. Photo by Abdi Jama.

Steven will be working on modeling the impact of undesirable plant communities on the carrying capacity and livestock performance in pastoral systems in SW Uganda.

How will the Compressed Ph.D. Program work?

Since most of the people coming into the program have many years of research experience, a careful assessment is made of the individual's knowledge base and the intended direction of their position once they complete the program. The next step is to get complete agreement and approval of a research proposal before starting the academic phase of the program by an academic/research advisor at TAMU, Dr. Jerry Stuth in this case. Working with their

advisor and graduate committee at TAMU, a 24-30 hour coursework degree plan is designed with the remaining 34-40 hours credited as research hours. These hours are taken in an intensive 12-month period that must include one full Fall (September-December) and Spring semester (January-May), allowing for use of two summer sessions as needed (June-August). Therefore, the student comes to TAMU with an approved proposal, funding lined up for his research and a contractual agreement with

his sponsor to fund each segment of the program instead of the entire program. At the end of the 12-month intensive coursework period, the student takes their written and oral preliminary exams. The following period is referred to as the research *absentia* period where the student is enrolled in research hours and is a function of how long the research will take, dictating the number of hours to be enrolled in *absentia*. The enrollment costs of *absentia* research hours is significantly less than if the student was physically located at the University. During the research *absentia* period about 33 research hours are enrolled via Internet communications with TAMU. Because the research is an integral part of the LEWS project, several site visits will be

(continued on page 7)

Model Developed Under Small Ruminant CRSP to be Revised and Updated for LDRCT Project in Central Asia

By Wolfgang Pittroff, Professor, Dept. Animal Science, University of California - Davis

For research on development options for the livestock sector of Central Asian countries, the application of bio-economic simulation models can provide answers which would require years using conventional field or farming systems research methods. More than 20 years ago, bio-economic simulation models of ruminant livestock production systems were developed under the leadership of Thomas C. Cartwright at Texas A&M University. Substantial funding for these projects was provided by the Small Ruminant – Collaborative Research Support Program, the predecessor of the GL-CRSP.

A new component of the GL-CRSP Livestock Development and Range Conservation Tools (LDRCT) project was initiated in 2000. In the new component, the computer program code and key elements of the bio-mathematical models developed under the SR-CRSP will be thoroughly revised and updated. Foremost among the revision of biological functions is the conversion of the Beef Cattle Production Systems Model to accommodate the specific aspects of dual purpose (meat and milk) cattle production. This type of cattle is becoming increasingly important in Central Asia, and

is the main source of milk throughout developing countries. There is broad interest in collaborating institutions in developing countries in the new, dual purpose model.

Since their original implementation, considerable progress has been achieved in both computing platforms and the animal science knowledge upon which these models are built. Thus, this research project is timely and needed.

The project will be completed in 2002, at which time we expect to have completely

revised code, updated bio-economic functions and a new graphical user interface. In the current project year, the model of sheep production systems (whose renovation is largely completed) will be used for aspects of livestock development in Khazakstan and Uzbekistan in several components of the Central Asian research activities. 🐏🐑

The Animal Production Component of the LDRCT project is headed by Dr. Wolfgang Pittroff who works in collaboration with Mr. Thomas Lahey, CEO Lahey Computer Systems and Dr. Jim Oltjen, Dept. of Animal Science, UC Davis. For more information, contact Dr. Pittroff, Email: wpittroff@ucdavis.edu.

GCHERA Conference Set for July

The 2001 Global Conference of the Global Consortium of Higher Education and Research for Agriculture (GCHERA) has been scheduled for July 12 - 14, 2001 in San Francisco, California. The conference will address cutting edge issues in agricultural education and research. The theme for this year's conference is "Higher Education and Research for Agriculture and Food Systems in the 21st Century". The conference committee is selecting top speakers from around the world to make invited presentations. Poster or display proposals are being accepted and abstracts should be sent by May 15, 2001.

The Global Consortium of Higher Education and Research for Agriculture is an active network composed of more than 300 academic leaders from 133 countries. For more information on the GCHERA and upcoming conference, visit the web site <http://www.gchera.iastate.edu/> or contact Dr. David J. Sammons, GCHERA Secretariat, 1168 Agricultural Administration, School of Agriculture, Purdue University, West Lafayette, Indiana 47907-1168. Tel: 765-494-8466, Fax: 765-494-9613. Email: sashlock@agad.purdue.edu.

Coping Mechanism Survey Looks at Effects of 1995 - 1997 Drought and 1997 - 1998 El Niño Rains in East Africa

By J. Ndikumana, J. Stuth, R. Kamidi, S. Ossiya, R. Marambii and P. Hamlett

As reported in the Fall 1998 issue of *Ruminations*, a survey of 663 households investigating coping mechanisms of pure-pastoralists and agro-pastoralists, during the 1995-97 drought and 1997-98 El Niño rains (floods), was conducted in southern Ethiopia, northern and southern Kenya, northern, northwestern and central Tanzania, and central/southwestern Uganda.

The purpose of the study was to provide baseline information about what pastoralists do to sustain themselves and their livestock during the crisis periods of drought and flood. The survey focused mainly on assessment of the effects of the climatic crises on livestock dynamics and household welfare, the coping mechanisms adopted by pastoralists to mitigate the effects of these crises and the efficacy of the coping mechanisms

adopted. It also provided insight into the type of assistance which was given to the pastoralists to mitigate the drought and/or flood effects and the pastoralists' perceptions as to how timely and efficient that assistance was.

Based on analysis of the cold cloud duration (CCD) and on the normalized difference vegetation index (NDVI), the investigated period was divided into the following five phases: (i) pre-drought (1 January to 10 May, 1995); (ii) peak drought (11 May, 1995 to 31 March, 1997); (iii) minor rains (1 April to 31 October, 1997); (iv) El Niño rains (1 November, 1997 to 31 May, 1998); and (v) La Niña dry (1 June to 31 December, 1998).

The 1995-97 drought as well as the 1997-98 El Niño rains had significant adverse effects on the livestock populations at all the investigated sites. During the drought, cattle mortality rates were highest in southern Ethiopia and northern Kenya where they increased to 49 and 35%, respectively. Small ruminant drought mortality rates were also highest in southern Ethiopia and northern Kenya, increasing to 52 and 43%, respectively. The lowest drought mortality rates for cattle were observed in southern

Kenya agro-pastoral areas, northwestern Tanzania and central/southwestern Uganda (13, 15 and 17% respectively). For small ruminants, drought mortality rates were lowest in southern Kenya agro- and pure-pastoral areas and in central/southwestern Uganda (11, 21 and 22 %, respectively). The detrimental effects of floods included increased incidences of parasitic and epidemic diseases among humans and livestock (particularly small ruminants) and the destruction of infrastructures. Cattle mortality during the floods was highest in southern Ethiopia (37%) while small ruminant mortality was highest in northern Kenya (52%). Flood mortality was attributed mainly to diseases. The El Niño rains did not adversely affect all respondents. In certain areas (e.g. parts of southern Kenya and northwestern Tanzania) the rains were reportedly beneficial for forage and crop production.

Although migration was observed throughout the year, it increased during the drought, as the search for water and forage intensified. For example, in southern Ethiopia during the drought, pastoralists had to trek their animals 54 km for grazing and 77 km for water as

(continued on next page)

About the Authors: J. Ndikumana, R. Kamidi and R. Marambii are with ASARECA Animal Agriculture Research Network (A-AARNET), ILRI, Kenya. Dr. Ndikumana serves as coordinator of A-AARNET. J. Stuth and P. Hamlett are with the Global Livestock CRSP Livestock Early Warning System Project (LEWS), Texas A&M University, USA. Dr. Stuth is lead principal investigator of the LEWS project. S. Ossiya is with the National Agriculture Research Organization (NARO) in Uganda.

Coping Mechanism Survey Studies Effects of Drought and El Niño

compared with 15 and 22 km, respectively, prior to the drought.

During the crisis periods in the agro-pastoral zones of central/southwestern Uganda, and northern and central Tanzania, livestock grazing was commonly supplemented with crop residues. However, very little supplementation, mostly in the form of shrub/tree fodder, was available in the driest pure-pastoral areas of northern Kenya and southern Ethiopia. The overall percentage of pastoralists supplementing their animals was generally low, averaging less than 10% of the livestock owners.

Disease incidences increased during both drought and El Niño rains. At all sites, more than 60% of respondents reported increased incidences of infectious and parasitic diseases of cattle during the drought period. Increased disease incidence for small ruminants was reported by more than 40% of the respondents. During floods in northern Kenya, there was an outbreak of contagious caprine pleuro-pneumonia (CCPP) that caused great losses in the small ruminant population. There were also incidences of Rift Valley fever that affected cattle and human populations during the El Niño rains.

Cattle sales and slaughters were not significantly different across climatic periods. The overall average cattle sales were below 10% and slaughters were below 2%, prior to and during crisis periods. Small ruminants sales were also below 10% but slaughter rates, at 3%, were slightly higher than those for cattle. It appears, therefore, that pastoralists did not increase sales of livestock either prior to, or during the crises periods, despite the high mortality rates. This suggests that few pastoralists prepare for drought and/or flood by increasing sales or slaughter of their animals.

During the drought period, most of the normal water sources dried up and people suffered from a lack of clean water for household consumption. Decreased availability of milk and milk products led to increased consumption of cereals and grains. During the El Niño rains, pastoralists were also affected by increased incidences of parasitic diseases such as malaria, and outbreaks of cholera and Rift Valley fever.

In northern Kenya, 50 to 80% of respondents acknowledged that they received relief food. However, at all other sites, the responses of governments and other organizations were considered by the beneficiaries to be 'too little, too late'. In

southern Ethiopia for example, where the crises were worse than in northern Kenya, as few as 30% of the pastoralists received relief food during the most critical period. Sharing of received food aid with relatives and neighbors increased during drought at all sites. In northern Kenya, northern Tanzania and southern Ethiopia, more than 50% of pastoralists reported that they shared relief food during drought.

Several overarching factors determined pastoralists' coping behaviors during the 1995-97 drought and the 1997-98 El Niño rains. Water and grazing for livestock, and food and clean water supply for human consumption were the primary factors. Other factors included household and herder illnesses, livestock diseases, local, national and regional communication infrastructure, and tribal conflicts. A general overall implication was 'that which affects livestock, affects pastoralists.'

It is concluded, that an early warning system, which could efficiently (i.e. in a timely and accurate manner) inform or warn the pastoralists coupled with innovative conflict resolution techniques alongside traditional interventions could significantly reduce the negative effects of adverse climatic

(continued on next page)

(continued from page 3)

Ph.D. Training for LEWS Ugandan Southwestern Zone Coordinator

made by the advisor and other researchers to check on progress and offer corrective actions where needed. Once the project is completed and a rough draft of the dissertation is submitted to the advisor, the student then returns to the University for 3-6 months (summer or spring/fall semesters) and enrolls in 6 hours of research and completes and defends their dissertation.

We are fortunate at Texas A&M University that graduate student grants that are primarily funding

stipend, tuition, books and some living allowances are not subject to administrative indirect costs. However, all international students are subject to international student fees unless they are on a state-supported assistantship. Therefore, we arranged for the DANIDA LSRP program to provide the necessary wire transfer of funds for the first year's academic training in the form of a research grant transferred to TAMU, allowing us to establish an assistantship.

This procedure means that tuition and other fees are at the in-state rate paid by domestic students, saving the project considerable funds. Once the person returns to the home institution, funds are wired and transferred to TAMU to cover each semester's *in absentia* fees, as long as the student is making progress approved by his institution and the TAMU advisor. In this case, GL-CRSP LEWS provides field research funds, allowing the DANIDA to fund students with limited administrative and research overhead. When the research is completed and rough first draft of dissertation is received by the academic advisor, the student returns to TAMU for their final 3-6 month period, the necessary funds are transferred to TAMU using the same mechanism as the first intensive 12 month training period. The primary focus of this period is on completion of analysis, writing and ultimately defense of the dissertation and preparation of journal articles.

(continued from previous page)

changes on pastoral communities. Moreover, other recent developments of statistical and dynamic weather forecast models, which can be used to forecast emerging La Niña and El Niño episodes several months in advance, should be considered for their potential to compliment and add value to present mitigation aids.



The study was coordinated by the ASARECA (Association for Strengthening Agricultural Research in East and Central Africa) Animal Agriculture Research Network (A-AARNET) under the framework of the USAID/OFDA (United States Agency for International Development/Office of Foreign Disaster Assistance) funded Crisis Mitigation in Livestock Systems Project in collaboration with the International Livestock Research Institute (ILRI) and the Global Livestock Collaborative Research Support Program (GL-CRSP) Livestock Early Warning Systems (LEWS)

coordinated by Texas A&M University (TAMU). The GL-CRSP LEWS and the Crisis Mitigation in Livestock Systems teams in East Africa conducted the survey under the supervision of Dr Jean Ndikumana, the A-AARNET coordinator. TAMU and the Crisis Mitigation in Livestock Systems coordination office provided technical expertise in designing the survey and assistance in data analysis and write up of the report. The survey forms the foundation for selection of households in order to monitor the livestock situation throughout the year in the framework of the implementation of the LEWS and Crisis Mitigation in Livestock Systems Projects.

For a complete copy of the report, visit the Global Livestock CRSP web site at <http://glcrsp.ucdavis.edu> or contact Jean Ndikumana (j.ndikumana@cgnet.com), ILRI, P.O. Box 30709, Nairobi, Kenya Tel: 254-2-630743, Fax: 254-2-631499 or Jerry Stuth (j-stuth@tamu.edu).

Steven Byenkya is the first student in the \$US 44,531 program, involving an initial disbursement of \$26,457 with \$3,168 being allocated for the *absentia* period and \$14,906 for the final 6-month research writing period. LEWS provides \$4000 each year to support the field research program.

(continued from page 1)

USAID Mission to Ethiopia's Special Objective Targets Pastoralists

major famines or food emergencies. Conservative estimates put 10% of the adult population as HIV positive. Approximately one-fifth of the children die before their 5th birthday. At the national level, 51% of children under 5 are stunted but that number is as high as 70% in some zones. The country has some of the worst maternal and child health indicators in the world. Unchecked, the trends appear ominous.

The long-term goal of the Mission is to reduce chronic food insecurity in Ethiopia and move

from a relief to a development based effort. The Mission is aiming to increase the development share of the budget from the current 40% to 75% by 2006. Child survival, food security, basic education, family planning and HIV/AIDS cannot be addressed without massive investment in Ethiopia's development.

"Ethiopia illustrates the global development challenge", noted Dr. Sheldon. "Given its chronic emergency situation, Ethiopia exemplifies the need to move along and work through the relief to development continuum."



Of particular interest to the Global Livestock CRSP is the Mission's new special objective which targets pastoral people. For the past two years the Mission has supported the pioneering work of the CRSP working with the Borana pastoralists on risk management and asset diversification in Southern Ethiopia. This project provided a strong conceptual basis for a new Mission special objective focused on pastoralists.

SOUTHERN TIER INITIATIVE

Special Objective: Improved livelihoods for pastoralists and agro-pastoralists in southern Ethiopia.

Intermediate Result 1: Pastoralist and agro-pastoralist incomes increased.

IR 2: Increased use of maternal health and child survival and nutrition.

IR 3: Access to appropriate basic education increased.

IR 4: Effectiveness of traditional dispute resolution.

The Southern Tier Initiative recognizes that pastoralists have historically been ignored yet pastoral areas are among the most food insecure nationally and conflict in these areas undermines regional stability. The Initiative targets the southern border area of Ethiopia which has been highly vulnerable to food emergencies in the past. The area divides pastoral ethnic groups and pasture lands among Ethiopia, Somalia and Kenya. The same groups are found on both sides of the borders.

A major focus of the special objective is increasing the incomes of pastoralist or agro-pastoralist families. It is seen as a first step in helping address other problems associated with poverty, including food insecurity, limited access to health and education services, and environmental degradation.

During his visit to UC Davis, Dr. Sheldon and Dr.
(continued on next page)

Ethiopian Mission Supports PARIMA Outreach & Intervention

The Outreach Unit of the Pastoral Risk Management (PARIMA) project of the Global Livestock Collaborative Research Support Program (GL-CRSP/USAID-Global Bureau), will conduct a pilot outreach and intervention project for two years in the southern Ethiopian rangelands, primarily among Boran, Gugi, and Somali communities. The period covered will be from July, 2000, through June, 2002. Funding for the project is being provided by the USAID Mission to Ethiopia. The bilateral funds from the Mission will be leveraged

(continued from previous page)

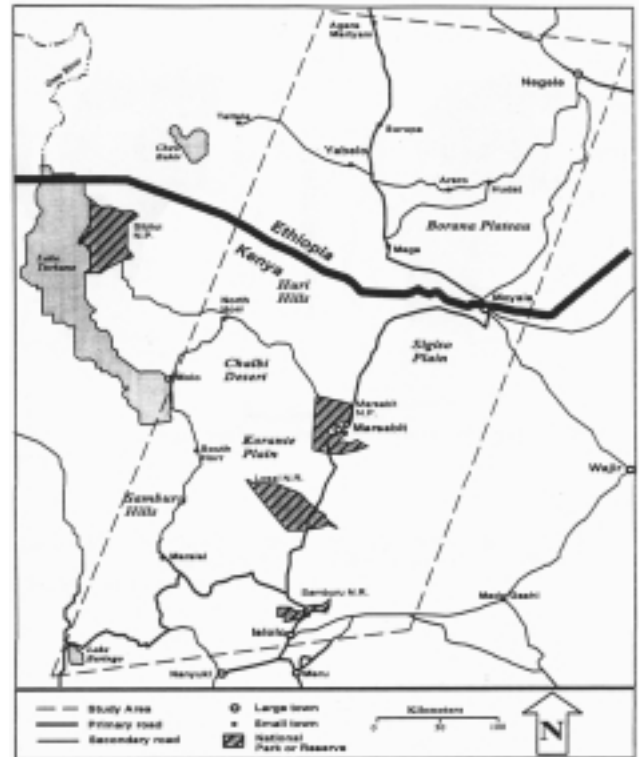
Montague Demment, GL-CRSP Director, discussed how universities could contribute to the Mission's strategic objectives. Dr. Sheldon was also briefed on the Livestock Early Warning System (LEWS) Project by Dr. Jerry Stuth, Professor at Texas A&M University and Lead Principal Investigator for the LEWS project. Dr. Stuth demonstrated the newly established automated web site (<http://cnrit.tamu.edu/aflews>) which is able to automatically compile reports for the LEWS zonal coordinators. A follow-up visit to the Mission is planned for March. 🐾

More information on the Mission to Ethiopia's strategic objectives can be found at the Global Livestock CRSP's web site (<http://glcrsp.ucdavis.edu>).

with funds from the GL-CRSP and elsewhere to maximize impact.

The goal of the project is to help empower the communities in the southern Ethiopian rangelands to better cope with socioeconomic, institutional, and ecological shocks through sustainable improvements in risk management.

Intervention options prominently include promotion of savings mobilization, economic diversification, community investment, improved market integration, and conflict resolution. The project will rely on a participatory approach where communities take the lead in problem identification and design of interventions. At least 24 communities across six districts will be identified for pilot project investment. These communities, in partnership with a local development agent, will submit action plans to an Outreach Review Panel (ORP) comprised of African nationals who are pastoral development experts. The ORP will prioritize action plans for funding based



Study region of the pastoral risk management project in northern Kenya and southern Ethiopia. Source: Jacobs and Coppock (unpubl.)

on several key criteria. Dr. Solomon Desta, Outreach Coordinator and GL-CRSP team member will supervise all field operations and chair the ORP.

The nine members of the Outreach Review Panel (ORP) are listed as follows with their name, nationality, and institutional affiliations: Ms. Miriam Cherogony, Kenyan, Kenya Rural Enterprise Project/Financial Services Association; Dr. Tafesse Mesfin, Ethiopian, Pastoral Development Unit, Federal Ministry of Agriculture; Mr. Godana Doyo, Kenyan, Kenya Agricultural Research

(continued on page 19)

The Case of San José Llanga: A Synthesis of Research

A synthesis of research carried out during the 1990s by a joint project between IBTA (Instituto Boliviano de Tecnología Agropecuaria) and the SR-CRSP (Small Ruminant Collaborative Research Support Program) is being published in Spanish and English by the Department of Rangeland Resources, Utah State University. The volume entitled, "Sustaining Agropastoralism on the Bolivian Altiplano: The Case of San José Llanga." was edited by D. Layne Coppock and Corinne Valdivia (with 63 contributors and collaborators). Excerpts from the Executive Summary follow.

The goal of the IBTA/SR-CRSP project was to identify factors that threatened the sustainability of agropastoral production in semi-arid systems. Urban areas on or near the Bolivian Altiplano had experienced large in-fluxes of rural immigrants. It was unclear the degree to which this migration was due to environmental or socioeconomic factors.

The study site was the Cantón of San José Llanga, a 72-km² area located about 120 km southeast of the cities of La Paz and El Alto and 17 km south of the town of Patacamaya on the Pan American Highway. Home to about 400 people and over 5600 head of livestock during the early 1990s, the production system was typical of those on the flat, alluvial plains of the central Altiplano in many respects. San José Llanga was atypical, however, with regards to its proximity to large markets and the fact that it has had over 30 years of experience with technology transfer due to the presence of the Patacamaya Experiment Station.

The people of San José Llanga are indigenous Aymara Indians. As with many indigenous people of Bolivia, people at San José Llanga were subjected to centuries of prejudice and oppression by Spanish colonial forces and subsequent republication governments. Over the past 50 years, however, revolutionary change has

finally occurred in the national political sphere. The people of San José Llanga have been able to pursue formal education, adopt new agricultural technology and participate in emerging markets.

In the early 1990s the people at San José Llanga were distributed in six settlements located along a central

aspirations of residents who desired lifestyle changes that San José Llanga could not provide, such as reliable sources of income and secondary education.

Farming was most often conducted on slightly elevated sites. Moisture was supplied to crops either from natural precipitation or several forms of natural sub-irrigation or human-created irrigation systems. Drought and frost were pervasive risks for farming—households widely distributed dozens of plots to mitigate such risks. Crop production largely occurred on controlled-access plots and was dominated by production of potatoes, cereal grains and cultivated forages. Fallow fields were important for grazing and harvest of fuel wood from abundant shrubs. Food crops were typically for home consumption except in bumper years when surpluses could be sold. Livestock were very important for the production system. Sheep were comprised of Criollo and improved crosses such as Criollo x Corriedale. Cattle were comprised of Criollo for draught and improved crosses for milk production such as Criollo x Holstein (Friesian). Grazing was the dominant source of livestock feed and sources included unimproved rangeland covering a dry, saline lake bed as well

(continued on next page)



north/south band through the middle of the cantón. It was estimated that fewer than 100 households occupied the cantón in the 1890s, and this grew to about 125 households by the 1970s. By the early 1990s the number of households declined to about 100. Researchers projected that the number of households would drop to around 80 as a result of emigration of youths and death of elderly residents. Emigration in the early- to mid-1990s was reportedly related to changing

as strategic reliance on alfalfa fields and crop residues. Sheep have been traditionally important to provide manure for fertilizing potato fields. Donkeys carry manure to the fields while small amounts are applied to potato seedlings using human labour. Sheep were an important source of routine income, cheap meat and capital for the system. Sheep management and marketing fell in the domain of women—women sold sheep to purchase welfare-related items such as food, clothing and school supplies. In the analysis of sheep production it was found that mortality rates for lambs and adults were very low, but morbidity challenges were high due to poor health management. Improved cross-bred sheep were more productive than indigenous Criollo breeds. Small-holder dairying based on improved cattle within a subsidised framework has been a recent and popular addition to the system. This apparently fulfilled a need for higher and more frequent sources of income in the community—San José Llanga became one of the top milk producers in the region by the mid-1990s. Dairy cattle were also an important means to accumulate capital. Ultimately this capital could be diversified into off-farm investments in some cases.

The period of fieldwork was largely a time when annual precipitation was near the long-term average of 406 mm, but 1995 was a drought year when precipitation was 40% below average. This provided an opportunity to observe effects of a drought year on the system.

During the drought year of 1995 it was expected that households would suffer due to lower levels of crop production compared to the near-average rainfall year of 1993. Households more able to sell livestock products and pursue off-farm employment were

expected to mitigate drought problems to the highest degree. Commodity prices during 1995, however, exhibited substantial increases (by 30 to 400%) compared to those for 1993. This positive price effect contributed to typically higher



Dr. Corinne Valdivia (center in light colored sweater) with colleagues in San José Llanga in the 1990's.

incomes for households in 1995 compared to 1993. As predicted, some households did sell more sheep and seek more off-farm employment in 1995 compared to 1993. Overall, the people were able to cope quite effectively with a one-year drought. They generally used their higher incomes in 1995 to buy more food to cover potential food deficits caused by lower crop production. These patterns illustrated the important role of small ruminants, well-functioning markets and off-farm employment for drought mitigation.

The people of the central Altiplano have experienced over 30 years of technology transfer efforts, starting in the 1950s. Packages for producing improved potato were introduced in the 1960s during a

“potato boom,” or time of higher potato prices. A cooperative was formed. A tractor was purchased and reliance on cheap chemical fertilizers began. The 1960s were also a time of a “wool boom,” and improved sheep were imported as part of bilateral aid efforts to upgrade the productive potential of Criollo sheep for wool and meat production. This technical package included establishment of an improved forage base of alfalfa fields on sites having high water tables. Nearly 30 years later in the mid-1990s both improved potato and cross-bred sheep have been well integrated within the traditional production system at San José Llanga. Roughly half of the sheep flocks across eight local communities in Aroma Province were comprised of Criollo x Corriedale animals by 1995. For potato, seeds of improved varieties were commonly sown along with seeds of indigenous “bitter” varieties during the course of our research—each variety reportedly offered complementary production traits with regards to drought and frost risk. Cross-bred dairy cattle were adopted by about one-third of the households at San José Llanga between 1989 and 1995. Wealthier households with access to irrigated forage were more likely to be involved in small-holder dairying.

Technology adoption appeared to have ripple effects over time. Although alfalfa fields were originally established in the 1960s to support improved sheep, interest in cultivated forages waned with the decline in the wool market. There was a renewed interest in expanding cultivated forage with the advent of small-holder dairying in the early 1990s. This followed a “dairy boom” and

(continued on next page)

(continued from previous page)

The Case of San José Llanga, Bolivia: A Synthesis of Research



The synthesis recommends that research on child malnutrition and childhood morbidity be a future priority.

compelled many households to convert food crop acreage to cultivated forage. These efforts to establish more cultivated forage for cattle have thus come full circle to once again benefit cross-bred sheep as a secondary enterprise.

The mixing of new and traditional technology has allowed the people of San José Llanga to become more economically diverse and thus better able to respond in opportunistic ways to new market opportunities; it also has helped protect them against a variable climate. This appears to be a somewhat different path to development than that promulgated by the “modernization paradigm,” whereby adoption of new technology leads to a systematic reduction in traditional practices and an increased

degree of producer specialization.

Although the researchers established the main cause of emigration from San José Llanga to be related to people being pulled away by seeking improvements in their standard of living, and not being pushed out by environmental degradation per se, a few patterns of environmental change and degradation were noted. Importantly, it was learned that it was very difficult to generalize about environmental change because it varied according to different landscape units and had varied causes. Sometimes people and livestock were contributors to environmental degradation, but the most pervasive degradation seemed to be due to uncontrollable, non-management factors such as seasonal flooding and a gradual process of soil salinization on low-lying sites.

It was concluded that the landscape unit most threatened by unfavorable management was the alluvial terrace where most of the food crops were grown via rain-fed methods. The perception of the residents was that the cultivated lands of the alluvial terrace were “tired” and had been producing below capacity for some time. It was hypothesized that a recent period of below-average rainfall was the simplest explanation for this perceived trend. Another hypothesis was that crop productivity could be declining due to gradual and insidious effects of “agricultural

modernization” over the past 30 years, namely the replacement of sheep manure by chemical fertilizers and/or expanded use of tractor tillage. In particular, it was speculated that compared to chemical fertilizers, sheep manure is probably much better for the structure, fertility and water-holding capacity of alluvial soils. Use of chemical fertilizers has been encouraged primarily because they are inexpensive and easier to handle than bulky manure. People have also been selling more manure to traders in recent years as manure markets for peri-urban vegetable producers expand. It was also speculated that less-precise use of tractors for tillage may serve to enlarge cultivated plots. This could allow more soil to be lost from the cropland matrix as wind-blown erosion compared to that for traditional tillage practices using animal draught power or manual methods. In sum, the seemingly beneficial forces that promote labor savings, technology adoption and increased efficiency for the management of cultivation could be undermining the long-term sustainability of food crop production on the alluvial terrace.

Although the rangelands of San José Llanga appear heavily utilized and have probably been substantially modified by hundreds of years of livestock grazing, there was, paradoxically, little evidence of contemporary change directly attributable to livestock pressure. The vegetation dynamics of the rangelands in general were most likely dictated by uncontrollable phenomena such as

(continued on next page)

drought, flooding, and salinization. It was concluded that there was little one could do in terms of grazing management to improve this system. Sheep and cattle were highly complementary in ecological terms. Use of grazing resources was extremely efficient with little waste.

In summary, when viewed in the big picture, the pattern of environmental degradation at San José Llanga was largely a consequence of landscape position on a large scale. Simply because San José Llanga occurs at lower elevations in the middle of the Altiplano means that it serves as a sink for water, nutrients and salt accumulation. In other words, it is a site that is vulnerable to natural forms of degradation (i.e., flooding or soil salinization), yet it also tends to be resistant to human-induced modifications. The latter is true because soil moisture and other nutrients may typically be in adequate supply for major grazing areas during much of the year.

The role of sheep in this agropastoral system, and how to improve or strengthen this role, was a prominent perspective on the project. We concluded that the critical role that needed further attention was the manure function described previously. In other words, the hypothesis that a switch to chemical fertilizers from sheep manure has had negative implications for soil management, and hence sustainable crop production, is a key idea for further research, outreach and policy formulation (see below). Other traditional sheep functions such as providing income and investment capital appeared, for many households at San José Llanga, to be of less concern. This was simply because the advent of small-holder dairying and prevalence of off-farm employment seemed to be making these other functions of sheep

somewhat redundant in today's economy. This raises the issue as to whether investment in sheep production is still the best way to enhance livestock inputs, and hence sustainability, for the agropastoral system. At least in recent years, our observations suggested that given a choice, many people seemed to prefer to invest in dairy cattle or the education of their children rather than in sheep. This is not to say that sheep were unimportant—they were indeed vital as a ready source of disposable income and cheap protein and dietary fat, with substantial welfare and gender equity implications for



Young alpaca at Patacamaya Experiment Station. The Station was created in 1958 and gave San José Llanga over 30 years of experience with technology transfer. Photo by J. Oxley.

households. Rather, it is to say that the marginal returns of investing in sheep and their risky rangeland forages probably tended to make sheep a less attractive investment option compared to returns that could be gained from investment in dairy cattle and irrigated forage or paying for a child's education. Sheep, however, provide a critical back-up systems of particular importance for women and poorer households. Redundancy helps households better manage risk when a sudden downturn in one commodity spells opportunity for another.

When looking at the overall

production system at the conclusion of our work in 1998, it was obvious to us that sustaining agropastoralism on the Altiplano was not just a function of investment in crops or livestock, but also investment to improve standards of living to help rural communities be attractive places to live. Potable water, electricity, transportation and local access to education are thus vital.

We made a number of recommendations for management of research in Bolivia, research priorities and concepts for outreach. We advocated that more research be moved off-station and become more problem-oriented, integrated, and

inter-disciplinary. Bringing rural people into the planning loop in a participatory process is vital. More investment in research and promising young staff should occur. We found our training model, in which 27 Bolivian undergraduates lived together in the field and shared a dynamic office space in La Paz, to have been ideal. The students, mostly from urban backgrounds, saw how their small piece of research fit into a larger picture and they learned to not be fearful of mixing within a rural community.

(continued on next page)

The Case of San José Llanga: A Synthesis of Research

For research, future priorities included: (1) Getting a better understanding of possible precipitation cycles on the Altiplano; (2) rigorously examining the issue of the alleged decline in productivity of crop lands—seen as an important food-security issue—and linking this to possible soil management problems associated with “agricultural modernization;” (3) socioeconomic work devoted to improving risk management for rural households and communities including marketing, policy review, and formulating strategies that promote a vigilant and diversified rural population able to track and respond to new economic opportunities; (4) verify patterns of possible child malnutrition and childhood morbidity; (5) technology and management interventions to mitigate problems of salinization and frost on food crop and fodder production; (6) verify causes of livestock morbidity and seek cost-effective and culturally sensitive methods to reduce morbidity rates; and (7) range improvements to reclaim damaged sites, with more emphasis on range management.

For outreach, engage more communities on topics like sheep marketing strategies to improve profitability, how to enhance soil fertility management on cultivated lands, and appropriate and cost-effective means to improve sustainable irrigation systems. Outreach could also be useful to find ways to tackle problems involving child malnutrition, childhood illness and family planning. Information on foods and their nutritive values could be useful given the high variety of foodstuffs in local

markets.

All conclusions and recommendations above were written prior to obtaining knowledge about what had happened at San José Llanga during the late 1990s. We were able to get an up-date as of November, 1999, and some findings were very surprising.

First, our partner institution IBTA was closed in the late 1990s as a casualty of government decentralization. In the eyes of key decision makers, IBTA had been

Bringing rural people into the planning loop in a participatory process is vital.

ineffective in responding to demands of rural communities. It is now envisioned that private regional research centers will be created to fill the gap.

Next, the people of San José Llanga surprised us in several respects. Rather than continue a precipitous decline in population, the number of households increased to 130 by 1999, a combination of returning emigrants and young couples who decided to settle rather than leave. The driving factor? Apparently an incipient “potato boom” favoring improved breeds of potatoes—the first since the heyday of the 1960s. Croplands of the alluvial terrace are still viewed as “tired” and under-productive, however. A renewed interest in potato production may now, in turn, stimulate interest in improving soil management systems. Dairying is still commonly

practiced, and donors have pledged to support small-holder programs throughout the central Altiplano at least until 2003. One NGO has received funds from the 1994 Popular Participation Act and is helping some households at San José Llanga rehabilitate saline range for sheep using halophytic forage plants.

This demonstrates the large role of uncertainty in the development process, and challenges deterministic notions held by some researchers and development practitioners. The overall pattern illustrates that the crucial collective resource decision is simply where people decide to live, and this seems to have been largely dictated by market signals. The fact that people have settled in San José Llanga in large numbers testifies to the idea that given an opportunity to earn higher incomes they may indeed be happiest to return home considering other improvements in local amenities. The message for policy makers seems simple: Policy actions that support sustainable production of key commodities from the Altiplano, and support improvement in rural living conditions, are very useful to better manage the rural/urban dynamic. Such actions would also benefit national food security by keeping these very capable people linked to the land. 🤝

For more information on this synthesis, contact Dr. Layne Coppock at
LCOPPOCK@CC.USU.EDU

AIDS Mushrooms into Development Crisis

Each day more than 10,000 people in Sub-Saharan Africa are handed what is almost surely a death sentence, and all of them will likely be dead by 2010. These people are infected with HIV/AIDS. It is now clear that the deaths of so many adults in their most productive years will have a devastating impact not only on individual families, but also on communities and entire countries.

“The realization that we need to focus on AIDS as a development rather than just a health problem has only really come in the last year or two,” says Stuart Gillespie, a research fellow at IFPRI. Although health-oriented strategies to combat HIV/AIDS have been under way since the 1980s, attempts to address the socioeconomic repercussions of illness and death on such a massive scale have only just begun.

And the repercussions are enormous. In countries with the highest rates of infection, gains in economic growth, life expectancy, and educational attainment are all being reversed. The sheer number of deaths in Africa is already causing problems for efficiency of businesses and government services. Environmental problems caused by inability to combat agricultural pests and to maintain irrigation systems could occur. The disease is contributing to rapid changes in cultural values, and those changes may alter social bonds.



The Scope of the Epidemic

Of the 36 million people worldwide currently infected with HIV/AIDS, 95 percent live in the developing world and 70 percent live in Sub-Saharan Africa, where infection rates in some countries are as high as 35 percent. Sub-Saharan Africa has already lost nearly 14 million to AIDS, and another 23 million will die there by 2020.

According to the Worldwatch Institute, life expectancy in Botswana is expected to fall from 66 years to 33 years by 2010.

Infection rates in Asia and Latin America are currently much lower than those in Africa, but many countries there are expected to face rising infection rates and millions of AIDS deaths during the first two decades of the 21st century. It is

estimated that India has the highest absolute number of infected citizens.

Greatest Risk for the Poor

HIV/AIDS takes an especially heavy toll on the poor in the developing world. Poverty and HIV/AIDS can create a vicious circle: conditions imposed by poverty increase the risk of infection, and the effects of the disease in turn exacerbate poverty. The intensification of poverty caused by the disease is not limited to the person dying of AIDS, because survivors are left to live on diminished assets and income.

Poverty increases the risk of infection in a number of ways. The poor in many countries are likely to be uneducated and illiterate, which can make it

(continued on next page)

AIDS: A Development Crisis

difficult to reach them with information about preventing infection. People living in poverty sometimes leave their villages to find work in cities. Separated from their spouses and unsupervised by local norms, they may engage in risky sexual behavior. Untreated sexually transmitted diseases are a recognized factor in the transmission of HIV, increasing the risk of HIV infection for women by 300 to 400 percent.

Finally, poverty can make it difficult for people to concern themselves with long-term risks. Gabriel Rugalema, a research fellow in the Group on Technology and Agrarian Development at Wageningen Agricultural University in the Netherlands, says, "Sex workers I've spoken to in Dar es Salaam, for instance, say they have to focus on feeding and educating their children in the here and now."

Cultural stigmas and lack of access to medical care combine to keep most people from being tested. Once they are infected, the disease spreads as people infect their spouses through sexual intercourse and mothers infect their children at birth or through breast feeding. Because they do not know they are infected, individuals do not prepare themselves and their families for the financial and emotional impact of their

impending illness and death.

Even when the poor know they are infected, their time is relatively limited because of the prohibitive cost of life-prolonging drugs. According to nutritionist Vivica Kraak, who led a team of Cornell University researchers in East Africa, "Malnourished people are likely to see a faster progression from HIV infection to full-blown AIDS and to die sooner of AIDS-related complications, especially when they don't have access to prophylactic and antiretroviral drugs."

AIDS Leads to Hunger

Households caring for an AIDS patient turn to a number of different coping strategies, most of which lead to less income and less food security. AIDS decreases income and agricultural production by

removing from the labor force not only the sick person, but also other members of the household who must care for the patient. According to a 1999 report from the Joint United Nations Program on HIV/AIDS (UNAIDS), families in Côte d'Ivoire, Tanzania, and Thailand who were coping with HIV/AIDS experienced a fall in income of 40 to 60 percent. Loss of income and agricultural labor in turn cause a decrease in the household's access to nutritious food. Rural families will often plant root crops because they require less labor, but such crops also offer a lower nutritional value. To raise cash to pay for health care or food, families sell food-producing assets, such as chickens or goats. When cash is lacking, households simply eat less.

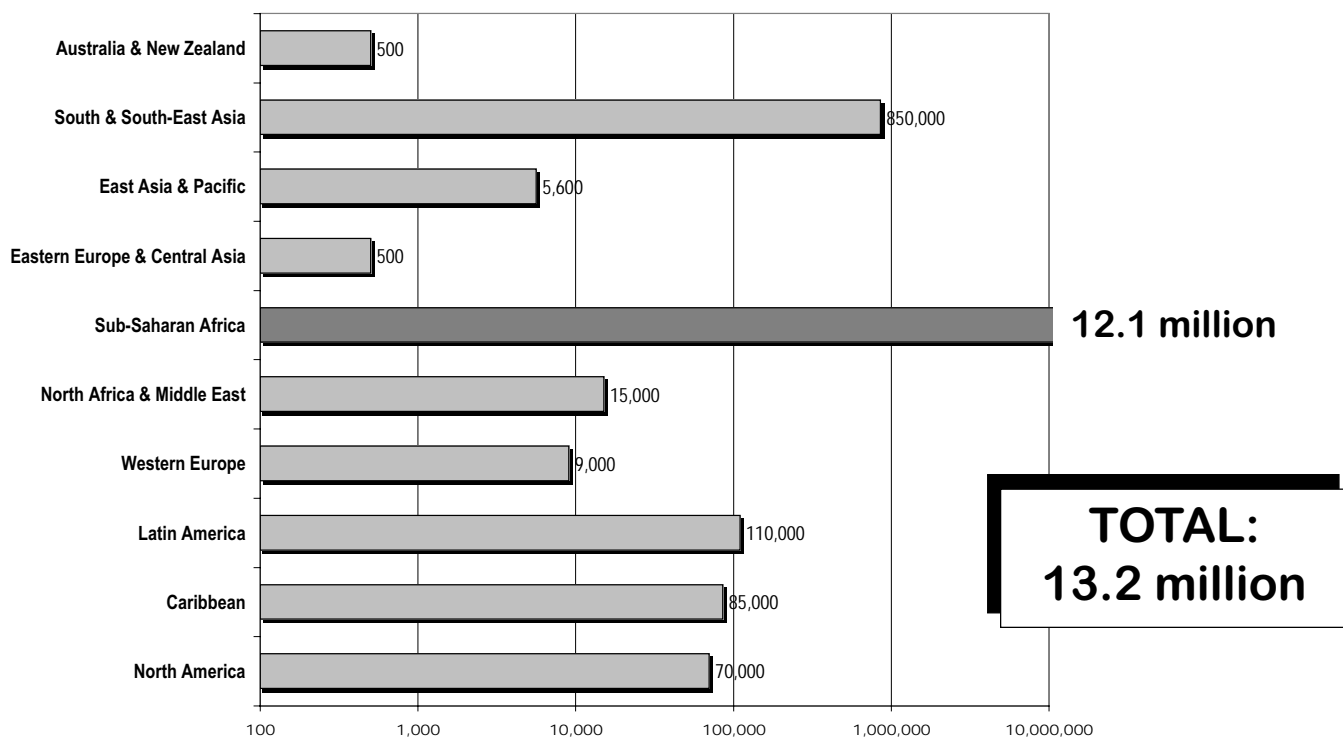
The death of a major adult member does not mark the end

Reduction in production in a household with an AIDS death, Zimbabwe

<u>Crops</u>	<u>Reduction in output</u>
Maize	61%
Cotton	47%
Vegetables	69%
Groundnuts	37%
Cattle owned	29%

Source: Stover & Bollinger, 1999 (UNAIDS)

Cumulative number of children estimated to have been orphaned by AIDS* at age 14 or younger at the end of 1999.



*children who have lost their mother or both parents to AIDS before the age of 15 years.
Source: UNAIDS

of a family's food security problems. "In my experience in Cambodia," says Margrethe Juncker, a physician and volunteer with the Catholic organization Maryknoll, "the husband got sick first and the wife had to spend all their money to care for him. Then he dies, the mother is now also infected and has no source of income, and the kids have had to be taken out of school. It's a downward spiral." The survivors may not have the ability or energy to farm the land they retain and may not have the income to hire help, or they may lose land completely because of land tenure practices.

Says Alan Whiteside, director of the Health Economics and HIV/AIDS

Research Division at the University of Natal, South Africa, "We need to look at ways to safeguard household assets, both the physical assets like the plow and the cattle, but also the human resources, the knowledge represented by adults. For example, Dad may know not to plant cassava in a particular corner of the field because it always floods there, but his children might not. When Dad is gone, so is that knowledge."

Food insecurity caused by AIDS can extend beyond individual households. When a large enough number of people are ill or dead because of AIDS, food

production for an entire region or nation could be compromised. Vivica Kraak found evidence of this during research in East Africa in 1999. "In Uganda farmers in the region around Kampala have traditionally grown matooke [green banana] and supplied it to other regions of the country. Because of the loss of labor caused by AIDS-related illnesses and deaths, the production of matooke has fallen, and this decrease in production has affected not only people growing matooke for their own uses, but also the availability of the crop for people in other parts of the country."

(continued on next page)

AIDS: A Development Crisis

Loss of labor and income can also cause survivors to abandon agricultural practices that raise yields and protect soil fertility, like fallowing and use of fertilizers.

Children Are Hardest Hit

Almost everyone agrees that the gravest long-term impact of the HIV/AIDS crisis is that on children. Even before they face the emotional loss of parents, children may have suffered from the choices their parents have had to make in response to HIV/AIDS. These choices can cause children to suffer from lack of food and parental attention, to be withdrawn from school because fees could not be paid or because their labor was needed, or to be sent away from home to live with relatives.

“The most obvious way children are affected is through orphaning,” says Whiteside. “But they’re really orphaned before the death of their parents. Orphaning is a series of events, with the death of the parent the culminating one. We are ending up with millions of children who are unloved, unsocialized, and uneducated.”

UNAIDS estimates that by 2010 there could be as many as 42 million orphans in Sub-Saharan Africa. “Young children and adolescents are losing more than their parents,” says Anita

Alban, senior economist in the Policy, Strategy, and Research Department of UNAIDS. “They are losing basic life skills such as caring for one another. The norms of such children might change not only their future but the community they will have to adapt to.” Because they are, by definition, years away from adulthood, caring for

UNAIDS estimates that by 2010 there could be as many as 42 million orphans in Sub-Saharan Africa.

these children will require the commitment of long-term resources.

Mitigation Efforts Are Changing

Since HIV/AIDS was viewed exclusively as a health issue until recently, most support efforts have focused on providing medical care to the sick and dying. Now attention is being turned to aiding those left behind when AIDS victims die. In general, such mitigation efforts have been carried out by the affected communities themselves. For example, a World Bank study in Tanzania found that 90 percent of assistance to families that had

lost a major adult member came from families or communities. These kinds of support strategies include community-based child care; volunteer labor to assist in increasing agricultural output and caring for HIV/AIDS patients; and apprenticeship and training for orphaned adolescents.

Prevention Is the Ultimate Solution

No matter how widespread mitigation efforts are, the devastating impact of HIV/AIDS will continue unabated until its incidence can be drastically reduced. Since development of a vaccine appears to be at least a decade off, other methods must be found to stem the tide of infection. Some argue that aggressive education campaigns targeting those most at risk can accomplish this goal. That strategy has had significant success in Thailand. In 1990 both Thailand and South Africa had adult infection rates of less than 1 percent. In 1999 South Africa’s infection rate was 20 percent; Thailand’s was 2 percent.

Despite the case of Thailand, many researchers now argue that prevention strategies will have to aim at the underlying issue of poverty to be truly

(continued on next page)

(continued from page 9)

PARIMA Outreach & Intervention Supported by Mission in Ethiopia

Institute; Ato Aliyu Hussen, Ethiopian, Oromia Agricultural Development Bureau; Mr. Boru Halake, Kenyan, Arid Lands Resource Management Project (ALRMP); Ato Sora Adi, Ethiopian, Borana Lowlands Pastoral Development Project/ GTZ-GoE; Ms. Allyce Kureiya, Kenyan, SNV-Isiolo; Dr. Fisseha Meketa, Ethiopian, Save the Children-USA; and Dr. Daniel Too, Kenyan, Egerton University.

The GL-CRSP research project

also has an outreach capacity by virtue of a network of some 30 development organizations (14 in Kenya, 16 in Ethiopia) created in 1997-9. The main goals of the Outreach Unit are to: (1) assist development agents in incorporating risk management perspectives within their field programs, and (2) otherwise serve as a catalyst to promote adoption of improved risk management strategies by pastoral and agro-pastoral households in general.

About half of the outreach network members are locally based development agents. They each have a specific physical domain. For example, for southern Ethiopia the NGOs Save the Children USA, Norwegian Church Aid, and Ethiopian Evangelical Church Mekane Yesus (EECMY) variously operate in the vicinity of the towns of Negelle, Yabelo, Hagere Mariam, and Mega, respectively. Governmental organizations such as the Oromia Agricultural Development Bureau (OADB) and the Oromia Cooperative Promotion Bureau (OCPB) operate throughout the Oromia Region. The Southern Rangelands Development Unit (SORDU) operates under the auspices of OADB and has main offices in Yabelo and Negelle. A bilaterally funded GTZ/GoE program works in the vicinity of Negelle. These agencies are engaged in a wide variety of development activities including human health, education, women's programs, livestock husbandry, natural resource management and planning, provision of market information, and implementation of drought early-warning systems. 🇪🇹🇰🇪

For more information on PARIMA, contact Dr. Layne Coppock, lcoppock@cc.usu.edu or visit the project web site (www.cnr.usu/research/crsp).

(continued from previous page) **AIDS: A Development Crisis**

successful. Rugalema says, "Preventing AIDS through information and messages doesn't really make sense to me. People can't eat information. Where the economy is very weak, sending information is not going to solve

the problem. You have to start with rehabilitating the economy so people will have some hope for the future."

In a way, then, successful mitigation strategies can

(continued on back page)

Leading causes of death in Africa, 1999

Rank		% of total
1	HIV/AIDS	20.6
2	Acute lower respiratory infections	10.3
3	Malaria	9.1
4	Diarrhoeal diseases	7.3
5	Perinatal conditions	5.9
6	Measles	4.9
7	Tuberculosis	3.4
8	Cerebrovascular disease	3.2
9	Ischaemic heart disease	3.0
10	Maternal conditions	2.4

Source: The World Health Report 2000, WHO

(continued from page 19)

AIDS: A Development Crisis

themselves be prevention techniques because of the two-way relationship between HIV/AIDS and poverty. Desmond Cohen, former director of the HIV and Development Program of the United Nations Development Program, points out, for example, that children who are malnourished, lack education, and have missed out on normal processes of socialization because of the impact of HIV/AIDS on their families and societies are more likely, because of these very conditions, to become “the next cohort of the HIV infected.” Improving the conditions under which these children live could

prevent them from becoming infected and, ultimately, end the epidemic.

Still, even if no new infections were to occur beginning tomorrow, Africa and some areas in Asia and Latin America will be facing severe socio-economic repercussions for decades to come. Vigorous efforts are already under way by donor agencies, NGOs, and communities themselves to understand and act on the ramifications of HIV/AIDS. There are some hopeful signs that national governments and the international community are beginning to understand that

increased political will and financial resources must be directed toward this epidemic. Only when that commitment is made will communities, governments, and their partners in the developing world be able to make a real impact on the disaster of HIV/AIDS. 🍌🍌

Reported by Sara E. Wilson, IFPRI

This article is from the International Food Policy Research Institute (IFPRI) December 2000 issue of News & Views, 20/20 Vision for Food, Agriculture and the Environment. All issues of News & Views are available in English, and selected issues are available in French and/or Spanish. Back issues can be found at the IFPRI web site: www.ifpri.org.

Ruminations

Director: Montague W. Demment
Newsletter Editor: Susan L. Johnson

Published quarterly by the Management Entity, Global Livestock Collaborative Research Support Program, University of California, Davis, California 95616, USA.
Telephone: (530) 752-1721, Fax: (530) 752-7523.
E-Mail: glcrsp@ucdavis.edu
WWW: <http://glcrsp.ucdavis.edu>

This publication was made possible through support provided by the Office of Agriculture and Food Security, Global Bureau, U.S. Agency for International Development, under Grant No. PCE-G-98-00036-00. The opinions expressed herein are those of the authors and do not necessarily reflect the views of USAID.

Printed on Recycled Paper.

(continued from page 1)

BIFAD Sub-Committee Will Review CRSPs

agricultural modernization, nutrition, rural development, natural resources, food systems, agribusiness, agricultural trade, intellectual property rights and sustainability. In addition to BIFAD, SPARE will also report to the National Association of State Universities and Land-Grant Colleges (NASULGC) Board of Agriculture and thus provide a direct linkage for NASULGC member institutions to USAID. One of SPARE's duties will be to provide information to BIFAD and NASULGC's Board of Agriculture on the objectives and results of the university – USAID partnership.

The following individuals are founding members of SPARE: Emmanuel Acquah (University of Maryland, Eastern Shore); David Atwood (Deputy Director, Office of Agriculture and Food Security, USAID); Robert Evenson (Yale University); Terry Hardt (Agricultural Development Officer, Office of Agriculture and Food Security, USAID); David Sammons (Purdue University); Dennis Weller (Division Chief, Agriculture and Natural Resources and Rural Enterprises, Africa Bureau, USAID). David Sammons was elected Chair of SPARE and Terry Hardt was elected Vice Chair for 2000-2001. 🍌🍌