

## FOREWORD: TIME AND DEVELOPMENT

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**W**e have a national obsession with time. Technology has connected us to each other, to information, to pleasure and tragedy so instantaneously that as we click the remote through our daily lives, we demand instantaneous satisfactions, responses, and results. I am not sure this brings us a better life, but it certainly affects how we view development.

The pace of this style of life has both a positive and negative impact on those of us working in international development. There is no question that the demand for results from our international assistance is both reasonable and required, but the timeframe for our expectations is often inappropriate and counterproductive. The “results now” attitude that has evolved in international affairs can be a dangerous and unproductive approach and often results, strangely enough, from a lack of perspective on our part to our own history and development as a nation. In a recent review of his experience in international development, Carl Eicher concludes: “fifty years of donor experience in Africa has shown that successful institution building is an accretionary and almost invisible process that requires a multi-generational time span and learning from experience.” The recent frustration expressed in the media and reflected in political circles with the delays in agreeing on an Afghan constitution is an interesting example. We may forget that the time it took to see our own Constitution evolve from the Articles of

Confederation (1775) to a ratified Constitution (1789) was years, while the Afghans have debated and delivered in months.

The aftermath of the Iraqi war is also illustrative. Many expected that a war won would quickly translate into a nation, productive and peaceful, that would set an example for the Middle East. The aftermath of the war, the seemingly slow progress to national development (both in Iraq and Afghanistan) strikes many Americans as a failure and a frustration.

Unlike our ability at home to get what we want pretty much when we want it, the pace of national development is slow. The development of constitutions, institutions, and human capital takes decades not months. Bringing new order to a society whose framework has been destroyed or is totally unadapted to the modern environment is a lifelong challenge.

The problem facing international development is that the time dimension is not well appreciated by those controlling the flow of funding, and by the general public. We expect that with the infusion of relatively small amounts of funds over short periods of time that nations will develop in measurable ways. How long has it taken for us to develop? I expect that many of those controlling the purse strings for national development here would have given up on the early stages of our development process in the 1800s. Fortunately for us, we had a remarkable combination of

people, natural resources, and a relatively clean historical slate that allowed our accelerated pace of development. But that said, this process took decades (if not a century) that included our worst war and secession.

Development takes time. In this year, we have at the GL-CRSP brought to fruition an idea, an important concept, that has taken 15 years to nurture: the recent publication of a volume of the *Journal of Nutrition* devoted to our work on the link between human nutrition, human capacity, and national development. The initial seeds for the concept were planted in the 1980s. USAID funded the Nutrition CRSP, which did a remarkable study to identify factors that affected the development of children. The work was done in three developing countries on two continents and indicated the importance of animal source foods on the cognitive development of children. The research was correlative but the relationship strong, indicating that animal source foods (ASF) were the only dietary factor that predicted cognitive performance.

In the early 1990s, a group here at UC Davis attempted to advance the link between food-based solutions and economic development focused on the poor. Historically, an academic barrier has existed between human nutrition and agriculture, and in development the interaction between agriculture, human nutrition, and health has been less than optimal. The group sought means to link these areas by emphasizing the importance of food systems to ensure sustainable economic development and nutrient supply.

In 1996 in East Africa, the GL-CRSP priority-setting process identified the micronutrient/cognitive capacity link as a high priority activity. In that year we funded a

project that conducted a large and complex intervention project to determine directly the impact of ASF on the development of Kenyan children. The results are a testimony to the impressive impact of small amounts of ASF on children's capacity that will impact all aspects of their productive lives. Hopefully, the wide dissemination of these results will have a major influence on how we plan development interventions in nutrition and agriculture. It took time and long-term commitments to develop this concept.

The message here, whether it be rebuilding a nation or understanding how to develop a productive person, is that these processes take time. By succumbing to the pace we have defined for ourselves, we are losing our perspective on the pace of development for others and we are apt to make bad development investments and poor program design. The recent hints that USAID will devote more resources to human capacity building are encouraging. Both research and human capacity building are sustainable interventions that have long-term impacts.

Most all of us in the development community have interacted with a whole cohort of individuals in developing countries who were trained at U.S. universities. For the most part of 30 years, they have been the engines of development in their countries but their lifetime impact has never been measured or recorded. Research produces the objective knowledge that drives development. Like human capacity, its impacts are diffuse and long-term, but no one in our society would argue that research is not the foundation of our economic development.

The CRSP programs represent USAID's commitment to a longer-term perspective. While this approach is often challenged within the Agency, the maintenance of the long-term

visions of research and human capacity building are the result of a dynamic tension between short-term pressures and long-term development needs. We, as Americans, should try to understand that the pace of our lives should not be a force to dictate our expectations about development. We should develop long-term strategies, have confidence in the fundamentals of development, and stick to our vision long enough to be successful.

#### REFERENCES

Eicher, C.K. 2004. Flashback: fifty years of donor aid to African agriculture. Revised version of a paper presented at an International Policy Conference “Successes in African Agriculture: Building for the Future,” sponsored by InWent, IFPRI, NEPAD, and CTA. Pretoria, South Africa, December 1-3, 2003.

## **THE GLOBAL LIVESTOCK CRSP**

### **AN OVERVIEW**

#### **INTRODUCTION**

The Global Livestock CRSP (formerly known as the Small Ruminant CRSP) has expanded its research to address important topics in the international livestock development sector. The program, comprised of broad-based interdisciplinary projects, focuses on human nutrition, economic growth, environment, and policy linked by a global theme of agriculture at risk in a changing environment. The projects involve researchers from 14 U.S. universities, 2 international agricultural research centers, 5 international research organizations, and 91 foreign institutions. The program is active in three regions of the world: East Africa, Central Asia, and Latin America.

#### **HISTORY**

Established in 1978 as the Small Ruminant CRSP, the Global Livestock CRSP is one of nine CRSP programs developed under Title XII of the International Development and Food Assistance Act of 1975. The CRSP model, pioneered by the SR-CRSP, was built on the structural strengths of U.S. land-grant universities and collaborative partnerships with international organizations. Four characteristics ensure the effectiveness of this model: 1) Collaboration with U.S. land-grant universities; 2) International training; 3) Long-term scientific relationships; and 4) Program cost-effectiveness.

#### **REENGINEERED**

In 1995, the CRSP began a major restructuring of the program in response to USAID's own reengineering efforts and the changing needs of the international development community. The process, a comprehensive planning and assessment procedure, was initiated with priority-setting workshops in the three regions. As forums for client input, the workshops were intended to maximize the opportunity of regional professionals to present their views on the development issues confronting them. The problem models they developed established the scope for activities within the region. Assessment teams, selected in an initial competition, developed projects that addressed the top priorities within the regions. The problem model was the central component of the assessment process. Each team was charged with refining its problem model through in-field explorations. To ensure grassroots input, over 20 regional workshops involving 35 countries were conducted during the assessment period. The teams submitted final proposals, competing to be in GL-CRSP's current proposal, and winners were selected. The process was designed to be problem-driven and has produced results-oriented projects.



## A GLOBAL PROGRAM

The GL-CRSP global program builds effectively on complementarities between projects in different regions. Centered on a theme of managing risk in our unpredictable world, the program is developing the capacity to predict risk so it can be better managed, improving the tools to cope with risk, and contributing to the mediation of risk. The GL-CRSP has chosen to work in ecosystems and regions where human populations and natural resources are most vulnerable and in most cases, where biodiversity is most valuable. The model of risk management is most highly developed in our East African program where the six complementary projects cover prediction, adaptation, and management of risk.

### *Predict the Future*

The project, *Early Warning System for Monitoring Nutrition and Livestock Health for Food Security of Humans in East Africa*, headed by Texas A&M University System, addresses risk by adapting already successful U.S. technologies to East Africa in order to increase the lead time on the forecast of drought and famine, and allow policy makers to visualize the impact of their interventions on food crises. The project combines predictive and spatial characterization technologies with the formation of a network of collection and measurement sites in East Africa. The data from these sites, in coordination with the Famine Early Warning System (FEWS) project, will allow 6-8 weeks of increased lead-time for drought forecasting.

### *Mitigating, Coping and Adapting to Perturbations and Change*

The project, *Integrated Assessment of Pastoral-Wildlife Interactions in East Africa: Implications for People, Policy, Conservation, and Development in East Africa*, headed by Colorado State University, addresses the relationship between pastoralists and wildlife conservation in the context of the unpredictability of semi-arid environments. This project adapts models already in use in U.S. national parks to assist policymakers at the national and local level to establish approaches that are compatible with both pastoral life and conservation of biodiversity. The project intends to identify, in an integrated manner, the tradeoffs of different management decisions on wildlife conservation, livestock production, and pastoralist food security and health.

The project, *Improving Pastoral Risk Management on East African Rangelands*, headed by Utah State University, uses four systems to cope with risk and destock livestock in semiarid ecosystems: resource tenure, closer links to markets, rural finance, and public service delivery. These activities represent mechanisms to allow asset diversification, improved ability to interact with markets, increased investment in rural institutions and commerce, and better capacity to cope with an unpredictable environment. The impact of these alternatives will likely reduce conflict, improve the economic conditions of pastoralist and their communities, and provide higher productivity and stability to their livestock systems as well as greater protection for the biodiversity in their environments.



The project, *Managing National Parks in the Context of Changing Human Populations and Economics*, headed by the Big Sky Institute at Montana State University, addresses the parallel management challenges facing Yellowstone and Serengeti National Parks in the interaction of multiple land uses, predominantly cattle grazing and agriculture outside the parks, and the maintenance of biodiversity and ecosystem integrity. The focus is on people around the parks, as much as on the animals inside.

The project, *Multidisciplinary Research for Sustainable Management of Rural Watersheds: The River Njoro, Kenya*, headed by the University of Wyoming, addresses one of East Africa's most important natural resource management issues: water. The project builds the scientific and community capacity required to manage natural resources that are under attack by a growing population, increased livestock grazing, and short-term extraction strategies that threaten a watershed and a major national park.

The project, *Livestock Trade in Ethiopia and Kenya*, headed by Syracuse University, seeks to understand how terminal livestock markets function, in order to better understand how to connect interventions at the local level to national markets, which will ultimately lead to improvements in the ability of pastoralists to respond to drought.

### *Central Asia and Latin America*

The Global Livestock CRSP is also active in Central Asia and Latin America. The Central Asia program addresses a rapidly changing and unstable political and economic environment, where little effort has been made, particularly in rural areas, to “cushion” the effects of transition to a market economy. The Latin America program faces sustainability issues such as a growing population, more firmly entrenched poverty, and a rapidly diminishing resource base.

In Latin America, the project *Community Planning for Sustainable Livestock-Based Forested Ecosystems in Latin America*, headed by the University of Wisconsin-Madison, deals with the impact of increasing human population on the conversion of forest and the management of integrated livestock systems that protect and use the biodiversity of these ecosystems. The project uses strong community-based involvement to address how to develop productive, profitable, and environmentally sustainable food systems in marginal environments for livestock production.

The project, *Integrated Tools for Livestock Development and Rangeland Conservation in Central Asia*, headed by the University of California, Davis, emphasizes both adaptation and mitigation. This project will have significant global and local impacts in four main areas: atmospheric CO<sub>2</sub> sequestration, rangeland conservation, enhanced productivity, and sustainability of livestock systems, and socio-economic aspects of livestock production.

### *Small Grant Program*

In Central Asia, four small grant projects are focused on the livestock sector and environment. The project, *Linking Sheep Producers and Markets*, headed by University of Wisconsin-Madison, compares the production economics and marketing environment for fine wool, meat, and meat/wool breeds of sheep. This project will analyze the marketing opportunities surrounding each of these three production strategies and collaborate to produce extension materials for local producer support groups about the findings. A second project, *Feasibility of Market Development and Support Services for Livestock Products in Kazakhstan and Kyrgyzstan*, headed by Colorado State University, addresses the problem of developing markets for fine wool and cashmere in Kazakhstan and Kyrgyzstan. Goals include improving marketing from the perspective of traders, domestic processors, and researchers. A third project, *Co-Benefits of Grassland Regeneration of Abandoned Wheat Areas for Carbon Sequestration, Livestock Productivity, Biological Conservation, and Social-Economic Development*, also headed by Colorado State University, is evaluating and modeling how changes in the seasonal grazing mobility of livestock in the Kostanai steppe region of northwest Kazakhstan affect carbon sequestration, vegetation composition, and rangeland productivity. The fourth project, *Improving Market Infrastructure Through Wool Pools in Kazakhstan*, headed by University of Wisconsin-Madison, assists Kazakh wool farmers with the development of market institutions, namely wool pools and wool grading technologies. This project helps Kazakh sheep farmers create wool pools and wool grading systems using the organizational technologies and experiences of U.S. sheep farmers.

## **PROGRAM GOAL**

The goal of the GL-CRSP is to increase food security and improve the quality of life of people in developing countries while bringing an international focus to the research, teaching, and extension efforts of U.S. institutions. This goal is to be met through collaboration between U.S. land-grant institutions and national and regional institutions abroad that are active in livestock research and development.

## **STRATEGIC OBJECTIVES**

To achieve this goal, the following objectives have been identified:

- To strengthen the ability of institutions in developing countries to identify problems in livestock production and develop appropriate solutions.
- To increase employment and incomes among livestock producers and associated value-adding agribusinesses.
- To improve livestock production while monitoring the effects of production on the environment and exploring the integration of production systems with the rational use of natural resources, such as wildlife.
- To enhance the nutritional status of targeted populations through increased availability and utilization of animal source products.
- To provide support to decision-makers in developing policies that will promote livestock production, marketing, and processing of animal products; human nutrition and child physical and cognitive development; and natural resource conservation and management.
- To identify, study, and strengthen communication systems (including but not limited to extension) among livestock producers, businesses, researchers, and consumers.

## **RESOURCES**

Funds for the GL-CRSP are granted for a five-year period by the United States Agency for International Development. A minimum cost-sharing contribution of 25 percent from participating U.S. institutions is required. The projects also receive substantial contributions from host country collaborators, U.S. universities, and other leveraged funds.

## **OVERSIGHT GROUPS**

Global Bureau, United States Agency for International Development (USAID)  
Board for International Food and Agricultural Development and Economic Cooperation (BIFADEC)  
Strategic Partnership for Agricultural Research and Education (SPARE)



**STRUCTURE**

The Global Livestock CRSP is administered as a grant to the University of California, Davis, which, as the *Management Entity*, administers subgrants to participating U.S. institutions and maintains fiscal responsibility.

The GL-CRSP *Program Director* is responsible for program development, coordinating activities of the projects across and within regions, and overseeing the daily operations of the GL-CRSP.

The *Program Administrative Council* provides input on the overall program goals, recommends strategies for programmatic development, and advises and concurs on the program budget.

The *Technical Coordinating Committee* provides intellectual exchange and input on programmatic planning for the CRSP to the Program Director and the Program Administrative Council.

The *External Evaluation Panel* provides objective evaluations of the CRSP programmatic process.

**PROGRAM ADMINISTRATIVE COUNCIL**

David Acker, CHAIR  
Iowa State University  
Gilles Bergeron, FANTA  
Salvador Fernandez-Rivera, ILRI  
Seyfu Ketema, ASARECA  
Robin Mearns, The World Bank  
Dennis Poppi, The University of Queensland

**EXTERNAL EVALUATION PANEL**

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Ahmed Sidahmed, IFAD  
Bernie Engel, Purdue University  
Keith Moore, Virginia Polytechnic Institute  
& State University

**USAID**

Joyce Turk, Program Officer

**U.S. LEAD PRINCIPAL INVESTIGATORS**

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Layne Coppock, Utah State University  
Kathleen Galvin, Colorado State University  
Lisa Graumlich, Montana State University  
Emilio A. Laca, CHAIR  
University of California - Davis  
John McPeak, Syracuse University  
Scott Miller, University of Wyoming  
Timothy Moermond,  
University of Wisconsin - Madison  
Dennis Ojima, Colorado State University  
Jerry Stuth, Texas A&M University System  
David Swift, Colorado State University  
David Thomas,  
University of Wisconsin - Madison

**MANAGEMENT ENTITY**

Montague W. Demment, Program Director  
Susan L. Johnson, Assistant Director  
Jenni R. Strand, Program Coordinator  
Cathy Miller, Financial Officer  
Quin Martin, Student Assistant



COLLABORATING INSTITUTIONS

CENTRAL ASIA

**Kazakhstan**

Barayev Research Institute of Grain Farming  
Central Asian Regional Environmental Center  
(CAREC)

Kazakh Technological Research Institute of  
Sheep Breeding  
Ministry of Science - Academy of Science of  
the Republic of Kazakhstan (MS ASRK)  
National Federation of Private Farmers of  
Kazakhstan  
Research Institute of Feed Production and  
Pastures

**Uzbekistan**

Academy of Sciences - Samarkand Division  
Institute of Karakul Sheep Breeding and  
Desert Ecology  
Karakul Sheep Research Institute  
Uzbek Livestock Research Institute  
Uzbek Research Institute of Market Reforms  
Uzbek Sericulture Research Institute

**Turkmenistan**

Academy of Sciences  
Institute of Economics  
National Institute of Deserts, Flora and Fauna

**Kyrgyzstan**

Center for Economic and Social Research in  
Kyrgystan (CASE)  
Kyrgyz Research Institute of Sheep Breeding  
Kyrgyz Livestock Research Institute  
Kyrgyz Sheep Breeders Association

EAST AFRICA

African Wildlife Foundation  
Crisis Mitigation Office - ASARECA  
FARMAfrica

**Ethiopia**

Adami Tulu Agricultural Research Center  
Borana Lowlands Pastoral Development  
Project  
Ethiopian Agricultural Research Organization  
(EARO)  
Holetta Research Center  
Livestock Policy Analysis Program (LPAP)  
Mekelle University  
Oromia Agricultural Development Bureau  
(OADB)  
Oromia Agricultural Research Institute  
(OARI)  
Oromia Cooperative Promotion Bureau  
(OCPB)  
Oromia Pastoral Development Commission  
(OPDC)  
Oromia Regional Agricultural Office  
Save the Children - UK  
Save the Children - USA  
USAID Mission to Ethiopia  
Volunteers in Overseas Cooperative Action  
(VOCA)

**Tanzania**

Executive Pastoral Council, Ngorongoro  
Inuyat e-Maa  
Livestock Production Research Institute  
(LPRI)  
Maasai Advancement Association  
Mpwapwa Agricultural Research Institute  
Ngorongoro Conservation Area Authority  
Selian Agricultural Research Institute  
Sokoine University  
Tanzania National Parks (TANAPA)

Tanzania Wildlife Research Institute  
(TAWIRI)  
Ukiriguru Agricultural Research Institute  
University College of Lands and  
Architectural Studies (UCLAS)  
University of Dar es Salaam

### Kenya

African Conservation Centre (ACC)  
Amboseli NP  
Amboseli/Tsavo Group Ranch Conservation  
Association  
Arid Lands Resource Management Project  
(ALRMP)  
Community Initiatives Facilitation and  
Assistance (CIFA)  
Drought Preparedness Intervention and  
Recovery Program, Office of the President  
Egerton University  
Fisheries Department  
K-REP Development Agency  
Kenya Agricultural Research Institute (KARI)  
Kenya Wildlife Service (KWS)  
Kenyatta University  
Masai Mara Game Reserve  
Meru NP  
Ministry of Agriculture and Rural  
Development  
Moi University  
Mpala Research Centre  
Naivasha Animal Husbandry Research Centre  
National Dryland Farming Research Center  
National Environment Management  
Authority  
National Range Research Center  
Netherlands Development Organization  
(SNV) - Isiolo  
PACT CORE  
Resources Conflict Institute (RECONCILE)  
Regional Centre for Mapping and Resources  
for Development (RCMRD)  
Semi Arid Rural Development Programme  
(SARDEP)  
University of Nairobi

### Uganda

Makerere University  
Namulonge Agricultural and Animal Research  
Institute  
National Agricultural Research Organization  
Serere Animal and Agricultural Production  
Institute

### **LATIN AMERICA**

Servicios Agro-Informaticos de Apoyo a la  
Planificacion para la Uso y Manejo de los  
Recursos Naturales (AGROSIG), Bolivia  
Alianza Jatun-Sacha/Centro de Datos para la  
Conservacion (CDC), Ecuador  
Centro Interdisciplinario para Estudios  
Comunitarios (CIEC), Bolivia  
Centro de Estudios Regionales para el  
Desarrollo de Tarija (CER-DET), Bolivia  
Fundacion Antisana (FUNAN), Ecuador  
Heifer Project International, Ecuador  
Instituto Manantlan de Ecologia y  
Conservacion de la Biodiversidad  
(IMECBIO), CUCSUR, Universidad de  
Guadalajara, Mexico  
Comunidad de Estudios JAINA, Bolivia  
Terra Nuova, Ecuador

### **INTERNATIONAL**

Centre de Cooperation Internationale en  
Recherche Agronomique pour le  
Developpement (CIRAD)  
International Center for Agricultural Research  
in Dry Areas (ICARDA)  
International Livestock Research Institute  
(ILRI)  
Istituto Oikos (Italy)  
Macaulay Institute (Scotland)  
Agricultural Research Organization - New  
Ya'ar Research Center (Israel)  
SOFRECO - Clichy



**United States**

Colorado State University  
Cornell University  
United States Geological Survey (USGS) -  
Earth Resources Observation Systems  
(EROS) Data Center  
Iowa State University  
Montana Fish, Wildlife, and Parks  
Montana State University  
South Dakota State University  
Texas A&M University  
Syracuse University  
University of California, Davis  
University of California, Los Angeles  
University of Kentucky  
University of Wisconsin - Madison  
University of Wyoming  
United States Department of Agriculture  
(USDA) - ARS Forage and Range  
Research Laboratory  
Utah State University  
Yale University  
Yellowstone National Park