



RUMINATIONS

NEWSLETTER OF THE GLOBAL LIVESTOCK COLLABORATIVE RESEARCH SUPPORT PROGRAM



Human population growth and land use intensification have reduced options for pastoralist-livestock land use and wildlife conservation in East Africa. Different patterns of land use (extensive pastoralism, mixed agro-pastoralism, agricultural development within rangelands, etc.) and/or different development pathways, have alternative implications for the future of both pastoralism and conservation. Photo by Kathy Galvin.

Ngorongoro Conservation Area Policy Options Explored

The Global Livestock CRSP project led by Colorado State University, has begun a new phase of activities in East Africa. Presently, the project's Integrated Assessments are focused on Ngorongoro Conservation Area

(NCA). The NCA is one of the best known and most spectacular conservation areas on earth. The system is truly unique- combining wildlife, Maasai pastoralists and spectacular landscapes. But the

economic status of the resident Maasai has reached a level of poverty that is unfortunate and unacceptable, even to those whose main concern is wildlife conservation. Our previous research in NCA, sponsored by the GL-CRSP and the National Science Foundation, quantified NCA Maasai economic status in comparison to that of Maasai in adjacent areas. We found that they are in considerably more difficult straits. Poverty levels are excessive, food security is poor, livestock/ human ratios are very low, agricultural production (limited by conservation policy) is minimal, and livestock disease problems are so severe that livestock populations have not increased for decades. Human populations, however, are growing rapidly, suggesting future

LDRCT Project Determines Effects of Land Cover Type on Carbon Flux in N. Kazakstan

By Nicanor Saliendra, Mary F. Dalsin, L. Adam Wolf, and Emilio A. Laca

One of the main goals of the LDRCT (Livestock Development and Rangeland Conservation Tools for Central Asia) project is to assess the regional importance of rangelands and pasturelands in the regulation of atmospheric carbon. Since the beginning of the project we have obtained detailed information in several sites with rangelands in good condition. In this new stage of the research, we are comparing typical rangelands, with improved pasturelands and abandoned croplands, in a statistically valid design with replicates. Eddy covariance measurements systems are being used for this effort because they are state-of-the-art instruments for the task. Our approach is innovative

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Global Livestock CRSP Launches New Publication Series

The Global Livestock CRSP is introducing a new series of research briefs aimed at reaching the development community. The research briefs will condense project studies into 1 – 2 page documents highlighting the important findings. A list of “Further Reading” will provide sources of additional information and more detailed descriptions of the research. The briefs will also provide the practical implications of the findings. The Pastoral Risk Management (PARIMA) project will be the focus of the first set of briefs. In December 2001, the following nine research briefs are being released:

1. *Risk Mapping for Northern Kenya and Southern Ethiopia*, by Layne Coppock, Utah State University.
2. *Cattle Population Dynamics in the Southern Ethiopian Rangelands*, by Solomon Desta, Utah State University.
3. *Climate Forecasting for Pastoralists?*, by Chris Barrett, Cornell University.

4. *Pastoralists' Use of Markets*, by John McPeak, Cornell University.
5. *Livestock Pricing and Markets Performance*, by Chris Barrett, Cornell University.
6. *Livestock Trading and Trading Networks in Northern Kenya and Southern Ethiopia*, by Hussein A. Mahmoud, University of Kentucky.
7. *Income Diversification Among East African Pastoralists*, by Peter D. Little, University of Kentucky.
8. *Pastoral Social Safety Nets*, by Cheryl Doss, Yale University.
9. *Micro-Finance in Northern Kenya: The Experience of K-REP Development Agency (KDA)*, by Sharon Osterloh, Cornell University.

The research briefs are available at the Global Livestock CRSP web site or by contacting the Management Entity of the Global Livestock CRSP, University of California—Davis, Davis, CA 95616. Email: glcrsp@ucdavis.edu 

RFP for Central Asia Released

The Global Livestock CRSP is seeking proposals for projects focused on the livestock sector and environment of Central Asia (Kazakhstan, Kyrgyzstan, Uzbekistan and Turkmenistan). Proposed projects should address the following problem models: 1) Recommendations for policy, information and technology that improves access to markets relevant to the livestock sector; 2) Effect of carbon credit trading scheme on rural economies, land use, production systems and biodiversity conservation.

Small grants will be funded at up to \$50,000 for the total grant period (not to exceed Sept 2003). Proposals should address all or portions of the problem models as described. Graduate students as well as faculty at US Universities are encouraged to apply. The proposal must be submitted as a collaboration between US investigator(s) and Central Asian investigator(s) and their institution(s).

The GL-CRSP is interested in identifying projects and researchers whose scientific and collaborative skills can advance the development of the region. The success of these small grants is a means to identify successful scientists, projects and collaborators to be considered for larger CRSP funding opportunities in the region.

For more information, please visit the GL-CRSP web site at:

<http://glcrsp.ucdavis.edu>

Child Survival Funds Initiate New Intervention Study with Under-Fives

The GL-CRSP Child Nutrition Project team has undertaken a new smaller-scale research intervention study focused on children under the age of five. The study has been made possible through Child Survival add-on funds from USAID. Like the earlier GL-CRSP intervention study, the research will test the role of animal source foods in child development but for younger children. Children in the under-five age group, although harder to reach for a feeding intervention study, nonetheless, because of their rapid rate of growth and development, might yield more dramatic responses after a relatively shorter period of feeding such as 9-12 months.

Accordingly, younger siblings of the school children who participated in the earlier intervention study have been enrolled in a controlled feeding intervention study. The design is simpler and the sample half that of the schooler study. The control group, rather than receiving no feeding, will receive a plain local porridge. The intervention groups are as follows:

- addition of milk to the porridge.
- addition of meat to the porridge
- plain porridge

The basic porridge is a mixture of finger millet maize flour, local vegetable oil and sugar. All three groups are to receive the same number of kcals (energy) per kg.

The volume of porridge fed will be increased every 2 months as children's requirements increase as they grow. The feeding is to supply 20-25 % of the child's daily recommended energy intake. Feeding will be carried out at 17 feeding sites so that no mother or caretaker has to walk over 15 minutes to a feeding site. All leftovers will be weighed and recorded.

The randomization of children into their feeding group will take place at the feeding site level, each



The younger siblings of these schoolers are now part of a new intervention study which will test the role of animal source foods in the development of children under five. Photo by Charlotte Neumann.

site receiving the same type of feeding. The outcome measures will be physical growth, cognitive function (using the Bayley Tests), anemia and morbidity. All children will be dewormed, treated for severe anemia and for positive malaria tests. Malaria prevention education will be given and a commonly based bed-net program may be initiated for all the children.

Initiation of feeding and data collection will commence in November. The baseline data collection is now being completed, entered and examined for comparability of the groups. ❗

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A Look at the Arid Lands Resource Management Project

by Mr. Mohamed Boru Halakhe, Drought Management Officer, ALRMP, Marsabit

The Arid Lands Resource Management Project (ALRMP) in Kenya was born out of the lessons learned from past pastoral development projects initiated in the 1960s, 70s, 80s and 90s. All of these projects had mixed results that included failures and success stories. The major emphasis on all of these projects was range resource rehabilitation or improved management of grazing ruminants with the ultimate aim to maximize profits per livestock head or unit of grazing area. Infrastructural development included water improvements, road networks, development of central government delivery systems, human and animal health projects, and improving the capacity of technocrats to manage complex projects. The premise underlying all these projects was that the pastoralists were illiterate and irrational in their daily quest of meeting their immediate felt needs. They were assumed to be unaware and unconcerned about the primary and secondary resources their livelihoods were tagged to.

However, experiences of the latter years proved some of the underlying assumptions as being faulty in light of the cyclic production system in otherwise unstable environments. Later, research and development

initiatives were reoriented to incorporate a “human face.” Thus was born a pastoral development project that respects and accommodates the wishes, needs, and aspirations of the immediate target groups – the pastoralists – in a fragile ecosystem. Pastoral production systems have withstood the test of time and exposed the falacies of development projects designed by “elite” or “enlightened” practioners. Of course, we should not lose sight of the fact that the nostalgic and romantic pastoral lifestyle is at a crossroads as a result of multiplicity of factors – macro, political, economic, social, demographic, and environmental. Some of these changes require reorganization and reorientation of pastoral groups.

Overview of ALRMP Project Organization

The ALRMP is organized into four structural aspects: 1) National Support Unit (NSU); 2) District Support Unit (DSU); 3) District Steering Group; and 4) Community. The NSU plays an advisory role to the Kenya Food Security Steering group and Cabinet. The DSU is responsible for the overall management of the ALRMP in the District. It also serves as a linkage with policy makers on drought marketing

and mangement. The District Steering Group oversees overall project implementation in the District. The Community advises DSU on policy/legal aspect on project procurement and implementation. Within the Community group there are drought monitors and project management committees. These committees represent various user groups.

Project Components

Within ALRMP, there are three organizational components: drought management, livestock marketing and community development. The drought management component's objective is to minimize the vulnerability of pastoral communities to effects of droughts. The aim is to establish an Early Warning System (EWS) that:

- Incorporates traditional drought coping mechanisms
- Enhances EWS reporting systems
- Harmonizes stakeholder activities on EWS responses
- Initiates drought recovery initiatives
- Enhances natural resource management capacities of communities
- Strengthens capacities of pastoral communities to undertake alternate non-livestock income generating activities

- Strengthens livestock marketing/products
- Reduces incidences of resource use conflicts
- Coordinates stakeholder activities on drought management, live-stock marketing and other essential service deliveries.

The livestock marketing component is linking livestock marketing activities from the producer level to the mainstream economic system. The community development component is strengthening the capacities of pastoral communities to plan, implement,

monitor, evaluate and sustain their own micro-projects. Most micro-projects identified are drawn from interactions from communities through Participatory Rural Appraisal (PRA) training and Participatory Learning Approaches (PLA). Various strategies have been used to enhance community contributions towards the overall project costs – namely cash, food for work, and labour contribution. Even the current Poverty Reduction Strategic Planning (PRSP) strategy for

Kenya has followed the PRA/PLA themes in soliciting for community micro-projects.

Preliminary Results from Component Interventions

In the Marsabit District, an elaborate and functional District Drought Monitoring and Management Unit (DDMMU) is in place. An EWS is also functional and reliable. The EWS feeds into the National Secretariat and results are being shared among all stakeholders, both in-country and abroad. Community participation in EWS and drought monitoring and management in arid areas of the country is now a reality. Drought contingency plans for all key pastoral sectors are now in place for activation at the onset of droughts (i.e., Alert/Alarm/Emergency phases of the drought cycle).

Community projects in the district are also finding success. Capacities of pastoral communities to plan, manage, and sustain themselves have been enhanced as evidenced by scattered cases of success stories on various aspects of pastoral livelihoods in the Marsabit District. A community-run livestock marketing council is operational and it is a legal entity charged with enhancing livestock marketing activities in the districts, country, and abroad.

Other pastoral issues such as land tenure, conflict resolution, and

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The ALRMP and the GL-CRSP

Two Global Livestock CRSP projects are actively collaborating with the Arid Lands Resource Management Project. The GL-CRSP Livestock Early Warning System (LEWS) project has coordinated the location of monitoring households within the structure of the ALRMP monitoring system. Many of the site monitors in Northern Kenya are key people in the monitoring system within ALRMP. Information transfer has been emphasized in the working relationship, involving decision makers and advisors at all levels in ALRMP. Personnel in ALRMP have been providing feedback on how best to package LEWS 10-day warning reports where local people can best understand the information.

For the GL-CRSP Pastoral Risk Management (PARIMA) project, the ALRMP is an official counterpart for its Outreach Program in Kenya. Mr. Mahboub Maalim, National Coordinator of ALRMP, is the PARIMA contact person at the national level. District Drought Management Officers of the ALRMP in all project districts in Kenya are the contact points at the district level. PARIMA has certain access to the human and organizational resources of ALRMP to reach communities in the project area. Resources are coordinated whenever necessary to implement outreach activities jointly. This was done most recently in the Participatory Rural Appraisal (PRA) for the Rendile community in Kargi and in a cross border exchange visit for outreach partners from Ethiopia to Sololo, Moyale Kenya. Mohamed Boru Halake (author of the article above) and Godna Doyo (ALRMP, Marsabit) are members of the Outreach Review Panel which assists in the management of the PARIMA outreach program. 🌱🌱

EROS Collaborators Train GL-CRSP Researchers on Summer Field Visit

GIS and remote sensing specialists, Bradley Reed and Bruce Wylie, visited sections of north central Kazakhstan in late June as part of the GL-CRSP Livestock Development and Rangeland Conservation Tools (LDRCT) project. Reed and



Brad Reed inspects a Juniper bush on shrub-lands west of Aksu - Ayuly, Shetsky Raion. Photo by Bruce Wylie.

Wylie are with Raytheon of the U.S. Geological Survey, EROS Data Center, Sioux Falls, South Dakota (See page 10 for related article). They delivered equipment and supplies to researchers at the Barayev Research Institute of Ecology and Sustainable Development in Shortandy. Here they were able to observe several of the mobile

Kanat Akshaov of the Barayev Institute and Adam Wolf, UC Davis, put the finishing touches on an eddy correlation recent deployment near Shortandy. Photo by Bruce Wylie.

flux tower locations and also assist in the deployment of the two eddy correlation flux towers.

The use of mobile flux towers will improve spatial extrapolations of carbon flux estimates that will be made away from the towers using remote sensing and GIS data layers. These mobile flux towers are essential for documenting carbon fluxes on multiple vegetation communities and sites as well as calibration to the permanent Bowen ratio flux tower located on virgin prairie.

Reed and Wylie's primary objective of their visit was to train Alexander Nikolaenko (Sasha) from the Institute of

Ecology and Sustainable Development, Almaty on the collection of land cover ground truth data needed to develop accurate land cover maps from satellite data. All three men were able to meet with the World Bank personnel in Astana and visit their study area in the Shetsky Raion. They collected additional landcover ground truth points for the Landsat scene associated with that area as well.

The system of linking real time GPS locations with satellite imagery was immensely helpful in collecting accurate ground truth data in a short time. Nikolaenko will visit the flux tower locations in Uzbekistan and Turkmenistan in September to collect similar information. The necessary files will be forwarded to EROS so that landcover maps can be refined and improved in those areas as well. **END**

For more information on the LDRCT project, contact Dr. Emilio Laca, ealaca@ucdavis.edu.





PROFILE

Dr. Adiel Mbabu: SR-CRSP Alum at ASARECA

By Susan Johnson, Program Coordinator for the Global Livestock CRSP

One of the cornerstones and inherent strengths of the CRSP model is the long-term scientific relationships that are fostered between US faculty and host country scientists. Dr. Adiel Mbabu has experienced first-hand the benefits of CRSP training.

“The success of my career has depended greatly not only on the academic training obtained at the PhD level; but equally on the effective mentoring received from my longstanding professor and friend, Professor Mike Nolan of the University of Missouri, Columbia.” commented Dr. Mbabu.

Through Dr. Nolan, Lead PI for the sociology component of the SR-CRSP, Dr. Mbabu worked with a multi-disciplinary team of Small Ruminant CRSP researchers to develop and assess the viability of the dual-purpose goat production system in western Kenya. After receiving his PhD in rural sociology from the University of Missouri-Columbia, Dr. Mbabu became Resident Scientist for the SR-CRSP sociology project in Kenya.

Dr. Adiel Mbabu has been Technical Officer of Planning for the Association for Strengthening Agricultural Research in East and Central Africa (ASARECA) since 2000. In his position, he assists agricultural research networks,

projects and program in the 10 ECA countries to plan their respective agricultural research and development activities. Being part of the steering process of social change and development in the region is both a challenge and a privilege for Dr. Mbabu. He recognizes Africa will need a great deal of effort and imagination to pull out of its prevailing poverty, disease and despair.

“My training in Sociology of Development has been instrumental in offering leadership in linking agricultural research to social change and development in Kenya.” said Dr. Mbabu. “In so many ways I would say, the theoretical grounding I received gives me an appropriate perspective to take on every issue that confronts me; and this is the central focus of my research and development career.”

Over the years, he has seen

agricultural research projects shift from disciplinary pursuits, interested mainly in scientific findings, into endeavors focused on making a difference in people’s lives. One of the greatest challenges he faces in his present position is assisting in the management of a paradigm shift in agricultural research and development.

“We are all agreed that we need to link agricultural research to the development agenda in the sub-region;” said Dr. Mbabu, “but different countries and institutions are at different stages of awareness and preparedness of doing what it takes to accomplish this task.”

Dr. Mbabu credits his training through the Small Ruminant CRSP with giving him a sound understanding of the issues facing the agricultural sector and perspective to find innovative solutions to the problems confronting the region. 🐐🐷

Are you an alumni of the Small Ruminant or Global Livestock CRSP? We’d like to hear from you. The development of human capital continues to be a central component of CRSP activities. We’d like to find out more about the achievements of our past trainees. *Contact us at: gcrsp@ucdavis.edu or write The Global Livestock CRSP, University of California -- Davis, Davis, CA 95616.*

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NCA Policy Options Explored

difficulties for both pastoralists and wildlife. The NCA Authority which implements policy and manages the NCA, also recognizes that a human crisis is near. These issues became more critical last month when the Tanzanian government announced that cultivation by Ngorongoro Maasai will be banned entirely within the next 3-5 years. This pronouncement signifies a critical change in policy vis a vis cultivation within the NCA, and effectively eliminates an important economic alternative for pastoralists. In compensation for the ban, a new settlement area in the adjacent Loliando Game Controlled area will be opened up for Ngorongoro Maasai who wish to move and continue to combine cultivation with livestock as a livelihood strategy.

The GL-CRSP project was invited by the NCA Conservator to build on our previous work in the NCA and provide additional assessments of: 1) the possible environmental and economic effects of new development activities (improved livestock veterinary care and a restocking program); 2) the joint carrying capacity of the NCA for both livestock and wildlife; and 3) the effects of changes in policies on Maasai food security, and on resident and migratory wildlife. Mr. Victor Runyoro, Director for Research and Planning at

the NCA, spent two weeks in October, 2001 at the Natural Resource Ecology Laboratory at CSU, collaborating with the GL-CRSP team on the Integrated Assessment protocol for the NCA. A series of intensive meetings at NREL explored protocols for evaluating the trade-off effects of rising human populations, loss of cultivation options, and changes in livestock density and production, on pastoralists, wildlife, and ecosystem status. Important scenarios being explored with integrated assessment involve improving livestock production through increased veterinary services and better market infrastructure within the NCA. These options could compensate pastoralists for the loss of cultivation within the conservation area, but will require new development inputs, and does imply new policy directions for the NCA Authority.

This is a pivotal time in the management of the NCA. The land use and policy scenarios outlined above link complex patterns of livestock and wildlife ecology, spatial patterning of



GL-CRSP IMAS team members, from left, Randy Boone (Colorado State University), Victor Runyoro (Director for Research and Planning at the Ngorongoro Conservation Area), Shauna Burnsilver (Colorado State University) and Kathy Galvin (Colorado State University).

resources, pastoralists' household-level economic decisions, and NCA management strategies. These linkages are being explored in GL-CRSP integrated assessments through the SAVANNA and PHEWS computer modelling systems. SAVANNA and PHEWS, themselves linked, demonstrate possible effects that changes in livestock populations and cultivated area may have on pastoral well-being and herbivore populations. The Integrated Assessments will allow both the NCA and the wider Maasai community to weigh the effects of alternative land use and policy scenarios in the NCA. Preliminary results of the integrated assessments will be presented to NCA staff, NCA pastoralists, and Tanzanian policy makers in January 2002. ☛☛

For more information, contact Jim Ellis, jime@nrel.colostate.edu.

GL-CRSP Child Nutrition Project Holds Review Meetings

Stakeholders, project participants and other members of the international development community were recently invited to attend review meetings for the GL-CRSP Child Nutrition Project. Two meetings were held, one in Nairobi and the second in Embu, in order to ensure that decision-makers at both the Ministry level and community level could participate. The primary purpose of the meeting was to present the findings to date and generate discussion amongst participants.

Since the completion of data collection in March 2001 (Cohort I) and July 2001 (Cohort II), data analysis has been in progress. The impact of the differential feeding is being analyzed in regard to cognitive function, physical activity, behavior, growth and morbidity. The findings to date for Cohort I show a number of statistically significant findings favoring meat fed groups in a number of outcomes in comparison to the other intervention control groups.

Representatives of Kenya's Ministry of Health, Education and Agriculture, international NGO's, local universities, the private sector and USAID were invited to the review meeting in Nairobi on September 5, 2001. The meeting had a wide representation with nearly forty attendees. Presentations were well received, particularly by the Ministry of Education. The

findings stimulated much discussion. Dr. N. Bwibo, University of Nairobi and Co-PI on the project, Dr. Charlotte Neumann, UCLA and lead PI and Dr. Suzanne Murphy, University of Hawaii presided over the meeting.

The meeting in Embu convened on September 7, 2001. Schoolteachers, head teachers (principals), local chiefs, District level Ministries of Health, Education, and Agriculture and local NGO's were the primary participants. Dr. Montague Demment, Program Director for the Global Livestock CRSP was able to attend the second half of the meeting, to the delight of all present. The findings stimulated very lively discussion. The chiefs and head teachers and agriculture extension attendees expressed enthusiasm and willingness to organize the community and schools, in cooperation with the parents, to initiate school feedings. They plan to start researching and planning feasible and practical methods and activities to increase animal source foods in the diet of children. They felt that rabbit-rearing and consumption, fish farming, chicken raising, and other activities accompanied by nutrition education could become viable community activities relying mainly on their own resources. The meeting was presided over by Dr. Bwibo,



Dr. Nimrod Bwibo, University of Nairobi and Dr. Charlotte Neumann, UCLA preside over the Child Nutrition Review meeting.

Dr. Suzanne Murphy, Dr. Neumann and the Child Nutrition Project Staff.

Proceedings of the two meetings are being summarized for wider dissemination beyond the attendees. A more extensive meeting than the ones held to date, will be convened in June 2002 to share more detailed research findings as well as the broader topic of food based approaches to micronutrient deficiencies. A planning committee is being constituted to plan for this important meeting. ☛

For more information on the project, please contact Dr. Charlotte Neumann, University of California at Los Angeles, School of Public Health, P.O. Box 951772, Los Angeles, CA 90095. Email: cneumann@ucla.edu or Fax: 310-794-1805

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Effects of Land Cover Type on Carbon Flux in N. Kazakstan

because it uses the complex measurement systems as roving, instead of stationary, units.

The main objective of these measurements is to assess the variability of CO₂ fluxes across different vegetation types such as: 1) abandoned lands – previously cultivated lands for wheat production and left uncultivated for the past several years; 2) revegetated lands – those that are currently being used to grow crested wheatgrass (*Agropyron spp.*) for hay production; and 3) virgin lands – pristine, uncultivated lands where native vegetation grows. These types of land cover are representative of the majority of the agricultural land area of Northern Kazakstan, with exception of areas currently being used for wheat production. Twelve sites (3 vegetation types x 4 replicates) were identified for the roving EC measurements within the experiment station of the Barayev Kazakh Research Institute for Grain Farming near the town of Shortandy. Results from these roving measurements will be used for precise scaling-up of local CO₂ flux measurements to the landscape or regional level.

Two eddy covariance (EC) systems (Campbell Scientific Inc., Logan, UT) were deployed in Northern Kazakhstan and CO₂ flux measurements began

*A crested wheatgrass (*Agropyron spp.*) site that is being used for hay production. Photo by N. Saliendra.*



in early June 2001. The EC systems are being moved to a new site every few days in a rotation that will allow measurements in all land types several times during the season. Dismantling, transportation, and installation of the two EC systems takes about a day, and the CO₂ flux measurements in each site were obtained for at least two days. Roving measurements will continue

until November. Pending additional funding, these measurements will be done during winter and for another full year.

This project is funded through the USAID-Environmental Office, and complements the research activities of the Livestock Development and Rangeland Conservation Tools (LDRCT) for Central Asia. 🌱

USGS International Programs at EROS

The USGS International Programs at the EROS Data Center is involved in several projects that assist the development of an understanding of the importance of carbon sequestration in soil and biological sinks. These projects include feasibility studies among smallholders in Senegal, the integration of remote sensing with carbon flux measurements to estimate sequestration in Central Asia grasslands and during land reclamation, and sequestration in agroforestry applications in Cameroon. The work being done in Central Asia is part of a collaborative project between the Global Livestock CRSP Livestock Development and Rangeland Conservation Tools project, USDA Agricultural Research Service and EROS. (See page 6 for related article). More information on the USGS International Programs at the EROS Data Center can be found at their web site:

<http://edcsnw3.cr.usgs.gov/ip/index.html>

Smallholders' Manual for Kazakhstan Published

By Mary F. Dalsin and Emilio A. Laca

A manual for smallholders' was published in Russian this summer 2001 in Kazakhstan with funding from the International Livestock

Research Institute and in collaboration with the Livestock Development and Rangeland Conservation Tools Program of the GL-CRSP. The manual provides smallholders with simple and brief forage management and animal feeding

information appropriate for Kazakhstan. Specific topics covered in the manual include rangeland and forage resources, breeding and selection for sheep and goats, reproduction, wool processing, and veterinary services. A multidisciplinary team of nine Kazakh scientists reviewed and summarized information on range management and forage and feed utilization for the manual. A Kazakh version of the manual is currently being prepared. The manual has already been translated to English for dissemination to and review by a wider scientific audience.

Publication of the English version, edited by Dr. Emilio Laca (LDRCT PI), is forthcoming.

The change from centralized decision making and large production units to individualized decision making and smallholder production units requires

information that is specific to their needs. Smallholders face a completely new set of constraints including lack of

capital and machinery, limited inputs and constrained marketing channels. In addition, limited extension services are available to aid smallholders during the adjustment to new production conditions. By

including basic information such as feed value and animal requirements as well as strategies to cope with current conditions, the manual provides a basic source of information that producers will be able to consult as needed for current and future conditions. At a time when extension services are not yet available, and the soviet agricultural technology infrastructure is no longer in place, this manual aims at putting information in the hands of smallholders for better agricultural decision-making.

The manual is being distributed to smallholder producers through several agricultural institutes in Almaty including the Sheep Breeding Institute, Institute of Feed and Pasture, Livestock Breeding Institute and the Baraev Institute of Grain Farming. For copies of the



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The ALRMP

alternative asset diversification have taken centre stage in the national development agenda.

Finally, ALRMP is in a transitional phase where all critical and ongoing development initiatives need to be documented and an honourable exit strategy needs to be instituted NOW. The project is in its final phase unless the donor(s) graciously gives it an extension.

Conclusions

The ALRMP has played a pivotal role in lobbying on behalf of Kenya pastoralists on policy and development issues commensurate with the aspirations, needs, and concerns of these groups that inhabit 80% of Kenya's land area. More areas need to be explored and more good results must be realized, but this depends in large measure on key players at the macro-policy level, both in Kenya and within the donor community. We hope such key players have the patience and grace – like the pastoralists themselves – to await realization of impact in an otherwise arduous and fragile development world. 🇰🇪

publication, please contact the editor – Nurlan Malmakov – at nurlan1@nursat.kz or c/o Kazakstan Institute for Sheep Breeding, Mynbaevo Village, Almaty, Kazakstan 483174. 🇰🇪

Human Capacity Building: An Update on the Child Nutrition Project

Human capacity building has always been a priority for the GL-CRSP Child Nutrition Project. Below is an update on the activities of past and present staff and researchers.

The project Nutritionist **Rosemary Ngaruru** obtained her MSc in Public Health Nutrition in September 2001 from the London School of Hygiene and Tropical Medicine. In the early stages of the Child Nutrition Project, Mrs. Ngaruru was seconded to the project by the Kenyan Ministry of Health. She was instrumental in the development of recipes for the controlled intervention study and went on to take full responsibility for the central

kitchen and served as community liaison. Data from the project was used for analyses for her Master's thesis. She has returned to work with the project as a senior field nutritionist. The title of her dissertation is "The Effect of Seasonality on Growth and Dietary Pattern of School Children."

Monika Grillenberger, a former project nutritionist and data manager, continues here studies in the doctoral program at Wageningen University, Holland. She will complete her doctoral studies in one more year.

Constance Gewa, MSc, who just finished her duties as the Field Coordinator and Nutritionist, has started her doctoral studies at the UCLA School of Public Health in Public Health Nutrition.

Jonathan Sickmann, PhD, has just completed his doctoral studies and received his PhD in July 2001. He carried out the bulk of the biochemical analysis for the first two years of the project and his doctoral dissertation was based on these data.

All of the above have obtained scholarships and have been partly supported by GLCRSP and by leveraged funding by the Principal Investigator.

Erin Reid, a doctoral student in Nutrition at UC Davis has


spent a month in Embu in both 2000 and 2001 supervising the collection and processing of blood samples. She also has carried out some of the micronutrient analyses at UC Davis.

Lisa Rogers, a nutrition post-doctoral scholar from UCLA is now in Embu to help implement the Child Survival project (see page 3 for related story). She is serving as an acting field coordinator temporarily.

Dr. Ana Zubieta, a post-doctoral scholar at UC Davis is completing the analyses of the remaining blood specimens from the schooler study. She also has been contributing her nutrition expertise and carrying out nutrition assessments for the GL-CRSP PLAN project in Latin America.

Minnie Kamore, MA, the field psychologist is working on the current study which focuses on children under-five.

Field Nutritionist, **Susan Nyerere**, MSc, from the Applied Nutritionist Program, University of Nairobi, has just joined the project.

Professor Nimrod Bwibo, Dr. Charlotte Neumann, Dr. Suzanne Murphy, and Dr. Lindsay Allen as well as Dr. Marion Sigman and Dr. S. Whaley all remain with the project as before. 

Ruminations

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