



Eleven Years of PARIMA Activities in North-Central Kenya: Impacts on Egerton University and Neighboring Communities

Abdillahi Aboud¹, Mark Mutinda¹, Stellamaris Muthoka¹,
and D. Layne Coppock²

¹Egerton University; ²Utah State University
Pastoral Risk Management Project

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The PARIMA project was created to improve the well-being of pastoralists and agro-pastoralists in northern Kenya and southern Ethiopia via risk-management research, training, and outreach. The project began to collaborate with Egerton University's Department of Natural Resources in 1998 and many joint activities were undertaken over the next 11 years. Among them were regional household research on pastoral risks and their management, a training program for Egerton teaching staff to obtain post-graduate degrees, facilitation of Egerton faculty and staff to attend professional meetings, and provision of computer hardware and software that led to the creation of a GIS teaching and research laboratory at the Njoro campus. One of the most significant impacts from the project, however, has been the recent emergence of participatory action research that has quickly led to positive impacts on the well-being of some agro-pastoral communities in Baringo District. The approach has also affected the academic culture in Egerton's Faculty of Environment and Resource Development (FERD). In summary, this long-term relationship forged by PARIMA has been based on the exchange of knowledge, methodologies, and technology. It has inspired a new vision at Egerton that focuses more on the use of practical research to directly engage rural communities and change lives.

Background

The Improving Pastoral Risk Management on East African Rangelands (PARIMA) project of the GL-CRSP was created to improve the well-being of East African pastoralists and agro-pastoralists using risk management principles. This involved research to discover new knowledge pertaining to risk, training of students and community members, and use of active outreach to facilitate the timely application of new information. Risk management can help people better buffer themselves against system shocks and create new economic opportunities. In the context of East African pastoralism, risk management can positively contribute to wealth conservation, reduction in conflict, and improved food security. Risk-management interventions may include diversification of income and assets, improved use of information, and increased access to external resources.

The natural resources focus of Egerton University primarily serves the Baringo District of north-central Kenya. Baringo has endured decades of natural resource degradation and high rates of human population growth. Traditional systems of natural resource management have broken down long ago. Provision of food relief has been common for several decades, and extreme poverty is pervasive. Many development organizations have failed to arrest the downward slide in the human condition here.

The PARIMA project began to collaborate with Egerton University's Department of Natural Resources in 1998. A number of activities were then undertaken during the next 11 years that have affected the university and neighboring

communities in Baringo District. Here we summarize these activities and reflect on major achievements.

Summary of Activities and Achievements

Regional survey research. Work began with regional household research on risks affecting pastoralists. Using a survey approach, studies were initiated in 11 sites in northern Kenya and southern Ethiopia and carried out over several years. Some of these sites were in the Baringo and Samburu Districts of north-central Kenya, in closer proximity to Egerton University. Others were in the Marsabit District as well as on Ethiopia's Borana Plateau. The survey began with a baseline conducted in March, 2000. Three hundred and thirty (330) households were engaged in the survey. Individuals were interviewed quarterly from June, 2000, to June, 2002. Numerous risk-related variables were in the surveys, including household socio-economic characteristics (such as income, education, etc.), livestock assets (their status, productivity, market interactions, losses to drought and disease, etc.), other aspects of livelihoods, and the types, nature, and exposure to risks as related to climate, insecurity, disease, etc. Other research modules were fielded to supplement the main survey research. A full description of the approach, codebook, and data are available online (http://aem.cornell.edu/special_programs/AFSNRM/Parima/projectdata.htm).

An important impact of the regional household survey has been in terms of providing baseline data which have been

GLOBAL LIVESTOCK COLLABORATIVE RESEARCH SUPPORT PROGRAM

UNIVERSITY OF CALIFORNIA - DAVIS ■ 258 HUNT HALL ■ DAVIS, CALIFORNIA 95616 USA

PHONE 530-752-1721 ■ FAX 530-752-7523 ■ E-MAIL glcrsp@ucdavis.edu ■ WEB glcrsp.ucdavis.edu

used by NGOs in their efforts to introduce interventions and for planning long-term development projects for communities. Another significant user of these data is a new project entitled "Natural Resource Management and Biodiversity Conservation in the Dry Lands of Eastern and Central Africa," funded by the USAID-sponsored Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA). This research will analyze the socio-economic and biodiversity characteristics in northern Kenya and southern Ethiopia and map them as one means to attract development attention towards pastoralism and the dry lands. We anticipate that considerable new information will emerge from this research that will continue to inform training objectives and curriculum design at Egerton University. Equally important is the fact that availability of baseline data offers opportunities for researchers to avoid duplication of past work and wasting limited resources.

Egerton staff development. While Egerton was minimally involved in the main PARIMA survey research, through the launch of other parallel survey work in Baringo and Samburu Districts, the Faculty was able to develop a number of post-graduate degree projects. These projects constituted a key component of PARIMA capacity building for university staff in the Department of Natural Resources. Five Egerton teaching staff received research-based, post-graduate degrees overall, with four at the master's level and one at the doctoral level. All of these trainees were promoted internally to lecturer or assistant lecturer positions at Egerton. Three of the four master's students have subsequently enrolled in doctoral programs at Egerton, Colorado State University (USA), and the University of Witwatersrand (South Africa).

Five other post-graduates were matriculated through the program who were not Egerton staff. These included two Ethiopians and three Kenyans. Funds from PARIMA and Egerton supported these students and thus enhanced the mentoring opportunities for Egerton faculty. The students received four master's degrees and one doctoral degree. One of the master's students is now completing a Ph.D. in Norway and will begin an academic post at an Ethiopian university. The others have subsequently done local consulting or taken professional positions with international NGOs, FAO (in Sudan), and at Kabarak University in Kenya.

Topics of theses and dissertations have been varied, but in general they focused on social science or human ecology. They included themes such as conflict management, influences of formal education and gender on risk management, livelihood diversification, viability of indigenous institutions, livelihood risks as related to natural resource degradation, prospects for natural resource rehabilitation, and some issues pertaining to refugee populations residing in pastoral areas. Overall, work from the theses and dissertations has been turned into five publications in peer-reviewed outlets. Several other

manuscripts have been recently submitted to peer-reviewed journals. Two former students also won small educational grants.

In addition to degree-based training, other forms of non-degree training were pervasive. Egerton faculty and staff were supported, for example, to attend numerous conferences and present oral papers and posters. Egertonians were privileged to attend the International Rangeland/Grassland Congresses in Townsville, Australia (1999), Durban, South Africa (2003), Dublin, Ireland (2005), and Hohhot, China (2008). Sponsorship was also provided for attendance at GL-CRSP meetings in Washington DC (2002) and Naivasha, Kenya (2009). These experiences, overall, have instilled a heightened sense of professional connectedness and confidence among departmental participants. Finally, Egerton faculty and staff gained experience hosting a study-abroad experience for six American students, both undergraduate and post-graduate, in June and July of 2007. Egerton faculty and staff collaborated with American faculty to create and implement a field course focused on the varied management and development challenges found at several adjacent Rift Valley lakes (Naivasha, Nakuru, and Baringo).

Technical capacity building: GIS research and teaching laboratory. Besides staff development, the PARIMA project has also supported the department's academic mission by providing equipment including computers, an LCD projector, a scanner, GPS units, and digital cameras. But the most significant aspect of technical capacity building has been the establishment of a Geographical Information System (GIS) research and teaching laboratory within the Faculty of Environment and Resource Development (FERD). Beginning in 2002, PARIMA began gradually procuring computer hardware and paying for an Egerton instructor to receive advanced training in GIS and remote-sensing techniques through a short-course in Nairobi. From a small office space housing 12 computer work stations, the GIS facility has grown to a new, fully renovated 1,800 square-foot room that can accommodate up to 50 work stations, with full-time attendants assigned to oversee the lab.

Today, the lab is used to train people on GIS and remote sensing methods, general computer literacy, and in the use of statistical analysis programs such as SPSS and SAS. The lab is also fully utilized for literature and data searches as well as manuscript preparation. It is hoped that the lab will eventually evolve into a "Regional Center of Excellence in GIS and Remote Sensing for East Africa." Since 2002 the GIS lab has spurred collaboration among five academic departments at Egerton. To date, the number of faculty or staff receiving professional training in the lab has been 25. As of December 2009, 670 post graduate and 1,910 undergraduate students have completed courses in the facility.

Participatory action research. Perhaps the most innovative change at Egerton that has been derived from the PARIMA project has been the recent emergence of participatory action research (PAR), a methodology forming the foundation for the identification of priority problems and potential solutions in rural areas. In just two years, the PARIMA PAR - combining research and outreach - has had positive impacts on the livelihoods of several agro-pastoral communities in Baringo District, and it is also beginning to affect Egerton academic curricula.

PAR, in general, differs from classical research in that partnerships for problem solving are developed among researchers, community members, and development agents. Classical research is often top-down; the issues are conceived by the researchers, information is extracted from communities, and work is published with the hope that real-world problems will be solved as a result. The reality is that connecting such research to real change on the ground is difficult, especially in situations where extension support is lacking and where there are few incentives for researchers to carry research findings all the way to result in demonstrable impact. With participatory approaches, communities and researchers jointly discover problems and may even collect and interpret data together. Funds are gathered to help communities solve the problems in an iterative process. Ultimately, research can then tell the overall success story. The transaction costs of participatory action research can be high (Coppock et al., 2009), but researchers gain by knowing that their efforts have indeed led to tangible impacts in addition to the publications and conferring of academic degrees.

The PARIMA project first pioneered the use of PAR among the semi-settled pastoralists of southern Ethiopia. The approach is founded on the value of collective action for helping remedy some of the problems of the rural poor. The value of collective action in a rangeland setting was first discovered by PARIMA among women's groups in northern Kenya back in 2000. Cross-border tours were used to diffuse the ideas to Ethiopian women, and this ignited a wave of change across the Borana Plateau. Impacts of this work are now well documented—the lives of thousands of Ethiopians have been improved and the project is poised to tell the whole story (Tezera et al., 2008; Coppock et al., 2009).

Key PARIMA team members who made this process work then came to Kenya in 2006 to train local communities and Egerton staff in the PAR methodology. Egerton researchers embraced the approach. Details regarding the application of PAR in Baringo, Kenya, have been previously summarized by Mutinda et al. (2007). In short, an interdisciplinary faculty team identified two groups for research representing the Tugen and Il Chamus. Local entrepreneurs were then recruited and trained, tours were conducted for Baringo entrepreneurs to observe peer successes at nearby Mwingi

District, and livelihood diversification schemes in Baringo were initiated and monitored. Participants from the two groups implemented the activities (Mutinda et al., 2007). Overall, the PARIMA project contributed 21% of initial costs while the communities contributed the balance. Most of the activities only required a short period of time to observe benefits. The success of the groups has, in turn, attracted other participants and outside funding sources, including the USD 359,352.00 award associated with the previously mentioned project supported by ASARECA.

The key principles in PAR are based on re-invigorating community hope and ambition, linking producers to markets while adding value to their products, promoting financial sustainability via micro-finance interventions, expanding the numbers of participants through peer-to-peer learning, and simply building human capacity via training initiatives. Prior to implementing this new approach, these communities were fatigued and irritated by the surveys which were rampant in Baringo District. They felt that the survey approach yielded no benefits for them. With the new approach, the communities have experienced a form of physical and spiritual renewal. The Egertonians who have been involved in this process have also been "renewed." First and foremost, it is up-lifting to see practical outcomes from professional efforts.

Practical Implications

Overall, the Department of Natural Resources at Egerton University has been fundamentally changed through its partnership with the PARIMA project. The institution's capacity to conduct innovative, impact-generating research and teaching has been greatly expanded both through financial and technical support of faculty and staff, and through the provision of resources and equipment. Yet the success of the PARIMA-Egerton collaboration is in part due to PARIMA's initial impact on pastoral and agro-pastoral communities through the innovative and effective PAR methodology. PARIMA's collective action achievements in southern Ethiopia enabled and inspired the adoption of participatory action research by Egerton, and Egerton was then able to successfully replicate the methodology in Baringo. The PAR methodology can enhance academics as it leads to a new body of enquiry providing a more efficient and useful alternative to the household survey approach. Rather than just speculate about the practical implications of research, real-world outcomes provide hard proof for documentation. A continual process of human development can now be observed and studied with opportunities to monitor and redress problems as necessary. Furthermore, the approach has the potential to constitute a development model, where processes can be learned and researched effectively, as initial baseline surveys are used by the Egerton team to assess the impact of development activities considering the level of resource mobilization and

degree of livelihood diversification. In summary, this long-term relationship forged by PARIMA has been based on the exchange of knowledge, methodologies, and technology. It

has inspired a new vision at Egerton that focuses more on the use of practical research to directly engage rural communities and change lives.

Further Reading

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About the Authors: Professor Abdillahi A. Aboud is a senior faculty member in the Department of Natural Resources at Egerton University, Njoro, Kenya. Email: aboud.egerton@gmail.com. Mr. Mark N. Mutinda is a doctoral student and lecturer in the Department of Natural Resources at Egerton University. Email: lnmutinda@yahoo.com. Stellamaris K. Muthoka is a doctoral student and lecturer in the Department of Human Nutrition and Pre-Clinical studies at Egerton University. Email: skaveni@yahoo.com. Dr. D. Layne Coppock is an Associate Professor in the Department of Environment & Society at Utah State University, Logan, USA. Email: Layne.Coppock@usu.edu.

The GL-CRSP Pastoral Risk Management Project (PARIMA) was established in 1997 and conducts research, training, and outreach in an effort to improve welfare of pastoral and agro-pastoral people with a focus on northern Kenya and southern Ethiopia. The project is led by Dr. D. Layne Coppock, Utah State University, Utah State University, E-mail: Layne.Coppock@usu.edu.



The Global Livestock CRSP is comprised of multidisciplinary, collaborative projects focused on human nutrition, economic growth, environment and policy related to animal agriculture and linked by a global theme of risk in a changing environment. The program is active in East and West Africa, and Central Asia.

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