



Afghanistan PEACE Project

Reducing Risk for the Kuchi People



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Afghanistan Pastoral Engagement, Adaptation and Capacity Enhancement (PEACE) Project

Annual Report

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Overview

The Afghanistan PEACE Project has aimed to reduce social and economic risks for nomadic herders and promote the development of the extensive livestock sector through:

- Introduction of new range management, production and marketing technologies
- Collaboration in the development and adoption of new rangeland policy
- Resolution of land access issues through conflict resolution efforts
- Capacity development within the Ministry of Agriculture, Independent Dept. of Kuchi, and Kabul University

Development of Livestock Range Management and Marketing Technologies

- Provides regional assessments of forage conditions for government and other organizations to react
 - Early warning improves marketing options and reduces likelihood of environmental impacts
 - Nutritional profiling technology allows assessment of forage quality for maintaining/improving herd health and condition
 - Market information system provides easy access to price and volume data to increase fair market transactions



Conflict Resolution

- Develop a conflict resolution strategy for Kuchi herders and build capacity within the Dept. of Kuchi for solving problems peacefully
- Early warning and other management information will not help Kuchi if they cannot access important rangelands

Capacity Building

- Ministry of Agriculture – Rangeland Department
 - Long-term field training in LEWS methods (4.5 months per year; 3100 person-days of training)
- Ministry of Agriculture – Animal Husbandry Dept.
 - NIRS Laboratory set up and training for fecal scanning underway (1490 person-days training)
- Independent Dept. of Kuchi
 - Multiple conflict resolution trainings for 169 Kuchi leaders from 31 provinces (3265 person-days of training)
- Internships for 34 University students during sheep and goat feeding trials
- Trainings delivered to students at Kabul University regarding vegetation sampling methods, GPS technology, feeding trial research and design



Achievements (as of June 2010)

- Contributed to the development of the Rangeland Law on behalf of herders
- Rangeland Surveys conducted in 15 Provinces (includes important summer areas).
- Near completion of development of nutritional profiling equation to be used to monitor the diet-quality on Afghanistan's rangelands.
- Kuchi leaders from 31 Provinces being trained in peace and negotiation methods

- Facilitate monthly meetings of Kuchi leaders in 13 Provinces (these meetings serve as hubs of dissemination for all our information)
- Over 300 Kuchi and non-Kuchi leaders trained in joint workshop
- Development of e-learning modules for nutritional profiling technology



Additional Points

- Most important issues for herders are insecurity, land conversion, and access to public lands
 - Commanders, powerful people, criminal activity and insurgent activity continue to be a source of risk for herders
 - Land conversion has reduced rangeland and eliminated travel corridors for movement
 - Conflict over access rights to grazing lands plague the post-war herders

Government agencies are attempting to assist their people by implementing monitoring and warning systems. Thus, we are working to institutionalize the Livestock Early Warning System, nutritional profiling system for rangelands, and a Livestock Market-Price information system within MAIL.

Highlights of the past year

Institutionalizing the Livestock Early Warning System

In continuation of the efforts by the PEACE project to institutionalize a Livestock Early Warning System (LEWS) Program in Afghanistan, PEACE staff members conducted a 6-day training for Ministry of Agriculture, Irrigation and Livestock staff on data entry and plant modeling via web-based programs owned and managed by Texas A&M University (TAMU). This training follows extensive field training exercises over the last 4 years (2007-2010), with all trainees having participated in the field training exercises.

The training involved data entry into PHYGROW and PHYWEB programs, two interactive programs developed and maintained by TAMU for the benefit of LEWS users around the world. The data entry exercises covered site, soils, plants, plant communities, grazer preference and grazing profile data specific to sites surveyed in 2009. To facilitate this effort, a training manual was developed for Afghanistan and translated into Dari. The manual was accompanied by a range of data compiled from the 2009 field survey sheets, web research, and downloaded from TAMU's new interactive web site for Afghanistan. The team entered the data in teams of two, with each team member sharing in the data entry and data reading responsibilities. The data specific to plant species involved further training in plant parameterization. Plant parameterization entails entering data specific to the individual growing requirements of each species, such as temperature (base, suppression, optimum), leaf area index, rooting depth, above ground biomass and seasonal growth behavior.

Given the lack of adequate training in the past, specifically in the area of plant biology, this portion of the training took significantly longer than anticipated. Understanding TAMU's new interactive website took some time as well given the trainees limited experience with using web-based technology. The trainees did succeed in completing the data entry training portion with an adequate understanding of the process and methods used. It is expected that with further guidance, they will be able to follow the data entry process with little difficulty.

The part on plant modeling also went well, despite the difficulties encountered. These included a lack of understanding in modeling in general due to the lack of training in this area in the past; again, a lack of understanding of plant biology which lead to confusion on how to adjust certain parameters in order to better fit

the model; and a lack of understanding of soil science which also facilitates an understanding of how and where to make adjustments in order to better fit the model.

Assessing Nutritional Quality of Rangeland Forage for Sheep and Goats

In continuation of the efforts by the Afghanistan PEACE project to implement nutritional profiling of free ranging livestock via Near infrared Spectroscopy (NIRS) technology applications, the Afghanistan Peace project conducted a 5-day training on NIRS calibration equation development using the GRAMS software. This training was the third of three trainings in the use of NIRS technology for predicting dietary composition of rangeland forages for free ranging livestock. All of the participants had either attended the previous training in 2008 or participated in an interactive E-learning training exercise given in January 2009 by PEACE and MAIL staff.

The training covered all aspects of calibration development including: 1) importing NIR spectral data and laboratory chemical data into the GRAMS software to be paired together to create calibration data sets; 2) experimental design and applications; 3) statistical review; and 4) development of fecal NIRS nutritional profiling equations. The participants first worked in groups and then on an individual basis to create and test the efficacy of the equations. The strongest calibration equations were chosen and used to predict unknown samples. The predicted results were evaluated and found to be within acceptable ranges of the calibration data and a control measure.

Upon completion of the equation development and evaluation portion of the training, participants discussed and covered topics on nutrition and how to apply the results to decision making and risk management for livestock production. The participants seemed eager to continue on in the study of this technology and the consensus was that this application will be a very useful tool to improve the management of livestock and rangelands in Afghanistan. The participants also expressed much interest in the other applications of the technology as it relates to the evaluation of quality characteristics of forages and feedstuffs such as hays, legumes, concentrates, and mixed rations for both livestock and poultry. Another area of interest was the use of the technology to evaluate commodities, dairy products, eggs, and meat intended for human consumption. It was explained that the technology could be used for all of these applications as well and, that the same procedures and steps learned for fecal nutritional profiling can be applied to the other areas of interest. The technology is widely used to evaluate products in both the human and livestock food and feed agro-industry all over the world. What is lacking currently in Afghanistan, however, is the ability to generate the chemistry required for equation development due to the lack of a wet chemistry lab.

Rangeland Classification Map

To assist the MAIL in the management of rangelands, a country-wide classification map was developed. This classification is based on the field work we have been able to accomplish in 15 central and northern provinces and an extensive review of satellite images for the remainder of the country. Rangelands are being classified according to their plant species composition, elevation, moisture, and temperature regime. One of the major benefits of the classification is that it will help policy-makers to prioritize rangelands that should be considered for closer management such as restoration or access control.

Restoration of herbarium at Kabul University

It was believed that Afghanistan lost much of its natural heritage during the reign of the Taliban when many of the government's records and collections were destroyed. Recently, however, a herbarium with almost 25,000 specimens was discovered in the Faculty of Science, Department of Biology at Kabul University. The survival of this herbarium was due to the dedication of one professor who slowly and secretly transferred the entire collection to his home to prevent its destruction by the Taliban. After the fall of the Taliban, the collection was returned to the University and put in storage due to the lack of funding to restore it.

When the collection was discovered in March 2009 by the PEACE Project, it was in extremely poor condition due to its exposure to weather and dust and its having been moved several times to protect it. Upon closer examination, however, it was determined that most specimens were still in good condition and could be restored with little difficulty. It was also determined that given the number and variety of specimens in the collection, it would serve as the best baseline information available for Afghanistan in the world, once digitized.

Conflict Resolution Skills for the Kuchi People

The PEACE Project has been delivering conflict resolution skills to Kuchi leaders since early 2007. This past year the Advisor on Tribal Affairs to President Karzai, Wahidullah Sabawoon, again was interested in having us address specific conflicts using those same techniques but in workshops where both Kuchi and Hazara were present. One region the Government specified for joint workshops was Wardak and Ghazni Provinces. Fighting between Kuchi and Hazara villagers over land access rights had resulted in many fatalities over the previous few years. We were fortunate enough to receive additional funds from the UC Davis’s GL-CRSP to support this effort.

Our conflict resolution program was implemented through a local peace-building NGO called Sanayee Development Organization (SDO). SDO was capable of delivering the skills and messages to fellow Afghans in a way that ensured they matched the context and culture of the people. With the assistance of Wahidullah Sabawoon’s office we initiated a series of workshops that were attended by both Kuchi and Hazara leaders. Selected leaders represented the communities that were involved in the land disputes. The workshops were an attempt to produce useful dialogue between the leaders as a first step towards resolving problems on the ground.

Facilitating provincial Kuchi *shuras* held by provincial directors of the Independent Department of Kuchi (IDK) has been a very important effort related to conflict resolution and the development of a vertical communication network that ties the government to the people. We would like to continue with this effort throughout the summer and hope to find funding to expand it to include all provincial Kuchi *shuras*. An example of the kinds of conflicts and issues the *shuras* are dealing with on a monthly basis was tabulated from their monthly reports in Table 1 and 2. Monthly reports from *shuras* are submitted to the IDK and the PEACE Project. They help IDK and us to gain a better understanding of the issues faced by extensive livestock producers and to help evaluate the effectiveness of specific Provincial Directors.

Table 1
Conflicts Solved in Provincial *Shuras* in last 12 months

	Individual	Family	Clan	Inter-Ethnic
Personal	75	3	34	11
Land Access	0	0	19	12
Land Tenure	0	0	0	12
Rangeland conversion	0	0	0	7
Total	75	3	53	42

Table 2
Other Topics commonly discussed by *Shuras* in last 12 months

	Individual	Family	Clan	Inter-Ethnic
Building schools	0	0	18	0
Consensus Building	0	0	23	45
Elections	39	0	0	0
H1NI Virus	26	0	0	45
Total	65	0	41	90

Economic Diversification for the Kuchi People

The PEACE project initiated a pilot effort to increase economic diversification for Kuchi in 3 provinces; Kunduz, Jawzjan and Balkh. The objective of the pilot was to enhance economic diversification by building the human, social and financial capital of Kuchi, improving marketing, and promoting value addition to their livestock and livestock products. The demand-driven interventions are intended to help empower Kuchi herders to better create and conserve wealth, embrace business opportunities and diversify their investment portfolio. It is anticipated that these interventions will enable them to cope more effectively with drought and chronic problems related to an increasingly restricted access to natural resources, and with resource-based conflicts. The interventions should also help to integrate Kuchi into Afghan society and provide them with an alternative to insurgent-associated activities.

Kunduz was one of the pilot project sites. The major economic activities of the Kuchi in Kunduz are livestock production and opportunistic farming. Sales of milk and livestock which are subject to seasonal variability in terms of volume and prices constitute major sources of cash income for the herders. They have a poorly diversified economy because most of their income is dependent on successfully raising livestock. Similar to the Kuchi in other parts of Afghanistan, in Kunduz they too are subject to drought, war, loss of grazing resources and insecurity. The illiteracy level among the Kuchi in Kunduz is greater than 90%. In a limited Participatory Rapid Assessment (PRA) conducted as part of a training exercise from July 5-12, drought, water shortage, insecurity, conflict, human disease, illiteracy, animal feed, and poor farming equipment were claimed as major problems. When prioritized, occurrence of conflict, insecurity, drought, water shortage, and human disease were the most important risk factors and subsequently require immediate attention by development programs. The same type of assessment was made for the other 2 provinces as well.

Collective Action Group and Rural finance

Following the training the PEACE team had several meetings with the Kuchi leaders from Kunduz, Jawzjan and Balkh to initiate the formation of collective action groups (CAG's). The specific intervention options in the pilot project include formation of collective action groups founded on rural savings and credit to facilitate local investment in micro-enterprise. Rural financial programs such as savings and credit institutions can smooth income streams and consumption seasonally and between years. Credit can help herders replace livestock after drought. It can allow productive herding enterprises to expand, diversify household income and reduce vulnerability to shocks. We found that herders in Kunduz have benefited little from financial programs. Formal financial institutions such as commercial banks and microfinance institutions have little or no presence in the Kuchi areas.

Three CAG's each with a membership size of 7 were formed in July. They have initiated their savings program. All activities were suspended during most of the month of August and September due to security concerns associated with the elections. When we resume the program the CAG's will continue their training. A functional literacy program will be initiated to enable group members to read, write and perform accounting on their finances. Training programs will be geared to enable them to manage savings and loans and other financial services. A rural financial institution will adopt a savings-led approach with grants or seed money injected at a later stage; and after the capacity of the groups are adequately developed. The full capacity building exercise will include training in group dynamics, leadership, conflict, rural finance, financial products, and small scale business development. With the help of micro-finance savings-led credit programs and support for business development, CAG's will be able to participate in marketing and value addition programs. The information gathered during the pilots would be used to develop an effective risk management program during Phase 2 of the PEACE project. Unfortunately, USAID did not have funds to continue Phase 2 of the PEACE Project.

Livestock Market Information System

Marketing remains one of the greatest challenges in the development of the livestock industry in Afghanistan. In spite of the emergence of organized market intelligence, particularly in relation to prices at terminal markets, the lack of and need for current price information in many rural areas remains a critical concern of producers, traders and policy makers. The Livestock Information Network and Knowledge System (LINKS) - Global Livestock Collaborative Research Support Program (GLCRSP) has responded to

this need by developing a Livestock Marketing Information System (LMIS) for communicating and reporting real-time livestock prices, trends and patterns. The LMIS is based on the integration of IT and SMS communication technology. In parts of Asia and Africa the development, testing, implementation and expansion of the LMIS has been made possible through collaboration among different stakeholders and governments interested in livestock marketing information.

It is expected that the provision of such information in Afghanistan will have a positive effect on market transactions in terms of improving sales and identifying markets offering better prices, as has been the case elsewhere. For the Ministry of Agriculture, Irrigation, and Livestock (MAIL), market information can be used as a strategic tool to better: 1) understand how the markets are operating in the country; 2) predict the potential for a livestock crisis (*due to drought, diseases, etc.*); 3) mitigate the short and long term impact of a crisis on the market; 4) play a coordinating and managing role between supply and demand over the short and long-term. LMIS can also help livestock suppliers, traders and butchers identify the best locale and timing of a trade.

We initiated the training with MAIL staff with a review of how the technology works, the theories behind it, and concepts required to understand its use and applications. The utility of the technology with specific emphasis on how it will improve access to information, support more equitable competition and facilitate reliable strategic planning (sustainable match between supply and demand) were then discussed. A hands-on practice then followed in how to enter and extract market data using cell phones and the LMIS server. Throughout the training, attendees were given numerous examples of the potential added value of this technology in Afghanistan for both the public and private sectors. Specific uses discussed included strategic forecasting and planning, risk mitigation and prevention, improved income generation and general public information. All participants showed a strong interest in the opportunities offered by the LMIS technology; and quickly understood the “why”, “what”, and “how” of the LMIS.

Live animal prices for sheep and goats have been collected in Mazar, Jalalabad and Kabul for the last 6 months. We can now produce reports and analyze trends graphically with the LMIS software. You can visit <http://afghanmarketprices/lmis.org> to check out the latest trends in the sheep and goat markets.

The Market Server and associated equipment was moved to the MAIL in June. The equipment will be maintained by the Office of Market Information Systems (MIS) and the data will be collected by the Statistics Department. We are still working out the last remaining kinks in the system after placing it within the Ministry. The hope is that as the MAIL develops the office of MIS they will expand the number of markets where MAIL staff collect the information. We are currently working on a way to continue to give technical support to the MAIL from Texas A&M University into the future. Technical support for the software used to analyze and report the data could be maintained through “email support” from Texas A&M programmers. This would be the most cost effective type of support we could provide.

Livestock Market Assessment

In addition to the Livestock Market Information System, the quarterly livestock market reports have been synthesized into a comprehensive document. This document can be found on our website at <http://www.afghanpeace.org>. Results indicated that the Kuchi were responsible for supplying the majority of small livestock found in Afghanistan’s markets in 2008-2009. The Kuchi, who were mostly absent in the major markets during these surveys, were notably those that lead a nomadic lifestyle. Not surprisingly, these are the same Kuchi that have larger herds and produce more animals than any sedentary individuals or community, including sedentary Kuchi. Nomadic Kuchi herds are also known to be a source for rebuilding ones herd through acquisitions as they move across the landscape and through communities. Sedentary communities are vulnerable to herd loses during droughts because they are unable to move to other areas and because there is often a lack of field stubble and fodder as a consequence of rain-fed crops failing during the same event. This may account for why so few nomadic Kuchi were seen in the markets during the surveys. Currently, they primarily engage in selling while en route as a means to earn income (often times cash needed to pay access fees, many of which are illegally assessed; pers. comm.). Given this, sellers and buyers perceptions of how many livestock the Kuchi provide

were likely more reliable estimates of the actual amount of sheep and goats supplied in 2008-2009, 79% and 72%, respectively.

Because nomadic Kuchi sell more often when passing through a community or when approached by traders when in the field (i.e., tertiary markets), they are more vulnerable to selling at prices lower than if they sold animals in the major market place because there are: 1) fewer buyers; 2) they lack current information on market prices; and, 3) they are held hostage when trying to negotiate the price for access (many times the fee ends up being paid in the form of live animals). This suggests that there are opportunities to support the development of nomadic Kuchi trading communities as a means of facilitating more direct sales to markets to ensure higher earnings. Providing current market prices, through easily accessible mechanisms, would also ensure higher earnings per sale in the event they must sell in the field. The issue of charging access fees, however, would require government intervention and enforcement to prevent illegal fee assessments.

Policy Recommendations Aimed at Improving Livestock Production in Afghanistan

Risk is clearly a major constraint on economic growth in the livestock sector in Afghanistan today. Improving marketing and income generation opportunities clearly hinge on reducing the risks associated with raising livestock:

- **Loss/destruction of winter grazing lands combined with the lack of winter fodder**

Recommendations to prevent further rangeland losses:

- Moratorium on further rangeland conversions
- Halt of distribution of rain-fed wheat varieties to families
- Extension services to inform farmers of hazards of land conversions
- Rehabilitation of rangelands using native species
- Establish large-scale irrigated fodder crop production in Afghanistan to address winter feed shortages

- **Limited or lack of access to grazing lands while en route and on summer grazing areas**

Recommendations to address land access and tenure issue:

- Build peace building capacity for Afghan leaders and citizens
- Return of traditional summer, winter and corridor grazing rights to the Kuchi
- Further development of a rangeland law that includes all stakeholders (Villagers and Kuchi)

- **Lack of current market price information which would facilitate efforts to negotiate a fair price**

Recommendations to address market price information for herders and all Afghans:

- MAIL should support and expand the current Livestock Market Information System

- **Dependence on herding livestock as a sole source of income**

Recommendations to address economic risks of extensive livestock producers:

- Initiate a comprehensive risk management program for Kuchi producers that includes literacy and small business development training

The Kuchi, the primary livestock producers in Afghanistan, face the greatest risks of all and the environment they live in gets riskier every day. Their behavior in the livestock sector is to use their animal resources to cope with risk. This behavior does not result in efficient markets. Remove the risk from the Kuchi and they will likely generate more income for themselves. This in turn will be the driving force to spur national economic growth in the livestock sector.

The risks and associated actions to reduce or eliminate them, as reported here, are not new or unknown to Afghanistan or its donor communities (see reports by PEACE Project: <http://cnrit.tamu.edu/peace/riskmgmt.html>). What has been lacking, however, is action by the government and donors to minimize the risks associated with this livelihood with the result that livestock industry in Afghanistan cannot meet the demands of Afghans but more importantly, Afghanistan's debt to its neighbors is on the rise due to the need for meat imports.