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

Quarterly Report

October 1, 2008 through December 31, 2008

Submitted By:
University of California at Davis

In Collaboration With:
Texas A&M University System

A USAID-funded Project
Cooperative Agreement No. 306-A-00-06-00521-00

December 31, 2008
Summary - Activities conducted this quarter

- Processing of Weather Surfaces for Phygrow predictions
- Plant species identification and digitizing of field data
- Sheep and Goat Feeding trials for nutritional profiling
- Electronic Training Modules 1-5 completed
- Nutritional Profiling Workshop Conducted
- Kuchi Conflict Resolution Strategy Finalized
- Facilitating Kuchi Shuras
- Winter sheep feeding experiment
- Kuchi Workshop Conducted
- Month-long conflict mediation training of trainers completed
- Market study results reported
- Pastoral Risk Management Assessment Initiated

Major Implementation Activities conducted this Quarter

B. Infusion of the Forage Monitoring System

The LEWS field season for Afghanistan takes place between late-March through July. Although the field work stops outside this time period, work on the LEWS continues throughout the year. The efforts to develop the warning system shift to the programmers and modelers that are pulling the data collected in the field together.

Data from this year’s field work has been completely entered. New plant species collected this year have been identified. Now that we have 52 sites surveyed in 10 provinces, we should have a good enough coverage to make predictions for the central highlands and North next spring.

During the past quarter programmers in Texas have been working to develop the historical weather layers for Afghanistan. This process requires historical climate data from various sources including data from the surrounding countries. This information has been compiled and the climate layers have been developed. These layers serve as the basis for predicting what can be expected for forage growth during a particular period during the growing season. When combined with current precipitation and temperature data we can provide both current and future forage-quantity estimates.

An additional input into the plant growth model is the snow coverage for Afghanistan. Snow provides moisture to plants long after the spring rains have passed. We are nearly finished with the development of a snow-melt model that will estimate moisture additions.

C. Infusion of the NIRS Nutritional Management System.

Electronic Training Modules have been developed to assist in training for the Nutritional equipment we are leaving with the Ministry of Agriculture. The modules will be training videos in spoken English or Dari. Modules one through five have been completed and the remaining two should be
completed in January. The training modules will be located at
http://cnrit.tamu.edu/elearning/unit1.html and the home page is displayed below.

Sheep and Goat Feeding Trials

Food security has increasingly become a chronic issue for Afghanistan due to decades of conflict, political instability, increased weather variation, the expansion of human populations, and changing land use/land tenure policies. For nomadic herders in Afghanistan, survival of their livestock herds determines their well being. The Afghanistan PEACE Project, short for Pastoral Engagement, Adaptation and Capacity Enhancement, is a USAID-funded project aimed at addressing the plight of nomadic herders in Afghanistan, and at the same time, facilitating the Government of Afghanistan’s efforts to improve livestock production and range management, and promote economic stability. To achieve these aims, the Afghanistan PEACE Project will implement a Livestock Early Warning System (LEWS) Program to address native forage supplies issues; and a Nutritional Profiling Program to address native forage quality concerns.
The technology being utilized by the PEACE project in its Nutritional Profiling program is termed *Near Infrared Spectrometer (NIRS)* technology. NIRS technology facilitates the determination of the quality of forage that animals are eating, whether from native sources or when given as supplements. The means of assessing forage quality with NIRS technology comes through the indirect analyses of fecal samples obtained from free-ranging animals. Prior to the analyses of field samples, diet:fecal pair research must be conducted under laboratory conditions with known quality diets to develop predictive statistical models specific to breeds in Afghanistan.

*Diet:fecal Pair Research Details* - In October 2007, the Afghanistan PEACE Project conducted the first of three quality-controlled diet:fecal pair studies with 10 male karakul sheep. In the fall of 2008, we conducted two more diet:fecal pair feeding studies; one with a mixed goat breed and one with Turkhi sheep. The mixed breed goats are favored by Kuchi herders because they provide both wool and meat; Turkhi sheep are favored because the meat of this breed commands a high price when sold in the market.

The 2008 studies consisted of two trials where 10 yearling males were fed diets varying in dietary crude protein (CP) and digestible organic matter (DOM) content. Each study consisted of four components: a 7-day period of adjustment and three 7-day trials where each animal received a different diet from all the others during each of the trails. Daily internship activities during the trials included:

1) Cleaning of the animals pens  
2) Measuring water consumption  
3) Collection and weighing of unconsumed forage material  
4) Preparation and distribution of diet  
5) Monitoring of each animals health

Other activities included:

1) Weighing of animals each week  
2) Recalculation of daily diet each week  
3) Collection of forage, orts and fecal material the last three days of each 7-day trial  
4) Drying and grinding of fecal materials in preparation for NIRS scanning  
5) Grinding of forage and ort materials prior to shipment to India for chemical analyses

The first study ended on 31 October and the second on 28 November. All diet and ort samples will now be shipped to the International Livestock Research Institute in Hyderabad, India, for chemical analyses. We have begun scanning the fecal samples and these will be used to develop the equations for estimating the diet quality of free-ranging livestock. Three equations will be attempted: one for mixed goat breeds, one for Turkhi sheep, and one for small ruminants.

**Internship/Collaboration** – The two diet:fecal pair research studies offered opportunities for collaboration with the Kabul University and USAID’s A4 program, and with the ASAP program. As part of the KU/A4 collaboration, internships were again offered to twelve 3rd and 4th year students from Kabul University. The internships involved full participation in all aspects of the study, as described above. The collaboration with the ASAP project involved oversight of one scholarship student who assumed management of the Turkhi sheep study. The names of the interns and scholar are listed here:
<table>
<thead>
<tr>
<th>Name</th>
<th>Year and Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Khyber Khwishky</td>
<td>4th year Animal Science/ ASAP Scholar</td>
</tr>
<tr>
<td>Mohammad Wali</td>
<td>3rd year Animal Science</td>
</tr>
<tr>
<td>Mujtaba Bashiri</td>
<td>3rd year Forestry &amp; Natural Resources</td>
</tr>
<tr>
<td>Noorjan Noori</td>
<td>3rd year Animal Science</td>
</tr>
<tr>
<td>Saed Murtaza</td>
<td>4th year Forestry &amp; Natural Resources</td>
</tr>
<tr>
<td>Abudullah Abid</td>
<td>4th year Forestry &amp; Natural Resources</td>
</tr>
<tr>
<td>Mohammad Haris</td>
<td>3rd year Forestry &amp; Natural Resources</td>
</tr>
<tr>
<td>Khairauden Ayny</td>
<td>3rd year Animal Science</td>
</tr>
<tr>
<td>Rahmatullah Barati</td>
<td>4th year Animal Science</td>
</tr>
<tr>
<td>Nawid Rasooli</td>
<td>3rd year Forestry &amp; Natural Resources</td>
</tr>
<tr>
<td>Mujeeburahman Wardak</td>
<td>3rd year Wildlife</td>
</tr>
<tr>
<td>Abdul Majeed</td>
<td>3rd year Animal Science</td>
</tr>
<tr>
<td>Ahmad Arash</td>
<td>4th year Forestry &amp; Natural Resources</td>
</tr>
</tbody>
</table>

Collaboration also involved training of one Ministry of Agriculture, Irrigation, and Livestock – Department of Animal Health veterinarians in research methods to acquire data for the development of the nutritional profiling equations. The 12 students and MAIL staff member were also provided with training in the use of NIRS technology to analyze fecal samples and to develop equations using NIRS and chemical results. Those involved in these last two studies will also get the opportunity to scan samples and build the nutritional equations once the studies are complete and the chemical results are back from India.

D. **Outreach and Linking the Technology with Herder Alliances**

**Facilitating Kuchi Shuras**

The PEACE Project is still facilitating Kuchi shuras in 13 Provinces. The shuras are beginning to become more productive as Kuchi leaders are gradually understanding and trusting why we are interested in helping them organize themselves to resolve problems. We have been collecting data related to Kuchi development issues during provincial shuras. Clan leaders have now filled out over 650 questionnaires that describe where their problems are happening throughout the year. A major breakthrough came about during a couple of important meetings involving the Independent Department of Kuchi in November. During these meetings we showed the Kuchi leaders maps that were produced using the data that they supplied to us. Kuchi leaders that had remained skeptical suddenly realized the value of what the PEACE Project was attempting to do. This proved to produce an important change of attitude leading up to a workshop that we had planned for the Kuchi.

**Winter Feeding Research**

In December the PEACE project initiated a winter feeding experiment with 8 Kuchi families. Four families live in Balkh Province and 4 live in Kunduz Province. One hundred ninety six animals were marked for the work. Our objective is to determine the effects of feeding sheep an alfalfa/straw mixture through the winter. Half of the animals will be fed the alfalfa/straw mixture at 3% of their body weight and the other half will serve as the control animals, remaining with and being fed with the rest of the herd. We will be weighing the animals each month until the spring and then will weight them again in September and October.
Kuchi Development Workshop

The Afghanistan PEACE Project organized a two-day workshop for Kuchi leaders and representatives of development organizations. The workshop was held at the German Guesthouse in Kabul, and was facilitated by Igor Naumovski, the Afghanistan PEACE Project’s Conflict Resolution Consultant.

The impetus for this workshop was the lack of information and contacts from both sides. Kuchi leaders frequently stress the development needs of their communities and request assistance. Development organizations often do not have a clear picture of the Kuchi seasonal movements or have contacts with Kuchi leaders. Therefore, the objective of the workshop was to bring together representatives from both groups with the purpose of providing a forum for exchange of information and opportunities for networking and collaboration on future projects in variety of development spheres.

The workshop was attended by 13 Kuchi leaders and 12 representatives from development organizations. The Kuchi in attendance were leaders from the following provinces: Balkh, Kunduz, Jawzjan, Badghis, Paktia, Faryab, and Kabul. They were joined by four representatives from the Independent Department of Kuchi Affairs. Representatives from the following development organizations were also present at the workshop: Dutch Committee for Afghanistan (DCA), WFP, AKDN, Sanayee Development Organization (SDO), Medical Management and Research Courses (MMRC), UNEP, NABDR/MRRD, and ASEP. Two veterinarians from the US Army based in Bagram, and two officials from MAIL also attended the workshop.

During the first day of the workshop the participants had the opportunity to provide each other with information about their fields of expertise, and in the case of the Kuchi, the needs of the communities and what each provincial leader was doing to address those needs at the local level. Instead of having presentations by each participant in a lecture-style sessions, the participants were broken up into smaller groups of five, and separate groups of Kuchi leaders and development representatives were formed. The subsequent presentations from developmental organizations focused on specific projects in the fields of veterinary medicine, food aid, feed for animals, and the livestock economy (specifically cashmere production). Kuchi leaders talked about the needs of their community and possible ways to address those needs. At the end of the first day the Afghanistan PEACE Project presented maps outlining issues such as seasonal conflicts involving the Kuchi, and the seasonal availability of forage and water in different parts of Afghanistan. The maps were the product of 650 surveys that were filled out by Kuchi leaders over the past year. These maps are not the finished product, and the collection of additional surveys is ongoing. The Afghanistan PEACE Project is working with the IDKA’s Liaison for Provincial Relations, Mr. Mohammad Agha Chakari, to facilitate the collection of additional surveys that will provide information not only on the above topics, but also on the availability of public health and education facilities for Kuchi.

The second day of the workshop focused on issue working groups that were mixed (Kuchi leaders and development organization representatives), based on the expertise and interest of the participants. All the participants were divided into the following working groups: Animal Feed, Public Health and Education, Livestock Economy, and Conflict Resolution. The groups were instructed to focus on the following questions during the group discussion: description of need, provinces and specific districts affected, number of Kuchi affected, previous projects to address these needs, current projects, possible cooperation between development organizations and Kuchi leaders at the local level, examples of potential projects, and sustainability of future projects. There was a lot of spirited discussion in these issue groups, and the presentations were interesting because they provided a good overview of the developmental needs of the Kuchi, but also concrete ideas for addressing those needs. For example, LTC Dana McDaniel offered suggestions about training a number of Kuchi women in Paktia province in midwifery.
During the last portion of the second day, Dr. Solomon Desta, a risk management expert with 25 years experience in East Africa, gave a presentation on possible risk management strategies that could be adopted by the Kuchi. The suggestions included savings-led schemes and forming collective action groups at the community level. Dr. Desta also drew some comparisons between the Borana pastoralists in East Africa and Kuchi, while providing lessons learned of the successful risk management program in Ethiopia and Northern Kenya. An interesting discussion ensued about the applicability of these strategies to Kuchi communities.

In conclusion, the workshop provided a valuable forum for Kuchi leaders and members of the development community to meet, learn from each other, and explore possibilities for future cooperation. Since this was the main objective of the workshop, it can be concluded that the workshop proved to be a success. The day after the workshop, the Independent Department of Kuchi Affairs already contacted LTC McDaniel about the possibly of cooperation in the fields of veterinary services and public health. Moreover, the Afghanistan PEACE Project emailed the contact list to all the participants that provided email addresses, and will provide a Pashto-translated contact list to the IDKA so that in can be distributed to Kuchi leaders that attended the workshop and other interested Kuchi leaders from across Afghanistan.

E. Building Capacity within the MAIL, NGOs and the University

Conflict Mediation Training for Kuchi (month-long training of trainers)

The Afghanistan PEACE Project, in cooperation with Sanayee Development Organization (SDO), organized a month-long conflict resolution Training of Trainers (TOT) workshop for Kuchi leaders. The workshop was part of the conflict resolution strategy that the PEACE Project outlined for the Independent Department of Kuchi Affairs (IDKA), which was designed to increase the capacity of Kuchi leaders to resolve conflicts peacefully.

The Afghanistan PEACE Project identified nine Kuchi leaders from four provinces to participate in this training: three participants from Balkh and Kunduz, two participants from Paktia, and one participant from Kabul that works for and was recommended by the IDKA. The delegation from Kunduz also included one woman selected by the provincial leader. From the 9 participants, two were Kuchi provincial leaders – from Kunduz and Paktia. The workshop was facilitated by two senior trainers from SDO, and was held on the SDO premises. Participants attended classes six days per week, from Saturday to Thursday, from 8:30am to 3:00pm.

The objectives of the workshop were two-fold: 1) to provide the Kuchi leaders with conflict resolution skills such as negotiation and mediation; and 2) upon return to their communities, for the participants to teach these skills to other Kuchi, thereby increasing the collective capacity of the Kuchi communities in these provinces to peacefully resolve conflicts. The content of the workshop was a good mix between theoretical lessons and practical exercises. Participants learned about types of conflict and violence, combating prejudice, effective means of resolving conflict, negotiation techniques, the value and purpose of mediation, and other conflict resolution-related topics. Additionally, throughout the month-long workshop they had the opportunity to engage in many role plays that illustrated these theoretical concepts, such as practicing to be mediators in common community and family conflicts. Two days before the end of the workshop the participants also had the opportunity to visit a peace shura in Istalef, one of the local peace shuras sponsored by SDO. They witnessed the practical application of many of the concepts that they learned during the workshop. Based on conversations with the participants following this visit, they were impressed with the working of the peace shura, especially the inter-ethnic cooperation between
Hazara, Tajik, and Pashtun members of the shura. The Afghanistan PEACE Project also encouraged the workshop participants to explore possibilities of forming inter-ethnic shuras in their own communities, along with inter-provincial Kuchi shuras comprised of shura members from two neighboring provinces such as Kunduz and Balkh, for example. These inter-provincial Kuchi shuras would serve as a forum for the exchange of information between Kuchi from different provinces, along with forming joint negotiation teams to address the serious (and recurrent) issue of exorbitant “taxes” being extorted by local commanders from Kuchi families seeking access to traditional rangelands.

In two months, the Afghanistan PEACE Project plans to follow up with the workshop participants to assess if any conflict resolution training activities have occurred at the local level, and to also assess the progress of forming inter-ethnic peace shuras and inter-provincial Kuchi shuras. If there are tangible, positive results that can be attributed to this Training of Trainers workshop, the Afghanistan PEACE Project will explore future possibilities of training Kuchi leaders from other provinces. These activities would be in line with the objective of the project’s conflict resolution component which aims to increase the capacity of Kuchi leaders to peacefully resolve conflicts over access to rangelands.

**Pastoral Risk Management Assessment Initiated**

A focal group (FG) assessment consisting of Kuchi leaders from six provinces confirmed an overwhelming threat to livestock production due to insecurity, conflicts, and land conversion. In addition, drought, water quality issues for livestock and humans, loss of access to summer pasture, and livestock die-offs due to extreme winter weather were considered serious limitations to livestock production. There were other threats mentioned by the FG members such as animal disease epidemics and winter feed that also affect the livelihood of the Kuchi people, but were considered less important. Everyone in the FG ranked insecurity, land conversion and drought as the most important threats. There were slight differences among the FG members regarding the ranking of the other threats in the list. These different perceptions have important implications for risk planning interventions for Kuchis who reside in different provinces.

The outcome of the discussion with the FG have suggested how poorly diversified Kuchi herders are economically. The Kuchis have a very poorly diversified economy outside livestock production. For the Kuchis, the major non livestock-dependent income generating livelihood strategy is hired labor. Most of the income from hired labor comes from working in agricultural fields. However, hired agricultural labor is not a good diversifying activity to mitigate livestock losses from risks of drought and extreme winter weather because agriculture is equally susceptible to these same factors. Kuchi also generate income from trading, but it is insignificant. In terms of diversification within the livestock production system, the Kuchi are well diversified.

The PEACE Project will initiate a Community Based Risk Management (CBRM) pilot project that focuses on portfolio diversification, conflict management, and social and human capital development. Well trained Community Action Groups (CAG) will serve as a vehicle to deliver the above. Herder organizations the CAGs, for the targeted community will be formed and strengthened. Locations for the pilot projects will be in Balkh and Kunduz and are scheduled to begin in April.

**Near Infrared Scanning Workshop and Training**

*The Nutritional Profiling Program* - The technology being utilized by the PEACE project in its Nutritional Profiling Program is termed *Near Infrared Spectrometer (NIRS)* technology. This technology allows us to determine the relationship between animal performance and the state of rangelands in Afghanistan.
Specifically, with this technology we can analyze fecal samples from free-ranging livestock and determine dietary crude protein and digestible organic matter content of forage ingested within the past 12 hours. This is just one application of NIRS technology. Other applications include the analysis of moisture, protein, oil/fat, fiber and starch contents of agriculture products; use by the feed industry to evaluate feed-mix formulation, analysis of final mixes, and testing of efficiency; grading of cashmere wool; and use in the flour mill industry to determine protein and ash content, and water absorption.

In October 2008, Texas A&M University gave two trainings in the application of NIRS technology to a diverse group of attendees. The first training was designed exclusively for professionals working in various agencies in Kabul, both in the private and government sector. This training involved 19 participants. The second training was given to 12 students involved in the PEACE diet:faecal pair feeding trials and from the Animal Science program at the Kabul University - Department of Agriculture. A list of attendees at both trainings is attached to this report.

The trainings involved a review of how the technology works, the theories behind it, and concepts required to understand its use and applications. Following, trainees were given a presentation in the equipment and software used to scan samples. A hands-on practice followed these presentations on the setting up the equipment, scanning samples and the use of the different software’s used for scanning and equation building. Throughout the training attendees were given numerous examples of how this technology is used regularly in both the human and animal sector, and the potential for its use in Afghanistan in similar areas. Specific uses discussed for Afghanistan included its potential for grading cashmere wool, quality control for dairy products and feed stuff, monitoring of pharmaceuticals, and monitoring of infectious diseases and parasites.

All participants expressed a keen interest in the NIRS technology once they had completed the training. Some even went so far as to propose the purchase of numerous NIRS machines for the country. We suggested that before making such an investment, that each organization consider bringing their ideas to the PEACE project and together we could explore whether or not this was the right technology for their applications. Several promised to follow-up on this in the near future.

The NIRS technology presented in the training is somewhat difficult to absorb in one training only. Because of this, Texas A&M University has put together a complete step-by-step electronic training module specific to its application in nutritional profiling. All participants attending the workshops will receive a copy of this training module once completed (December 2008). At the same time they receive this module, they will once again be invited to explore the possibilities of its applications within the realm of their respective projects.

F. Conduct Economic Assessment of Kuchi Livestock

Understanding how much of the livestock market is made up of Kuchi animals is important to address the needs of Kuchi livestock producers. A detailed assessment was initiated to determine the Kuchi contribution to the Afghanistan economy and projected impact of the project on local, regional and national economies. We subcontracted Altai Consulting to implement our work plan. The livestock market assessment is a four-part data collection effort with that hopes to capture market variability throughout the year. This fall was the first data collection period. The first in the series of reports will be complete in January and will be located on our website.

Some of the notable results were the estimates of the Kuchi contribution to the livestock market in the 6 major end-markets in Afghanistan.
<table>
<thead>
<tr>
<th>SELLERS</th>
<th>Kabul</th>
<th>Kunduz</th>
<th>Herat</th>
<th>Kandahar</th>
<th>Mazar</th>
<th>Jalalabad</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheep</td>
<td>82,3%</td>
<td>73,0%</td>
<td>88,7%</td>
<td>88,6%</td>
<td>69,8%</td>
<td>83,4%</td>
<td>81,4%</td>
</tr>
<tr>
<td>Goats</td>
<td>76,1%</td>
<td>73,7%</td>
<td>85,5%</td>
<td>66,8%</td>
<td>67,2%</td>
<td>46,9%</td>
<td>72,2%</td>
</tr>
<tr>
<td>Cattle</td>
<td>4,9%</td>
<td>0,5%</td>
<td>1,7%</td>
<td>0,0%</td>
<td>11,3%</td>
<td>2,1%</td>
<td>4,5%</td>
</tr>
</tbody>
</table>

Proportion of animals originally raised and bred by Kuchi herders being sold at the various markets in Afghanistan (n=508 Sellers).