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

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TABLE OF CONTENTS

EXECUTIVE SUMMARY I

OVERVIEW 1

BACKGROUND 1
RATIONALE 2
PROJECT TIMELINE AND FUNDING 3
PHASE I PROJECT DESCRIPTION 3
EXTENSION I AND II PROJECT DESCRIPTION 5

PROGRESS BY YEAR 7

YEAR ONE: JULY 1, 2006 THROUGH JUNE 30, 2007 7
YEAR TWO: JULY 1, 2007 THROUGH JUNE 30, 2008 11
YEAR THREE: JULY 1, 2008 THROUGH JUNE 30, 2009 19
YEAR FOUR: JULY 1, 2009 THROUGH JUNE 30, 2010 23
YEAR FIVE: JULY 1, 2010 THROUGH JUNE 30, 2011 31
YEAR SIX: JULY 1, 2011 THROUGH JUNE 30, 2012 40
FINAL PERIOD: JULY 1, 2012 – OCTOBER 31, 2012 56

COMPONENT REPORTS 69

COMMUNITY-BASED RISK MANAGEMENT PILOT PROJECT 69
LIVESTOCK SECTOR MARKET ASSESSMENT 70
CONFLICT RESOLUTION 74

GENDER 78

LESSONS LEARNED 80

CONCLUSIONS AND NEXT STEPS 82

TECHNOLOGIES 82
CONFLICT RESOLUTION AND PEACE BUILDING 83
OTHER ACCOMPLISHMENTS 83

APPENDIX 85

PEACE PROJECT TEAM 85
PUBLICATIONS AND VIDEO 88

EXECUTIVE SUMMARY

USAID's PEACE Project conducted by a team from the University of California, Davis, Texas A&M University, and Mercy Corps, ran from July 1st, 2006 until October 31st, 2012. The mission of the PEACE Project was to improve extensive livestock production in Afghanistan which represents a significant portion of the Afghan economy. The main focus for the first four years of the project was to institutionalize within the Ministry of Agriculture, Irrigation and Livestock (MAIL) rangeland management tools and approaches that deal with the risk inherent in livestock operations for migratory headers in Afghanistan. These included a Livestock Early Warning System (LEWS) to predict where annual forage occurred, Nutritional Profiling System (NIRS technology) that provides critical data for the operation of LEWS, and a Livestock Market Information System (LMIS) that helps herders efficiently market their products. Despite security challenges while moving though the central and northern rangelands of Afghanistan, rangeland vegetation surveys that are fundamental to the functioning of the LEWS, were conducted across 15 Provinces in some of the most important rangelands. MAIL staff from the central office in Kabul, as well as from the Provincial Offices where the surveys were conducted, were trained to collect significant rangeland information. In total, 3,280 person days of training were delivered regarding the Livestock Early Warning System.

LEWS technology was adapted to the landscapes where security allowed access and the system was provided to MAIL[1]. While the inability of MAIL to keep trained personnel prevented the implementation of the LEWS, the system is available for use when appropriate staff are assigned. The value of the LEWS system is to predict the location, quantity and quality of forage availability so that migratory herders can mitigate the unpredictable environment in which they live. The system also is useful in predicting drought condition for government and emergency response.

Nutritional quality of sheep and goat diets can now be assessed for several important rangelands in Afghanistan because of the laboratory, technology and training implemented by PEACE. MAIL staff can analyze diet quality of these rangelands using near infrared scanning techniques and the correlation equations developed specifically for Afghanistan to make quality estimates. In addition to training several MAIL employees, electronic learning modules were developed in both Pashto and Dari to help prepare future MAIL staff to use this technology. Training conducted totaled more than 1,600 person days.

The Livestock Market Information System (LMIS) was delivered and fully functional within the MAIL by June of 2010. The system was set up to report live animal prices for the different breeds of sheep and goats in the Mazar, Jalalabad and Kabul livestock markets. Having price information makes markets more efficient and boosts economic rates of return for the country as a whole, and allows government to make evidence-based decisions about sectorial policies. MAIL staff collected the information from the markets and reported it to the Kabul office where it was entered into a database located on a LMIS-dedicated server installed at MAIL. The system can be accessed through a website interface or by cell

[1] http://glews.tamu.edu/listRunResults.epl?lang=&fullView=&unit=metric&runID=3573&startYear

phone, making it available to anyone that wants market information. PEACE delivered a total of 1,420 person days of training to staff from MAIL and the Independent General Directorate of Kuchi (IGDK).

While the transfer of rangeland management technologies was an important part of improving extensive livestock production in Afghanistan, additional challenges to improving production remained. Personal security and conflicts over mobility and resource access were preventing the necessary movement of livestock between winter and summer rangelands. In Afghanistan, it is the access to summer grazing, usually in the mountain areas, that allows the productivity of these semi-arid systems. Migration corridors are critical to livestock production in Afghanistan's arid landscape. Without secure mobility the productivity of the livestock sector would be severely constrained. Years of war had resulted in an extreme distrust between herders and villagers that has led to limited movement of the herds. Another issue was the land conversion on traditional migratory routes. Stimulated by the high prices of wheat during the global food crisis in 2007-2008 and the need to promote economic growth and food security, there was a major expansion of rain-fed wheat production that further exacerbated the conflicts.

These issues have, and will, continue to represent the most important challenges to improving extensive livestock production in the country because until these are addressed and resolved, the people will not support the implementation of better rangeland management efforts. Raising large numbers of livestock in one location requires large amounts of forage to be purchased or grown and thus intensive production is not cost effective or practical. Reestablishing security and trust between herders and villagers along the migration routes will provide the best chance to improve sustainable livestock production.

Resolving conflicts and building peace along these corridors became the main focus of the PEACE Project in the final two and a half years of the project. PEACE empowered government employees working for the Independent General Directorate of Kuchi (IGDK) and local leaders (herders and villagers) by providing them with the training and skills needed to meet this challenge. As a result, IGDK's Provincial Directors through the Kuchi Shura Program and Local Leaders through the Peace Ambassador Program, worked independently to resolve thousands of conflicts at the request of communities and in response to the lack of any local judicial system.

The PEACE project's Conflict Resolution Program facilitated the resolution of over 3,450 conflicts along five major migration routes. During the second extension (2011 – 2012), the Peace Ambassador Program alone resolved over 2,300 conflicts and over half of these were related to issues over land, water, or migration route access. Peacefully resolving land conflicts along the migration routes will enable land management to occur and will improve livestock production as a result. The key partners in this effort were the IGDK, President Karzai's Advisor on Tribal Affairs and the Sanayee Development Organization. While this effort alone may not permanently resolve all of the conflicts addressed, it has promoted communities to talk with one another about their mutual interests and to seek peaceful solutions to their conflicts. It has also given community leaders the skills necessary to resolve rather than escalate conflicts.

PEACE made a commitment to improve government representation of herders and did so by working to improve capacity of the Independent General Directorate of Kuchi (IGDK) staff. This included facilitating

IGDK Shuras in 30 Provinces and multiple trainings for all 31 Provincial Directors to improve their skills in communication, report writing, conflict resolution and peace building (3,265 person days). The Directorate is expected to address not only conflicts related to land and livestock production, but also all issues related to human health and education. Support for Kuchi Shuras yielded results in these sectors as well by increasing the Director's capacity to collect from and disseminate information to, the people and the IGDK central office in Kabul. The Provincial Directors have successfully managed to establish and maintain relationships with local and national NGO's and government organizations that they have been introduced to through development workshops provided by PEACE. In the Kabul Office, PEACE supported adult education courses in Business Management, Finance, English, and Computer use (7,800 person days) to increase the Directorate's professionalism.

With the assistance of the IGDK, 75 young Kuchi leaders from 20 provinces have participated in a one-month training course aimed at teaching them to communicate effectively to resolve conflicts as well as to build peace between communities (2,250 person days). Some of the participants have already formed Peace Shuras in their Districts that include leaders from all the groups that live there. Others have been developing proposals to conduct conflict resolution and peace building trainings for community members. Youth were targeted for this particular course to create long-term sustainability of the program aimed at reestablishing and maintaining relationships along Kuchi migration corridors. Elder leaders are important today and the youth leaders will be vital for their communities for many years to come.

Improving extensive livestock production for Afghanistan will require continuing with these efforts to capitalize on the momentum developed in the areas of conflict resolution and rangeland management. The MAIL represents a major challenge for those who attempt to build capacity within the Ministry. Low salaries, lack of strong leadership at most levels, lack of incentives, and an unclear agenda for helping the people of Afghanistan make efforts to strengthen the Ministry difficult. As a consequence, a long-term commitment is needed to work with the Rangeland and the Livestock departments.

Kuchi leaders are also in need of more assistance as they struggle to represent a population with severe illiteracy rates and a general lack of education. Herders, the primary livestock producers in Afghanistan, play a critical role in the economy of the nation but continue to be marginalized as a consequence of prejudice and mistrust. Efforts to resolve the land conflicts remain critical to resolving those issues as well as for maintaining any significant degree of livestock production in the country. PEACE has initiated a way forward but much more work and commitment is needed.

OVERVIEW

The Afghanistan Pastoral Engagement, Adaptation and Capacity Enhancement (PEACE) project was developed in 2006 at the request of the USAID Mission to Afghanistan. The primary objective of the project was to improve livestock production and rangeland management in Afghanistan by reducing the social and economic risks for the Kuchi, Afghanistan's nomadic herders. The project was built upon the knowledge gained through research conducted by the Global Livestock CRSP Livestock Early Warning System (LEWS), Livestock Information Network and Knowledge System (LINKS) and Pastoral Risk Management (PARIMA) projects. The Afghanistan PEACE project adapted technologies developed by the GL-CRSP to the unique issues facing Afghanistan. The Afghanistan PEACE project was headed by the University of California, Davis and Texas A&M University in collaboration with the Afghanistan Ministry of Agriculture, Irrigation and Livestock.

In June 2010, with support from USAID/Afghanistan's Office of Democracy and Governance, the focus of the project shifted to conflict resolution training. With the advent of the Peace Ambassadors program, the PEACE project in collaboration with Sanayee Development Organization targeted conflict as a major risk for Afghanistan's nomadic herders. The project's conflict resolution focus continued with support from USAID/Afghanistan's Office of Agriculture in April 2011. The project concluded activities in October 2012.

Background

In 1997, the Global Livestock CRSP Livestock Early Warning System (LEWS) project developed and applied a suite of information and communication technologies to provide a regional decision-support framework for livestock early warning in East Africa. In 2003, the GL-CRSP LEWS project evolved into the LINKS project which placed LEWS technology inside a broader livestock information and analysis system that is designed to improve markets and trade, thereby enhancing the well-being of pastoralists in eastern Africa. During the same timeframe, the GL-CRSP PARIMA project conducted empirical research at community and household levels to elucidate the options with the most potential for improving pastoral risk management. The projects dealt directly with information flow and coping strategies for diversifying income and increasing links to markets for pastoralists.

At the request of the USAID Mission to Mongolia in 2004, the Texas A&M based team headed by Jerry Stuth and Jay Angerer, began adapting the LEWS/LINKS technology to Mongolia. The transfer and adaptation of the LEWS/LINKS technologies continued to spread with the initiation of projects in Afghanistan (2006) and Mali (2008).

The transfer of GL-CRSP research and technology was considered efficient and relatively rapid requiring less initial research. However, early on in the implementation in Afghanistan a set of constraints not previously seen was encountered. The infrastructure in Afghanistan and the skill level was exceedingly lower than in Africa or Mongolia. More remedial training was necessary at the Ministry and the

escalating war presented numerous obstacles. The security situation deteriorated throughout the life of the project, restricting access to provinces and significantly limiting fieldwork.

An additional challenge was the constant change in USAID personnel and the short duty assignments for USAID officers to Afghanistan. During the life of the program, the project worked with six Contracting Officers, eight OAG Directors or Acting Directors, 13 Senior AG Advisors, and four COTR's or AOTR's. Each time a new advisor or contracting officer arrived, the project team was asked to provide an overview of the project and a justification for the project approach. Dependent on the background of the new USAID team member or a shift in USAID's strategies, the project was repeatedly asked to modify the project approach or refocus the project's goals and objectives, only to be scrutinized by the subsequent USAID team member for doing so.

Rationale

After the fall of the Taliban in late 2001, Afghanistan faced major challenges in rebuilding the agriculture sector. Emerging from more than 20 years of conflict, exacerbated by years of drought, the agriculture economy was ruined. Afghanistan's food production capacity was damaged and farmers and nomads were impoverished. A country that once boasted an agricultural sector that contributed to more than 80 percent of the national income was now heavily dependent on food aid from international donors.

Challenges for development in the livestock sector and especially pastoral development among the *kuchi* are especially daunting. Years of conflict and drought have severely affected nomadic pastoral production systems. Traditional migration routes were disrupted, rangelands were plowed up to plant crops, access to grazing land for the *kuchi* has been restricted, and many livestock were lost. The *kuchi* saw their livelihoods greatly eroded, and even the most vulnerable have received little support to-date from the Government or the international community. Conflicts over grazing land tenure is a major issue that needs to be addressed. The lack of information on the condition of rangelands, their carrying capacities, and current livestock management practices of the *kuchi* also hamper development.

Building on the successes and lessons-learned to-date of RAMP and the experience of other donor-funded programs, the PEACE project was designed to further improve natural resource management (especially of the rangelands) and promote the development of the extensive livestock sector.

Transhumant populations in Afghanistan, commonly referred to as Kuchi, are the primary extensive livestock producers in Afghanistan. They comprise just 8% of the population but are responsible for approximately 75% of all livestock supplied to Afghanistan's major livestock markets. Like other transhumant livestock producers, land tenure issues and insecurity are major challenges and 30 years of war has completely changed the social landscape for herders. Good rangeland management is essential but if extensive producers cannot reach important mountain rangelands in summer, management becomes less relevant.

Project Timeline and Funding

The Afghanistan Pastoral Engagement, Adaptation and Capacity Enhancement (PEACE) project was developed in 2006 at the request of the USAID Mission to Afghanistan. The Mission approached the Global Livestock CRSP and requested that a proposal be developed to adapt the highly successful GL-CRSP risk prediction and management technologies to Afghanistan. Phase I of the project was funded by the USAID Mission to Afghanistan, Office of Agriculture. In June 2010, Phase I of the PEACE project was completed. Two extensions were funded with a targeted focus on capacity building and conflict resolution.

PEACE	Performance Period	USAID Funding Source	Funding Level
Phase I	July 1, 2006 – June 30, 2010	Office of Agriculture	$4,400,000
Extension I	July 1, 2010 – April 30, 2011	Office of Democracy & Governance	$391,360
Extension II	May 1, 2011 – Oct. 31, 2012	Office of Agriculture	$2,000,000

Phase I Project Description

The PEACE project aimed to promote development of the extensive livestock sector through support to policy planning, pastoral land tenure conflict resolution, and introduction of new technologies to improve rangeland management and livestock production and marketing. The project also helped build capacity of government personnel responsible for planning and implementing livestock development and rangeland resource management.

Outcomes. As a multidisciplinary program, the PEACE project proposed to strengthen and support a productive nomadic and semi-nomadic pastoral system that is capable of responding and adapting to market forces in a natural environment characterized by high risk. The PEACE project proposed to contribute by:

1. developing a thriving livestock sector by reducing the risks associated with livestock production. Although PEACE is focused on the nomadic herders, the information produced will be available to anyone in the country that would benefit from forage-condition predictions, forage-nutritional status and/or livestock marketing information.

2. establishing a scientific database on rangeland resources and nomadic pastoral production systems, including generation of near real-time resource data to support emerging resource decision-making.

3. developing the capacity of the MAAHF to be an effective support agency in the development and promotion of extensive livestock production, with supporting policy and regulations;

4. improving access to technical information by *kuchi* through the development of an information network. This network will include the government, NGO and the private sector

in order to effectively disseminate LEWS, NIRS and LINKS information to herder alliances throughout the country;

5. defining, evaluating, developing, and expanding domestic markets for livestock/processed products and associated market information and assisting with export markets for high-value livestock products through targeted interventions throughout the livestock market value chain;

6. creating forward and backward linkages between pastoral associations or cooperative alliances, production services dealers, wholesalers, retailers, researchers and government;

7. establishing a research and extension system that effectively supports the continued development of the Afghan nomadic pastoral system through the introduction and adaptation of new technologies; and

8. analyzing the resulting impact of the PEACE project in order to gauge changes in producer and consumer welfare. This, in turn, provides the information necessary for the government to set policy that addresses national food security needs.

Training. Training was an important element of the project's capacity building and included the following elements:

- technical training for university students to conduct field and laboratory work,
- training of key government agencies in effective outreach on LEWS,
- assisting NGOs in effective communication of LEWS reports,
- building capacity for the NIRS lab,
- training in conflict management, and
- pastoral community training in how to effectively use the LEWS, LINKS and NIRS information to manage risk in their production environments.

Approach. The PEACE Project Phase I consisted of the following major components:

1. Implementation of a Livestock Early Warning System (LEWS)
2. Livestock Nutritional Profiling System and Strategic Use of Fodder and Supplemental Feeds
3. Livestock Marketing Information Systems and Cooperative Marketing Alliances
4. Pastoral Conflict Resolution and Rural Land Tenure Policy
5. Economic Assessment of Kuchi Livestock Sector in Afghanistan and Impacts of PEACE Project

Capacity building for Afghan government personnel, university students, NGO's and *kuchi* was a cross-cutting theme as well as a participatory approach to research and implementation that includes the active involvement of *kuchi*.

The actual modeling technology was not proposed to be used directly by nomadic people. The primary product used by nomadic people was to be information provided either directly in the form of voice interpretation (e.g., Radio Denash) or indirectly through NGO's working an area [i.e., Department of

Disaster Preparedness (DDP) working with the reporting network of the Ministry of Rural Rehabilitation and Development (MRRD), and regional staff of the Ministry of Agriculture, Animal Husbandry and Food (MAAHF)].

GL-CRSP experience showed that "early warnings" were distributed among a wide array of institutions working with pastoral communities and that the advisories helped pastoralists plan what to do with their animals and when to move them. In other words, knowledge of the forage status allowed the pastoralists to gauge price of grain and price of animals and allowed them to proactively respond to market conditions by selling animals or repositioning themselves to mitigate drought conditions.

The GL-CRSP/LINKS Livestock Marketing Information System (LMIS) made the marketing process more tangible and transparent, improving efficiency for both pastoralists and traders which translated into more value for livestock assets.

The PEACE Project worked with other on-going USAID initiatives to promote rangeland resource management and livestock development. Specifically, PEACE proposed to work with RAMP (Rebuilding Agricultural Markets in Afghanistan Project) and the follow-on to RAMP, the new Animal Health activity of the PASA with USDA, and the Biodiversity Conservation Project with Wildlife Conservation Society to create linkages across target communities and further support the integration of services and interventions.

Extension I and II Project Description

During the extension period (July 2010 – October 2012), the PEACE project consisted of the following major components:

1. Pastoral Conflict Resolution
2. Capacity Building

The focus of the project shifted to resolving land access issues and capacity building to ensure a sustainable future for the project's activities. The final period of the project aimed to develop a team of Afghan individuals with the skills necessary to support communities and train future generations in conflict resolution and negotiation. In addition, the PEACE project developed the capacity of government personnel at IDGK and MAIL.

During the first extension period (July 2010 – April 2011), when funding support was acquired solely from the USAID/Afghanistan Office of Democracy and Governance, the focus of the Afghanistan PEACE project shifted to the Peace Ambassador (PA) Program. Developed as a pilot program in Phase I, the Peace Ambassador component of the PEACE project is a multi-tiered training, outreach and implementation initiative being conducted at two levels, Tier One -- Training of Trainers and Tier Two -- Training at the community and village level. This community-based conflict resolution model promoted positive government involvement in finding peace for the Afghan people, and also empowers individuals and communities to resolve land tenure issues from the ground up.

Peace Ambassador Model. The Peace Ambassador model worked within the context of the local organizational structure and culture. Peace Ambassadors were selected through a comprehensive, community-led process. In each province, community elders and leaders select a group of people from the villages to attend a 3-day workshop on conflict resolution. At the end of the workshop, the communities self-select representatives for each province to continue training and act as a "peace ambassador" for the region. The Peace Ambassadors receive further intensive training and develop workplans for their region. Each Peace Ambassador works closely with the PEACE project trainers and the President's Commission on Tribal Affairs.

During the second extension period (May 2011 – October 2012), funding support was once again provided by the USAID/Afghanistan Office of Agriculture. At the request of the Mission to Afghanistan, the PEACE project submitted a proposal for additional funding to expand the Peace Ambassador Program and build capacity. The project focused on specific training objectives that would build sustainability of the Livestock Early Warning System (LEWS), Livestock Nutritional Profiling System (NIRS), Livestock Marketing Information Systems (LMIS), conflict resolution training program and government departments, specifically IDK and MAIL.

As the PEACE project moved to hand over management, leadership and functionality of the project to the Afghan people, training of trainers and institutional capacity building was the focus of the extension. The Peace Ambassadors program was the cornerstone of the project and particular emphasis was placed on building a team of conflict resolution trainers and managers within the President's Commission on Tribal Affairs.

Additional capacity building targeted the Independent Department of Kuchi. Training included workshops to facilitate communication and coordination with government ministries, NGOs, and other organizations working in Afghanistan; and, support for basic professional skill training such as English, office management, basic computer operations, fiscal accounting and report writing.

The PEACE project also supported long-term mediation training for Provincial Kuchi Directors, developing a toolkit for training for IDK as well as the Peace Commission. The project facilitated provincial herder alliance shuras. Utilizing the information gained from the monthly shuras, the PEACE project coordinated with MAIL to develop the Kuchi Policy Unit within MAIL.

PROGRESS BY YEAR

Year One: July 1, 2006 through June 30, 2007

SUMMARY

The first year of activity focused on establishing the foundation on which the project could be built. Highlights in the first year include:

- In-country administrative and logistical support was established through an agreement with Mercy Corps.
- Memorandum of Understandings (MOUs) were established with two departments within the Ministry of Agriculture, Irrigation and Land (MAIL). The agreements, one with the department of Animal Health and the other with the department of Natural Resource Management, were both signed by the Technical Deputy Minister of Agriculture. MAIL has been fully engaged with the PEACE project from the beginning. The Department of Natural Resource Management was involved in institutionalizing the Livestock Early Warning System while the Department of Animal Health is implementing the Near Infrared Nutritional Profiling System.
- Training of MAIL staff was initiated. Eighteen began training in LEWS and two in NIRS. In addition, over 3-months has been invested in mentoring and intensive field training for MAIL staff. It is anticipated that the three Kabul-based MAIL employees assigned to the PEACE project will assist in training more government staff and university students.
- Non-governmental organizations (NGOs), government organizations (GOs) and Kuchi groups were identified to receive forage information in the future. The forage information will not become available until next growing season.
- The Department of Kuchi Affairs was identified as a major conduit for linking information to herders. This independent department has been very helpful and is interested.
- Two workshops on negotiation strategies and conflict resolution techniques were held, providing training to 49 people. The second workshop specifically targeted government officials who routinely deal with land-use conflicts.
- Over 200 species of plants were collected during the vegetation surveys. Plant identification is essential for running the plant growth model that operates the Livestock Early Warning System.

MAJOR IMPLEMENTATION ACTIVITIES INITIATED YEAR ONE

Established in-country administrative support

Mercy Corps was chosen as the in-country collaborator for the PEACE project for two major reasons. First, Mercy Corps had previously worked with the UC Davis / Texas A&M team in Mongolia to set up a Livestock Early warning system. Due to the success of the Mongolia collaboration, Mercy Corps was on the top of the list for potential collaborators in Afghanistan. Second, Mercy Corps has had a long-standing program in Afghanistan. This assisted the PEACE Project in a more rapid and effective start to the project.

During year one, an agreement with Mercy Corps was completed that provided the project with logistical support and an extension of this contract was finalized for year 2. One of the first collaborations with Mercy Corps was a jointly funded conflict resolution workshop held in May (see Other achievements section below for more information).

Infusion of the Forage Monitoring System

The focus at the conclusion of the year was on conducting vegetation surveys to acquire the data needed to develop the Livestock Early Warning System for Afghanistan. Field work required to implement the LEWS project began in April. The project conducted vegetation surveys in seven Provinces. These included Kabul, Parwan, Baglan, Kunduz, Takhar, Bamyan and Panjshir. Staff from the Department of Land Resources within the Ministry of Agriculture accompanied the project team during all the field work. The project team trained a total of 18 MAIL employees during this sampling period.

An MOU between the Afghanistan PEACE project and the Department of Natural Resource Management was signed on April 8th, 2007. It clearly outlines what the PEACE Project and the MAIL will contribute to establish the Livestock Early Warning System.

Outcomes specified in the MOU

1) An improved understanding and capacity to work with new technologies (e.g. LEWS / LINKS technology).
2) Establishment of a scientific database on rangeland resources and nomadic pastoral production systems, including generation of near real-time resource data to support emerging resource decision-making.
3) Ability to acquire information for assessing current rangeland conditions and predicting future conditions across Afghanistan, to better facilitate management of Afghanistan's natural resources, rangelands and the livestock sector.

Infusion of the NIRS Nutritional Management System

During the first year a site was located for the Near Infra Red Spectrometry (NIRS) laboratory within the Department of Animal Health. The Director, Dr. Aziz Osmani, provided the project with two buildings to house the office/lab and an animal feeding facility. 2007 was a difficult year for the Department as they had been short-handed during out-breaks of bird-flu. The NIRS lab was not scheduled to come on-line until the second year of the project, however, during the first year, the way has been paved for an easy installation and implementation of this component.

The project invited staff from MAIL's Department of Animal Health to attend a NIRS training in Mongolia, however, due to delays within the Ministry of Foreign Affairs the visas could not be issued in time. As an alternative, a Mercy Corps Veterinarian and the PEACE project's technical assistant attended the training in Mongolia. This enabled them to transfer the information learned in Mongolia to the Department of Animal Health. The Mercy Corps Vet used to work with in Dr. Osmani's Department and maintains a good working relationship with him and the other department staff.

An MOU between the Afghanistan PEACE project and the Department of Animal Health was signed on June 24th, 2007. It clearly outlines what the PEACE Project and the MAIL will contribute to establish the Near Infrared Nutritional Profiling System.

Outcomes specified in the MOU

4) A fully operational NIRS and nutritional profile lab.
5) Increased capacity to use NIRS technology.

Forage Monitoring and Nutritional Information Delivery and Outreach

The outreach and delivery of project information began being developed during the first year of the project. The PEACE project team worked with the MAIL to develop a radio program that could be broadcast over AM radio straight from the government radio station at the Ministry of Agriculture. Relationships were developed with other projects that are trying to help Kuchi herders. Tribal Liaison Office, Shelter Now, Medair and Assests are among the NGO's the project approached for collaboration. These organizations are providing various services to Kuchi herders and could provide important in-roads for the team to reach Kuchi with forage condition and market information. In return, the project can assist these organizations with conflict resolution issues for Kuchi in their areas of influence.

There were two aspects of the delivery and outreach activity that were not addressed during year one. The Afghanistan PEACE project web page was in development and scheduled to be operational by September 2007. A radio network had not been tested to date. The project was exploring the best option for the radio transmission. At the conclusion of the first year, a potential viable solution was identified but it would still be some months before the project could hope to test out the government radio. As the year ended, the project was in discussions with the MAIL to put together a weekly agricultural radio program.

Linking the Technology with Herder Alliances

Dissemination of project information on forage condition has been discussed with the most relevant NGO's and the MAIL. The potential advantages of LEWS have been communicated to MAIL and the relevant NGO's including those that work directly with Kuchi Herders.

The General Director of Kuchi, Agha Doud Shah Niazi, has introduced the project team to some of his provincial staff. He has provided the project with unlimited access to Kuchi through his office. He is also very interested in conflict resolution regarding access to grazing lands for Kuchi. After the conflict resolution workshop in May, priority areas to test some negotiation and resolution methods were discussed. The PEACE project team was planning to visit those areas in the early fall with the project's conflict resolution consultant. The trip would allow the project to refine and facilitate the development of a conflict resolution strategy for Kuchi herders.

Building Capacity within the MAIL, NGOs and the University

The primary capacity building focus the first year was with the Ministry of Agriculture. The project placed a major amount of time in developing the relationship between the departments within MAIL and the PEACE Project. The strategy was to first develop trust with individuals and then to proceed by including the relevant MAIL staff in the initiation of the project. The first step was the development of an MOU that spelled out the Ministry's role from providing people to be trained to how to implement the Livestock Early Warning System. In this way the project developed the foundation on which the sustainability of the system could be built. Several MAIL staff from Kabul accompanied the PEACE project team during the entire field season. For each province, at least two local MAIL staff members participated in the sampling.

The Faculty of Agriculture and Faculty of Animal Science at the University of Kabul were also informed of the PEACE project's objectives and desire to train University students. During year one, the project made a decision to concentrate on building capacity within the MAIL first, and then after we had a core group of Ministry people trained the training of the University students would be more effective.

Other Achievements

- Training provided to 49 people during two workshops that focused on negotiation strategies and conflict resolution techniques. The second workshop targeted government employees. Government people that regularly deal with land-use conflicts were specifically invited to the workshop. Five provincial representatives from the Department of Kuchi Affairs were among the attendees. The PEACE project aims to engage these representatives into using known methods of conflict resolution to solve the many problems they are facing. Feedback was overwhelmingly positive and the project was asked to continue to provide this type of support.

- During vegetation surveys this field season the project team collected over 200 species of plants. These were collect in triplicate when possible and most were identified to genus. One copy was sent to the University of Gottingen in Germany for identification to species. This University has several botanists that specialize in middle-Asian plants and a reference collection from Afghanistan. The specimens were shipped out of the country at the end of June and were expected to be identified by the end of July. Plant identification is an essential component for running the plant growth model that operates the Livestock Early Warning System. The project was assisted in sending these plants out of the country by the Ministry of Agriculture and the Ministry of Environment.

Modifications to the First Year Work Plan

During the first year of activity, modifications to the work plan included:

1. Feeding trials were rescheduled for the coming Fall. This modification to the original plan was due to the late decision by the Dept. of Animal Health as to where the feeding trials should be conducted. Approval to use the Darulaman building for trials came in January 2007 not allowing enough lead time to organize necessary equipment and animal feed. In addition, January was particularly cold

and the plumbing froze-up in the feeding facility. The delay in the trials, however, did not involve NIRS equipment purchases. Equipment acquisition proceeded on schedule for the year.

2. The original workplan allowed for the hiring of two full-time professional nationals in the capacity of livestock specialist and ecologist. However, capacity in Afghanistan is quite low and despite advertising the position six weeks, receiving about 40 applications, upon review none were of the capacity that the project needed. During a project meeting held in late January, it was determined that to meet project objectives the project would have to increase the amount of time allocated to consultancies. In addition, the project would need to increase the position of the pastoral ecologist to full-time. These changes required additional funding. As detailed in the first year annual report, a budget modification was sent to USAID that outlined the necessary funds required to get the job done. Although the request was only a modest increase, these funds would be essential to the success of the project. *While USAID initially promised to deliver these funds, a change in personnel at USAID resulted in the promise not being fulfilled.*

Year Two: July 1, 2007 through June 30, 2008

Summary

In year two, food security was increasingly becoming a chronic issue for Afghanistan due to decades of conflict, political instability, expansion of human populations, oil prices, 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 continued to focus on addressing the plight of nomadic herders in Afghanistan, and, at the same time, facilitate the Ministry of Agriculture, Irrigation and Livestock (MAIL) in its efforts to improve livestock production and range management. To achieve this aim, the Afghanistan PEACE Project proceeded with implementation a Livestock Early Warning System (LEWS) program to address native forage supply issues; and a nutritional profiling system using Near-Infrared Reflectance Spectroscopy to address native forage quality concerns. The PEACE Project also worked directly with the Independent Department of Kuchi to facilitate their ability to resolve land access issues peacefully.

Implementation of the LEWS progressed as the project tried to balance data collection needs with security issues. Security had worsened since the start of the project. Security issues in combination with very steep terrain and a poor road network were proving to be quite challenging with respect to acquiring large numbers of samples. Regardless, the project made progress and vegetation predictions were expected by July.

The nutritional profiling system was ready for scanning and the first fecal scans were anticipated to be completed by September 2008. The equation for Karakal sheep was being developed for Afghanistan and was in the final stages at the conclusion of the year. The project was planning an extensive training for September that would coincide with more feeding trials on additional breeds.

Developing a strategy for the Kuchi people to address their land access issues received much attention in the second year of the project. The PEACE project team has established a trusting relationship with Kuchi representatives and leaders across Afghanistan. During the year, the PEACE project sponsored peace building workshops for Department of Kuchi Representatives from 23 Provinces and supported some of the provincial shura meetings (12 Provinces). The Kuchi representatives, in turn, provided current information regarding their livestock production challenges.

Some of highlights of the second year of the project have been:

LEWS

- Plant species identification and mounting (over 225 plants just from the previous year's field season).
- Strengthening links with botanists and institutions in Germany.
- Converting plant species distribution data from the 1960's into GIS distribution maps.
- Plant specimens have been photographed and digitally stored.
- Digitizing of field data and Phygrow parameterization.
- Redigitizing of historical climate data.
- LEWS training for MAIL range staff.

Nutritional Profiling

- Sheep feeding trials conducted in Kabul.
- Experimental design training for Kabul University Students in collaboration with the USAID A4 Program.
- Set-up of NIRS lab in collaboration with MAIL.
- Development of training modules for nutritional profiling.
- Diet:fecal pair results.
- Near infrared equation development in Texas.

Strategy for assisting Kuchi people and livestock production in Afghanistan.

- Peace and Negotiation Workshops for Kuchi Representatives so the can better address land conflicts in their Provinces.
- Collaborative Peace and Negotiation Workshops for Kuchi and Hazara Representatives in order to initiate discussion regarding the use of migration routes in to the central highlands.
- Facilitation of Kuchi shura meetings in 12 Provinces to develop herder alliances, collect information from Kuchi Herders and resolve land conflicts.
- Database creation for the Department of Kuchi so they have a better understanding of constituent challenges.

Additional Capacity Building

- Internship for 10 University students during Karakal sheep feeding trials.
- Training delivered to Mercy Corps field staff on monitoring vegetation change.
- Trainings delivered to students at Kabul University regarding vegetation sampling methods, GPS technology, feeding trial research and design.

- 18 presentations regarding LEWS and Nutritional Profiling delivered to Provincial MAIL staff, NGO's and Ministry advisory committees.
- 3 presentations regarding conflict resolution.
- Web site development.
- Livestock Production Workshop held in Kabul in association with the GL-CRSP and Purdue University.

MAJOR ACTIVITIES IMPLEMENTED YEAR TWO

Infusion of the Forage Monitoring System

The project team identified 225 plant species and developed the data set that were used in the Phygrow model for forage prediction essential for the operation of the LEWS technology. This information can also be used to develop vegetation classifications for some of Afghanistan's Rangelands. These specimens have been mounted for use as herbarium specimens. The collection was retained with the PEACE project until such time as the Ministry of Agriculture could properly house the specimens.

The PEACE project team was assisted with identification by the University of Gottingen and the Munich Botanical Garden and Herbarium. At least two individuals committed to helping with species identification over the next 3 years. One is the botanists who helped with species identification last year, and the other is one of the leading authorities on Afghanistan's flora. The leading authority, Dr. Dieter Podlech, also kindly agreed to share his Afghanistan species collection lists with the PEACE Project. These lists range in date from 1965 to 1971 and include over 1000 specimens, their location, collection number and the collection date. During year two, the project initiated converting this data to a more manageable database for querying and mapping purposes. Once completed, the project made the information available on the PEACE website, afghanpeace.org.

The plant specimens that have been mounted have also been photographed and these photos are used to help with future identification. The digital photos provide a quick and portable reference and were shown to herders and livestock producers during field trips. This became a very effective way to recheck common plant names (i.e., Dari and Pashto) and their uses.

The historical climate data was completely digitized this past year. The data includes 21 stations and each station has about 20 years of data. The main task has been to re-format the data and check it against the original hard copy. Unfortunately, the way the historical data was entered previously was fraught with errors. Cells were formatted incorrectly and decimal points were missing on many of the measurements. The project had the original hard copy for comparison and once corrected, the data was sent to Texas to undergo modeling techniques to fill in the missing data. The end product allowed comparisons of current climate conditions with historic norms essential for the LEWS technology to operate..

The field season for year two began on March 23rd 2008 with a 12 day trip to Balkh and other northern provinces. Two Kabul University graduates (Faculty of Agriculture) were contracted to accompany the team during year two. As in year one, five Ministry of Agriculture staff also traveled with the team.

(Three MAIL staff from Kabul and two additional staff from each province). The MAIL personnel conducted the vegetation sampling under supervision of the PEACE project team.

During the Year Two field season, vegetation sampling was conducted in seven provinces. Breaking into two teams helped the project to sample a bit faster than last year. The northern lowland grasslands were the first areas visited. These grasslands are dominated by *Poa bulbosa* and *Carex pachystachis*. The condition of the early spring rangelands were not very good in 2008 and offered very little in the way of forage to female sheep and goats that require good nutrition to produce milk for their newborns. In some areas of the Northern Provinces the rains simply failed and forced many of the Kuchi to search for grazing areas in Tajikistan and Turkmenistan. Higher elevation rangelands fared slightly better although these too were not extremely productive in 2008. The data collected was used to build the LEWS model.

Notable survey accomplishments during year two's field season include:

- completed 32 new surveys and monitored 7 previous sites
- collected close to 200 new plant specimens
- soil pit characterization at locations where vegetation is being monitored for LEWS

Security issues hampered the expansion into new survey areas. Trips to Faryab, Jawzjan and Logar were cancelled due to very poor security.

The initial model runs for the plant growth model were not completed in year two. Not having enough samples due to security issues was partly responsible. At the end of year two, the project expected that with the 2nd year's survey data the project could start making some predictions by the end of the next growing season. In the meantime, the plant growth modeler continued to collect and parameterize the soil, weather, and survey information.

Infusion of the NIRS Nutritional Management System

The NIRS Program **-** NIRS technology allows an analyst to determine the quality of forage that an animal is eating whether it comes from native sources or as a supplement. 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.

Year Two began with an opportunistic visit to Texas A&M's nutritional profiling lab by head veterinarian and Director of the Animal Health and Husbandry Department, Dr. Aziz Osmani. He was being hosted by Bob Smith, USDA, in the United States and they had planned a visit to TAMU. The project organized a tour of the NIRS facility at TAMU for them. Dr. Osmani was able to see first-hand the type of laboratory we are developing for his department in Kabul.

The NIRS laboratory in Afghanistan is located in the Department of Animal Health and Husbandry at the Darulaman complex. The laboratory was housed within one building on the compound. A large room

was devoted to the sheep and goat feeding trials. Feeding trials were conducted to develop nutritional equations for the Near Infrared readings. A second room was used for processing fecal samples collected during the feeding trials or from Afghanistan's rangelands. The processing room contained a drying oven, grinder, scale, desiccator, and collection supplies. The third room housed the near infrared scanner and computer that the project used to take the sample-scan.

Diet:fecal Pair Research Details **-** In October 2007, the Afghanistan PEACE Project commenced its first of three quality-controlled feeding (e.g. diet) trials with 10 male karakul sheep. The karakul is a breed of sheep favored by Kuchi herders because of its resistance to disease and parasites, and because the wool and hides from this breed commands a high price. The quality-controlled feeding trial consisted of feeding the yearling male sheep with three different diets followed by the collection of fecal samples to predict dietary crude protein (CP) and digestible organic matter (DOM). Diet samples and fecal samples obtained during the feeding trials were shipped to Texas A&M University for chemical and NIRS analyses.

The results of the fecal scans showed that H-values from the 100 samples were very low, which is good. (The H-values measure how well the samples fit the equation). If H's were high, this would basically indicate that more work would be required. This meant that there was still a good possibility that current equations, once adapted, would have use in Afghanistan. The results of the chemical analysis of crude protein and digestible organic matter showed that the diets used in the feeding trials were in the nutritional range that was to be expected. These results were used to aid predictive equation development for crude protein and digestible organic matter.

In January, the near infrared scanner and computer were brought to Afghanistan. The Ministry of Agriculture, Department of Animal Health and Husbandry identified a person to be trained to operate the equipment for the nutritional profiling technique.

Several tutorials and e-training modules for the near infrared scanner and its software are being developed by the project. These self-training materials were expected to allow someone to set up and use the equipment on their own. The online course will teach students how to implement NIRS fecal sampling technology, which provides a specific point in time analysis of the chemical makeup of a manure sample. Once the chemistry of the diet and spectra of manure is identified, the amount of crude protein (CP) and digestible organic matter (DOM) can be determined. Ministry staff and university students will be able to learn how to set up and maintain equipment, conduct calibration and validation of equations, as well as collect and process samples. The materials were translated into Dari for use during feeding trials scheduled in the fall. The Division of Animal Health director has designated a person to learn the NIRS technique.

Senior students at Kabul University competed for a research grant to carry out research in Afghanistan. The PEACE Project has collaborated with the ASAP project in sponsoring feeding trial research that would ultimately be conducted by students. The research developed nutritional profiling for sheep and goats in Afghanistan.

Linking the Technology with Herder Alliances

A good working relationship has been developed with the Department of Kuchi in Kabul. Identification and use of Herder Alliances to disseminate forage information was progressing in year two of the project. The facilitation of Kuchi Herder alliances is one of the components required for the dissemination of LEWS and NIRS information. Creation of the information network that can be used to deliver timely information to herders requires intimate knowledge of how herders organize themselves. To accomplish this the project worked with the Director of Kuchi, Daud Shah Niazi. He has suggested that one easy way to begin the formal development of these alliances would be to initiate meetings (shuras) within each Province that include Kuchi leaders. In addition to the usual sharing of information and problem solving, monthly meetings would include; training in the development of conflict resolution strategies, training in the use of LEWS and NIRS information, and the development of stronger alliances that would have access to improved information sources.

A database has been established to store range information from many provinces around Afghanistan. While in Nangarhar Province the project team spoke with the Kuchi shura members about providing information to us. The Independent Department of Kuchi Director has distributed survey forms to acquire information for the project.

Facilitation of Kuchi shura meetings in 12 Provinces began in May 2008. The purpose of facilitating the meetings was two-fold. First, the project is interested in gaining better seasonal information about the Kuchi's challenges. This was an agenda item for every shura meeting facilitated by the project. Secondly, by strengthening the shura meetings the project strengthened the "herder alliances". The project developed herder alliances as a means to disseminate forage quantity and quality information. Each shura gathering provides a way to pass information directly to the herders that need it. The team attended as many of these herder association meetings as possible. In addition the facilitation of Shuras also helps to support a forum for Provincial Kuchi Directors to address land conflicts for their constituents.

Building Capacity within the MAIL, Independent Department of Kuchi, and Kabul University

Ministry of Agriculture, Irrigation and Livestock – Government capacity building was one of the most important focuses for the PEACE Project.

Enabling the Division of Natural Resources to produce and interpret the early warning results required extended face to face capacity building. The PEACE project spent four months in the field together with MAIL staff and additional time during the remainder of year two working with the same rangeland people. Provincial rangeland-staff also accompany the team in their provinces. Several one-day training seminars were delivered during year two to MAIL staff from the Range department. A refresher training was given on the project and covered the LEWS component in detail. The MAIL staff were very involved in the data collection component used to make LEWS predictions. The next step in training for them was to learn about entering the data that was collected in the field. The project recognized that to take

on this next step the staff will need to have computer training. The project began working out an agreement with the Ministry to allow them to receive computer classes.

Much effort during the second project year was placed into the development of training materials, in particular, the nutritional profiling system. NIRS training modules, being developed in Texas, ensure that nutritional profiling will be sustainable within the Department of Animal Health and Husbandry. Training modules are being specifically developed for the equipment being used in Afghanistan.

Three presentations were made to the key MAIL staff and the steering committee within the Ministry of Agriculture. In addition, two presentations were delivered to Ministry of Agriculture rangeland staff.

Kuchi Peace and Negotiation training - One of the components of the Afghanistan PEACE Project is to help the Department of Kuchi develop a strategy to solve conflicts across Afghanistan. During year two, the project engaged the Department of Kuchi by providing their provincial directors with peace and negotiation training. The strategy for resolving conflicts, includes not only training Kuchi staff but also includes helping them to prioritize and address specific land access, and winter feed problems. The development of a Kuchi database progressed and it was anticipated that the database would help the project understand how Kuchi are organized across the country.

On November 4-7th, 2007, twenty-six Kuchi Representatives from 23 provinces attended a peace and negotiation training workshop implemented by the Sanayee Development Organization (SDO). The objective of training Kuchi representatives was to help them to be better prepared to solve a variety of conflicts in their provinces.

The workshop covered a variety of topics and was delivered in Pashto and Dari. Four experts from SDO presented material developed to give participants some basic tools to solve problems and conflicts. First they began by developing a list of Kuchi problems and potential solutions to those problems.

Topics covered included:

1. Defining conflict
2. Types of conflict
3. Understanding conflict process
4. Methods to solve conflicts
5. Building Peace

Examples of problem solving techniques were given and discussions included most participants. There was an overall positive reaction to the workshop discussions and by the end of the 4th day most of the representatives said they were very happy with the messages delivered. There was also great interest in having peace and negotiation workshops held in the provinces.

The PEACE project supported a conflict resolution consultant to work with the project in Kabul since January. He worked with the independent Department of Kuchi for the last six months of year two to develop a strategy to solve conflicts. In addition he has taken on three conflict resolution workshops that began on March 8th and finished in early April. These workshops were requested by the

Independent Dept. of Kuchi to help resolve their highest- priority conflict with the Hazara people over grazing rights in southern Bamyan. The workshops attempted to develop an atmosphere of resolution between the Kuchi and Hazara people. The Advisor to the President on Tribal Affairs sanctioned the workshops as a means to promote reconciliation between the two groups prior to the start of the growing season. Each group sent 30 leaders to separate workshops to begin the training process. Half of the leaders from each group then attended a third joint workshop with Hazara and Kuchi leaders. Some of the positive outcomes of the workshop were;

- Mutual recognition of rights (grazing, education, health, etc.)
- Action plans: practical suggestions for future collaboration (i.e creating joint local shuras)
- Exchange of contact information between participants

Participants were also evaluated to determine how much of the material they learned and understood. When the baseline survey was compared with the final evaluation there was an increased knowledge of conflict resolution methods, an increased knowledge of the other group's views, and concrete suggestions for future collaboration. These results provided a bit of optimism for a complicated situation.

University Collaboration- The diet: fecal pair research offered opportunities for collaboration with the Kabul University and USAID's A4 program. As part of this collaboration, internships were offered to two 3rd year students from Kabul University and involved full participation in all aspects of the feeding trial, as described above. In addition to the two internships, six- 2nd and 3rd year students were invited to participate in the feeding trials for a minimum of 3 days each. These students assisted by working side-by-side with the interns, in all phases of the trials.

Collaboration also involved giving two seminars to Dr Sahak's class on Feeding and Feeding Trials. The first seminar involved a field trip to the Daruleman facility where the trials were being held, at the start of the medium-quality feeding trial. The seminar included an overview of Texas A&M University's LEWs and NIRSs programs; the purpose of the diet: fecal pair research and how the feeding trials were being conducted; and how the results will be applied in the context of the NIRS program. The second seminar took place at the Kabul University and involved discussions on protocol for drying fecal samples for shipment to the US, observed total forage consumption over the duration of the trial, and possible explanations for individual differences in consumption and weight gain. In total, 20 students participated in the trial with translations provided by Dr. Sahak and Mr Spein-John, both faculty members from the Kabul University. Students from Dr. Sakak's class included:

Over a 2-day period, lectures were delivered to Kabul University students on vegetation measurement methods. The lectures were followed by hands-on field work training to present methods used to the collect information for the LEWS.

Other Achievements

- The PEACE project web site has been officially launched at http://afghanpeace.org.

- Supported and collaborated with the EU's Animal Health Development Program. The project provided them with blood and fecal samples from captive sheep so that they could train students at Kabul University.
- Students in the Animal Science department learned how to use different pieces of lab equipment to conduct diagnostic tests on the blood and fecal samples.
- Attended USAID's Agricultural Fair – the team spent 3 days promoting the PEACE project at the Ag Fair. The presentations at the Ag Fair sometimes accumulated crowds of over 50 people at a time. The project estimated that approximately 3000 people stopped at our booth during the event.
- Trained Mercy Corps staff to monitor vegetation change in pastures undergoing restoration efforts. Staff were trained from Burka and Khost districts in Baghlan Province and Ishkamish district in Takhar Province. In 2008, Mercy Corps was promoting watershed protection and restoration in all three areas and needed help designing sampling protocol for monitoring species composition and coverage changes.

Year Three: July 1, 2008 through June 30, 2009

Summary

The global food crisis in 2009 placed a renewed urgency on food security in countries most vulnerable to hunger. It has increasingly become a chronic issue for Afghanistan due to decades of conflict, political instability, expansion of human populations, fluctuation in oil prices, and changing land use/land tenure policies. Currently, 80% of Afghanistan's population resides in rural areas and of these, 8% are considered to be nomadic/semi-nomadic pastoralists (~6.5% of total population). The agriculture sector employs an estimated 66% of the country's total workforce. Earnings continue to remain low, however, averaging $500 per year, leaving many with few alternatives other than to engage in the illicit poppy industry.

It is widely recognized that improving livestock production in Afghanistan is important for stabilizing the country's economy:

- Estimates suggest that 1.4 million animals are brought for trade to Afghanistan's six major livestock markets annually. With the exception of cattle, the markets are predominately supplied by livestock originating with the Kuchi nomadic herders (72.2% of sheep and 63.7% of goats).
- The karakul-pelt industry experienced resurgence in 2005, with an estimated 536,000 karakul hides exported from Afghanistan.
- Products from the agriculture and industry sectors, including hides, wool, pelts, mutton and carpets, in addition to cereal, fruit and nut crops, currently account for 75% of Afghanistan's export revenue.

The estimated percentage of livestock owned by Afghanistan's pastoralist's, ranges from 50% to 75%. Key to the resilience of the Afghan pastoralists, as they have often proved over time, is their *mobility*

and their *capacity to adapt* to changing circumstances. With 70-85% of Afghanistan qualifying as rangeland, this use of the landscape and lifestyle easily makes sense.

Developing sustainable and profitable livestock production practices requires several components acting in unison. These include delivery of animal health services; adoption of effective rangeland policies; research and the development of rangeland management plans; production of supplement feed sources; resolution of conflict and access issues; development of human and social capital; and greater and more effective connection to livestock markets.

Over the past three years, the PEACE project has been developing the methodology and technology to allow pastoral communities, government agencies and non-governmental institutions sufficient lead-time to respond to impending crisis and prevent resource degradation. During year three of the project, forage predictions for eight provinces were available for viewing on the PEACE website and regularly transmitted to aid agencies within Afghanistan. In addition, data and maps derived from over 1800 questionnaires, designed to identify specific risks for the Kuchi, were distributed via electronic media to government and non-government institutions, to facilitate their programming and planning efforts. The project also established a successful conflict resolution program that gained support of government and stakeholders alike. By the end of year three, more than 200 Kuchi leaders had received training in peace and negotiation theory, and conflict resolution and mediation; and nine Kuchi leaders were trained to serve as conflict resolution trainers for the Kuchi living in rural areas. In collaboration with university and government entities, the project established a herbarium with over 700 specimens; documented and preserved important ethnobotanical information; digitized over 50 years of historical climate data from more than 20 climate stations in Afghanistan; and trained more than 100 Afghan scientist and leaders.

The PEACE project continued to make gains towards the completion of the project work plan. The livestock early warning system (LEWS) was adopted by the Department of Natural Resource Management within the Ministry of Agriculture, Irrigation and Livestock (MAIL). In 2009, in the most recent draft of the department strategy document they included the LEWS as a major component of their monitoring and surveillance scheme. The PEACE Project was contributing to the database on rangeland resources and nomadic pastoral production systems. In addition, the MAIL was planning on establishing a regulatory framework for natural resource management and conflict resolution. The PEACE project had been stressing the need to integrate conflict resolution with natural resource management for the last 2.5 years and were pleased that was to be incorporated into the department's policy. The Department of Animal Health was establishing the nutritional profiling laboratory in 2009. There were plans to develop a complete Nutrition Lab so that the complimentary components of wet chemistry and near infrared scanning would be available in Afghanistan.

Here are some of the highlights of year three:

Year three provided more training for government staff and university graduates. Expertise development continued in support of the Livestock Early Warning System and the Nutritional Profiling systems that were being adopted by the Ministry of Agriculture, Irrigation and Livestock. Training efforts focused on plant species identification, plant collection, vegetation survey methods, monitoring methods, animal diet nutrition, and near-infrared scanning of diet samples. To date the project provided

2740 person-days of training for the early warning system and 1365 person-days of training for the nutritional profiling system.

In addition to building capacity, the PEACE Project worked hand in hand with the Ministry of Agriculture staff. When the project met with rural community leaders, MAIL staff were seen by the communities to be assisting with their needs. The PEACE project experienced many times when the rural representatives would begin to complain about the lack of interest and concern from the government in general. When the communities discovered that MAIL colleagues were working together with the project they were reassured that someone in the government is interested in their issues.

The project continued to conduct surveys and monitor rangelands to develop the *Livestock Early Warning System.* In early July 2008 the project conducted field work in Badakhshan. Year three was particularly interesting because the project was able to visit the entire extent of the Shewae Kolone grassland. In addition to conducting five surveys in these rangelands the project team also conducted interviews with Kuchi herders that had arrived from Kunduz Province. Shewae rangelands were productive but the Kuchi had to move onto them several weeks earlier than normal. In 2009, was not able to reach Shewae Kolone until well into July due to the heavy snow and numerous roads that have been washed out near Baharak. This difference from one year to the next shows the tremendous variation in climate within Afghanistan and underscores the difficulties in reliably surveying rangelands here. Years One – Three, the project conducted 70 vegetation surveys in 15 provinces. Information about forage productivity in these rangelands can be found on the website http://afghanpeace.org/.

Electronic Learning Modules were developed to assist in training for the Nutritional equipment left with the Ministry of Agriculture, Irrigation and Livestock. The training modules were distributed on DVD's that allow training to be conducted without an internet connection. The modules contain training videos with audio in English, Dari, or Pashto. The training modules are posted at http://cnrit.tamu.edu/elearning/unit1.html.

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 researchers to determine the relationship between animal performance and the state of rangelands in Afghanistan. Specifically, with this technology researchers 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 of cashmere wool; and use in the flour mill industry to determine protein and ash content, and water absorption. In October 2008, the project conducted 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:fecal pair feeding trials and from the Animal Science program at the Kabul University.

The Afghanistan PEACE Project organized a two-day Development Workshop for Kuchi leaders and

representatives of development organizations. 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 contact 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 turned out to be a success. After the workshop, the World Food Programme (WFP) contacted the Kuchi leaders from Faryab, Jawzjan, Balkh, and Kunduz and distributed emergency food to them this past winter. During the PEACE project's recent trip to Faryab and Jawzjan the Kuchi leaders told the team that it was the first time that they received this type of assistance from WFP. Other organizations that developed relationships with the Kuchi Directors as a result of the workshop were ASAP and the U.S. Military.

A detailed Livestock Market Assessment was initiated to determine the Kuchi contribution to the Afghanistan economy and projected impact of the project on local, regional and national economies. Altai Consulting implemented the study. The livestock market assessment is a four-part data collection effort to capture market variability throughout the year. The first two surveys were conducted for Fall 2008 and Winter 2009. A total of 1168 sellers, buyers and butchers have provided information.

Preliminary estimates suggest that 325,700 sheep, 87,200 goats, and 22,500 heads of cattle are brought for trade to Afghanistan's six major livestock markets during the period October - December (fall). When extrapolated to an annual figure, the data suggest that 1,392,800 sheep and goats are brought for trade to Afghanistan's six major livestock markets, annually.

These major livestock markets are predominately supplied by livestock originating with the Kuchi (except for cattle): 72.2% of sheep, 63.7% of goat, and 5.4% of cattle was reported originating from Kuchi herders or sellers. Significantly, the intuitive perception of all stakeholders, in the six major markets where the surveys were conducted, corroborated that the Kuchi were the primary suppliers to the livestock markets: sellers were of the opinion that 81.0% of sheep, 75.1% of goats, and 4.0% of cattle were owned by Kuchi people; buyers, that 83.5% of sheep, 65.3% of goats, and 3.0% of cattle were owned by Kuchi; and butchers, that 74.6% of sheep, 51.9% of goats, and 1.0% of cattle were owned by Kuchi.

In December a preliminary Risk Management Assessment was conducted for Kuchi herders. 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 Kuchi who reside in different provinces. In Year Four, the PEACE Project initiated a Community Based Risk Management (CBRM) pilot

project that focused on portfolio diversification, conflict management, and social and human capital development. Well-trained Collective Action Groups (CAG) would serve as a vehicle to deliver the above. Herder organizations the CAGs, for the targeted community were formed and strengthened. Locations for the pilot projects were in Balkh, Jawjan and Kunduz and began in July 2009.

The PEACE Project continued to Expand Capacity for Kuchi Leaders. Kuchi leaders from three Provinces, Balkh, Kunduz, and Paktia have been undergoing development as peace-building trainers. At the beginning of year three, these nine leaders went through a month-long training course to learn how to raise awareness about peace, to solve conflicts and to establish multi-ethnic peace shuras. They reached another milestone in their development during the summer as they conducted their first solo workshops to raise awareness for Kuchi leaders at the district level in each of the Provinces. They reached an additional 51 Kuchi leaders during the workshops. With continued follow-up and training these nine leaders are expected to develop into expert trainers and expand the ability for the Kuchi to resolve conflicts. These long-term training efforts have the potential to initiate widespread awareness among the Kuchi to settle access conflicts peacefully. The biggest winners from this effort to solve conflicts will be the Afghan people, the environment and the economy. Year one – three, the project has provided 2949 person-days of training in conflict resolution and peace building efforts for Kuchi leaders.

Peace Building and Conflict Resolution Program between Kuchi and Hazara. The PEACE Project facilitated an effort to bring Kuchi and Hazara representatives together in March of 2008. This effort was an attempt to initiate a dialog between the Kuchi and Hazara that were in a dispute over grazing lands in Wardak and Bamyan Provinces. The project worked with the Independent Department of Kuchi and the President Karzai's Commisioner on Tribal Affairs, Wahidullah Sabawoon. The series of three workshops initiated dialog that previously did not exist. The project was asked to conduct a similar series of workshops by Wahidullah Sabawoon and the project began directly addressing the issue in Behsud. These workshops were implemented by the Sanayee Development Organization and sponsored with funds coming from the Global Livestock CRSP at UC Davis. The joint workshop was very successful and what emerged was a plea to the government to defuse the political pressures that continue to provoke this conflict. Both Kuchi and Hazara representatives agreed that with a concentrated effort the conflict could be resolved on the ground. Political leaders from both sides, however, were using the situation to drive their political agendas by inciting the conflict between the two groups. After the workshops the Kuchi and Hazara representatives self-selected five people from each group to continue to build support within their communities to end this violence. These 10 representatives became the pilot group of Peace Ambassadors.

Year Four: July 1, 2009 through June 30, 2010

SUMMARY

This was the final year of Phase I of the PEACE project. The first 4 years of the project focused on building capacity in MAIL, adapting the livestock early warning technologies to Afghanistan and establishing the NIR lab in MAIL. Over 75 rangeland surveys in 15 Provinces were conducted during the first four years despite deteriorating security. Capacity was built in the Natural Resource Management,

Animal Health and Statistic Departments of MAIL and the NIRs Lab was installed at MAIL Veterinary Institute. In addition, the conflict resolution program continued to make significant progress.

At the conclusion of Phase I, USAID's Office of Agriculture decided not to provide further funding to the project. However, USAID's Office of Democracy and Governance recognized the important work being done by the project in conflict resolution and granted an extension to the project at the end of year four.

Activities related to the original objectives of the project came to a conclusion in June 2010.

Year Four Achievements

- 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.

Major Activities Implemented in Year Four

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 TAMUs 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 where 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. The project continued with this effort throughout the summer and hoped 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 resumed the program the CAG's continued their training. A functional literacy program was initiated to enable group members to read, write and perform accounting on their finances. Training programs were geared to enable them to manage savings and loans and other financial services. A rural financial institution adopted 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 could be used to develop an effective risk management program during Phase 2 of the PEACE project. Unfortunately, USAID did not 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. With support for this aspect of the project ending in June 2010, the project worked 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 though “email support” from Texas A&M programmers.

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 the 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.

Year Five: July 1, 2010 through June 30, 2011

SUMMARY

For the first nine months of this year, the Afghanistan Pastoral Engagement, Adaptation, and Capacity Enhancement (PEACE) project received support from USAID's Office of Democracy and Governance to continue the work on conflict and land access issues. The focus of the project shifted to capacity building and the expansion of the project's "Peace Ambassadors" program.

Launched in 2008 with support from the Global Livestock CRSP, the Peace Ambassadors program has been the cornerstone of the PEACE project's conflict resolution program. Utilizing a train-the-trainers model, the PEACE project trains "Peace Ambassadors" who then return to their villages and train community members. In July 2010, when funding support was acquired solely from the USAID/Afghanistan Office of Democracy and Governance, the focus of the Afghanistan PEACE project shifted to the Peace Ambassador (PA) Program. Achievements for the PA Program this year include:

- Fifty-two Peace Ambassadors from 15 Provinces were trained in conflict resolution skills.
- In total, these Peace Ambassadors solved 616 conflicts. The majority of the conflicts were related to land access or social clashes.
- Over 2,407 meetings were held with communities, individuals and government officials in the resolution of these conflicts.
- A major conference was held to mark the one-year anniversary of the Peace Ambassadors program.
- Development of lessons learned and guidelines for program implementation were initiated. At the conclusion of the project, a how-to manual will be available for non-governmental groups.

New funding for all activities except the Peace Ambassadors program ended on June 30, 2010. However in May 2011, a $2 million, 18-month extension was funded by the USAID/Afghanistan Office of Agriculture. Despite the hiatus in funding, the Livestock Early Warning System (LEWS), Livestock Profiling System (NIRS) and the Livestock Marketing Information System (LMIS) have been accepted and placed within the MAIL's organizational structure. Currently two of the three systems are operational. The nutritional profiling laboratory (NIRS) and the livestock market information system (LMIS) have been established and are operational. LMIS was initiated in three markets as originally planned. The system was operational and completely run by MAIL at this time. MAIL staff collected data weekly. The PEACE project provided technical support to MAIL and needed upgrades to software and equipment. Capacity-levels of MAIL staff and security issues have prevented the LEWS from becoming fully operational. The Ministry has repeatedly express interest in implementing and using LEWS. While the system is relatively high-tech, it has been successfully institutionalized in Mongolia, East Africa and is currently being adapted for Mali. Further training support is needed in Afghanistan.

Linking the technologies to the pastoralists has been accomplished through Cooperative Marketing Alliances (CMA), commonly referred to as "Herder Alliances" or the "Provincial Shuras". The PEACE project has been facilitating shuras in provinces as a means to disseminate information obtained through LEWS/NIRS/LMIS. Each of the provincial directors represents multiple Kuchi leaders and have been able to further disseminate information throughout the country. Through the shuras, the Herder Alliances (CMA) have also gained a voice within the government as information and issues are also relayed back to IDK and MAIL. Support for the Independent Department of Kuchi was reinitiated with the extension in May 2011. All 31 Provincial Kuchi Shuras were supported beginning in May. The PEACE Project worked together with the Director of IDK to create a monthly report format that will assist their Department in collecting valuable information from the Provinces as well as help us to measure their success in resolving conflicts. In late May, all 31 Provincial Directors attended a workshop for training on the new reporting format and strategic planning for the coming year.

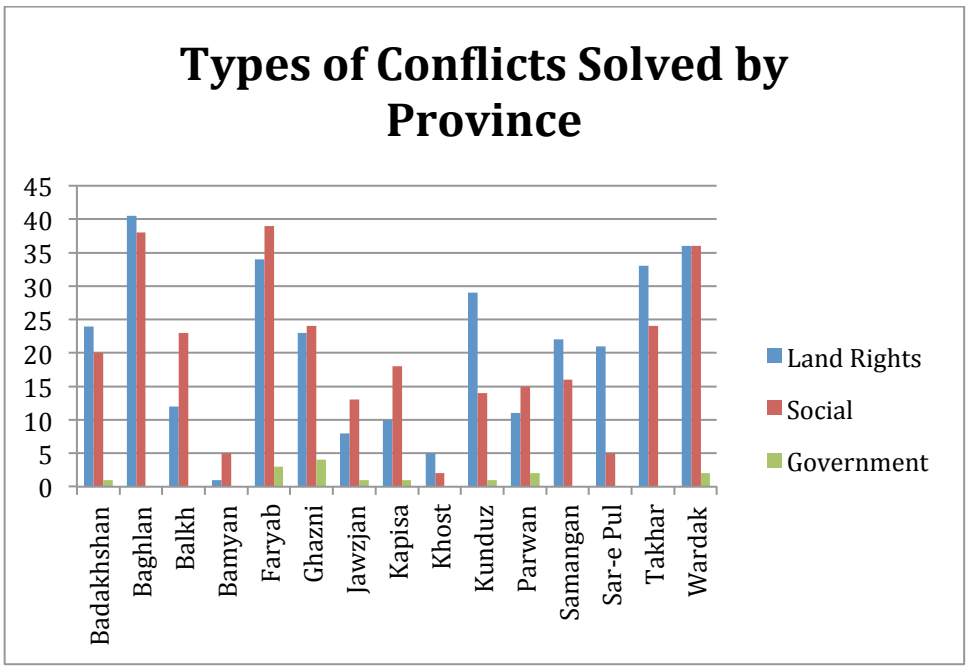
A one-day workshop was organized for representatives of the Independent Department of Kuchi to meet with representatives of various development organizations. The objective of the workshop was to bring together representatives from development organizations and Kuchi leaders with the purpose of providing a forum for exchange of information and opportunities for networking and collaboration on future projects in variety of development spheres.

The Herbarium Restoration Ceremony was the concluding event for the PEACE supported activity. The project restored tens of thousands of plant specimens representing the botanical diversity of Afghanistan. The herbarium was officially opened and dedicated at Kabul University on the morning of July 7, 2010.

Major Activities Implemented

Peace Ambassador Program. Peace Ambassadors (PA's) from 15 Provinces have been working independently and together over the last year to solve as many land access conflicts as possible. In total these leaders, representing both Kuchi and Village communities, had solved more than 300 such conflicts by June 2011. In addition, they have also solved more than 300 social conflicts for communities in these Provinces while pursuing the resolution of land issues. Twelve of these PA's have been working together for 2 years. In April, the other 40 PA's marked their first year working to bring peace to Afghanistan. All 52 PA's attended a workshop in Kabul to celebrate their accomplishments. The 5-day event included lengthy discussions about their work across six regions of the country. The participants were from Parwan, Faryab, Jawzjan, Kunduz, Sar-e-Pul, Samangan, Khost, Badakhshan, Balkh Jalalabad, Maidan Wardak, Ghazni, Takhar, Baghlan, Kapisa and Bamyan. Discussions among representatives of the Peace Commission, Sanayee, PEACE and the Ambassadors resulted in the following conclusions and suggestions for the coming year of work.

Over the past year the Peace Ambassadors have solved 616 conflicts in total. The types of conflicts solved and where they were solved are presented in Figure 1.



The resolution of these conflicts required 2407 meetings with communities, individuals and government officials.

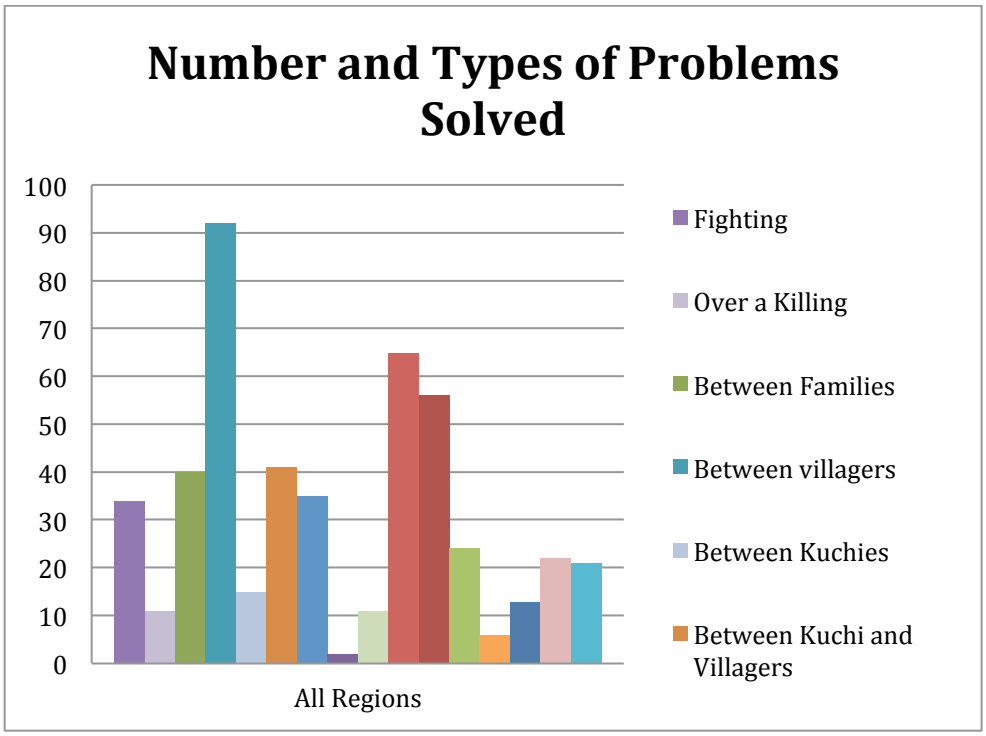


Figure 2: A mid-term analysis in February showed the number and types of problems solved.

Peace Ambassadors (PA) are using new methods of solving conflicts and managing the process more effectively. The new methods are different from traditional ways conflicts have been solved. For the Kuchi the traditional way to stop conflicts between two parties involves the selection of representatives.

Generally three people represent each party in the dispute. The representatives then, discuss the dispute and come to some solution. Everyone agrees that the solution reached will be followed. This method of resolving conflicts sometimes works to stop the fighting between parties but doesn't always resolve the issue or build peace between the two parties. One or both sides may still disagree with the outcome and therefore ill-will persists.

The project asked the PA to tell PEACE team members what they felt were the most important ways that their trainings helped them to resolve problems more effectively. The PAs indicated that they now choose a neutral location for solving problems. In the past the meetings were held in the village where the problem had occurred. They are now holding the discussions in a different location or village, somewhere that is neutral to both sides. The Peace Ambassadors also pointed out that prior to any discussions or negotiations they have learned that both sides must be prepared. Both sides need to be in the correct state of mind and willing to resolve the conflict before joint discussions begin. This is accomplished by first meeting with each side individually so the conflict can be understood from both perspectives. Understanding both perspectives requires that the PA remain neutral and attempt to clearly understand the primary interests of each party.

PA also said that they have learned how to select the correct people to address the conflicts. Instead of bringing together a large group of people for addressing a given issue they have learned to only select the people that appeared open and willing to solve the conflict. They told us that the new methods are less costly monetarily and with respect to time. This was directly related to meeting with only the people willing to solve the conflict instead of inviting a large group of people.

They also mentioned that their communication style has become more effective. They have learned to use language that does not inflame the people participating in the discussions. They mentioned that word selection is critical in discussing the conflict with participants.

Evaluations were conducted in 10 Provinces where PA are working to solve conflicts. The evaluations consisted of gathering community members from both the Kuchi and village sides to determine if the PA was indeed doing what he has been reporting. A series of questions were asked of the community members and their responses were recorded. After each evaluation visit, the evaluation team wrote up a brief report and discussed how effective each Peace Ambassador had been in their given community. They placed each ambassador into one of three categories; highly effective, moderately effective, or somewhat effective. After all the evaluations were complete, 52% of Peace Ambassadors were considered highly effective, 29% were considered moderately effective, and 17% were considered somewhat effective. The PAs in the "least effective" category were replaced with new leaders and brought to Kabul for training.

During the evaluations, communities were asked if they had any recommendations for the conflict resolution program. The responses are summarized below:

- Communities overwhelmingly supported and encouraged the program participants to continue.
- More Peace Ambassadors are needed (everyone seemed to mention this point; Governors, Communities, and Peace Ambassadors).

- Include elders of the communities, government officials, and younger representatives in conflict resolution trainings.
- The program needs to continue for a long period of time, not just year by year.
- Government's Peace Commission must act independently.
- If additional Ambassadors are selected for future work they should be known to communities on both sides of the conflict.

The partnership between Wahidullah Sabawoon's Commission, Sanayee Development Organization and the PEACE Project has initiated a solid program that builds grass-roots, conflict resolution skills within respected community members. With time this program will resolve many land-use issues between Afghans.

Kuchi Development Workshop. The Afghanistan PEACE Project organized a one-day workshop for representatives of the Independent Department of Kuchi to meet with representatives of various development organizations. The workshop was held at the German Guesthouse in Kabul. 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 four IDK representatives and several Parliamentary Members and 18 representatives from 10 development organizations. The IDK staff in attendance were the Director and Department Heads from Health, Education, and Animal Husbandry. Representatives from the following development organizations were also present at the workshop: Youth Health and Development Organization, USAID, Dutch Committee (DCA), Italian Cooperation, Asia Foundation, PALAD/MAIL, CTAP/MAIL, Save the Children, UNICEF, and the Egyptian Embassy.

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.

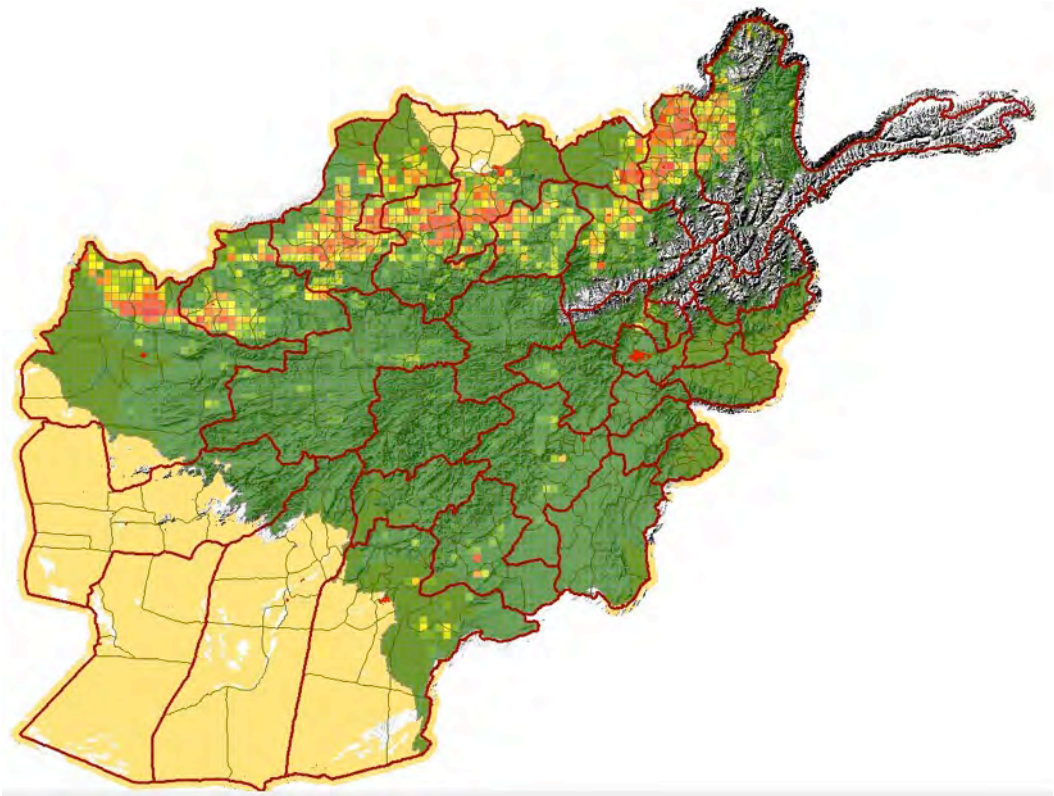
Other Activities

New funding for all activities except the Peace Ambassadors program ended on June 30, 2010. Activities to institutionalize and hand over technologies were implemented in the first quarter of the year.

Infusion of the Forage Monitoring System. Field Surveys scheduled for July were cancelled due to a deteriorating security situation. Concerns that technicians and drivers would be exposed to unreasonable risk while travelling from one Province to the next forced us to make the decision. In September the project finished modeling the vegetation information that was collected during the 2010 growing season.

The land cover map for Afghanistan was delivered to the Ministry of Agriculture's Natural Resource Management Department. The map will serve as a useful tool for the Department.

In addition to creating a new land cover map for Afghanistan we have also created a map that displays the most important areas of rangeland conversion and will help the MAIL to prioritize their rangeland restoration efforts.



Map depicts varying degrees of rangeland conversion to rain-fed agriculture across Afghanistan. Red pixels (10km x 10km) represent the most highly converted areas and dark green the least converted. The two solid yellow areas are areas where rainfall is too low to grow crops without irrigation.

Infusion of the NIRS Nutritional Management System. Nutritional quality of sheep and goat diets was assessed for several important rangelands in Afghanistan this year. The project has been collecting fecal samples from sheep and goats across the northern and central Provinces and used the correlation equations developed for Afghanistan to make estimates. At the conclusion of last year, 239 fecal samples (48 Faryab, 62 Kunduz and Balkh, 24 Samangan, 90 Bamyan, 15 Herat) had been collected and processed.

Livestock Market Information System. Live animal prices for sheep and goats were collected in Mazar, Jalalabad and Kabul for the last time. Reports can be produced and analyze trends graphically with the LMIS software. The website, http://afghanmarketprices.org/lmis provides 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.

During the first quarter there were trainings held in Mazar, Jalalabad and Kabul to introduce more traders and sellers to the system. The reception to the system was one of interest and skepticism. Most of the traders and sellers thought that the system would be very good for the livestock economy of Afghanistan but were not convinced the MAIL would be able to do it successfully. Furthermore, there was some concern about whether or not the MAIL would provide accurate

information. The project team suggested that the livestock market owners can very easily check and sign-off on the data collected each week by the MAIL monitors. In this way there can be a level of transparency that will soon allow for trust to develop about the data.

Herbarium Restoration Ceremony held at Kabul University

A once-endangered and nearly forgotten herbarium containing tens of thousands of plant specimens representing the botanical diversity of Afghanistan was officially opened and dedicated at Kabul University on the morning of July 7, 2010.

University leaders and U.S. and Afghan government officials, including Afghanistan's Deputy Minister of Higher Education, Dr. Baburi, were on hand for the event, which was held at the university's Faculty of Science building.

There was praise from university and other officials, and an address by Earl Gast, U.S. Agency for International Development mission director for Afghanistan. Activities included a tour of the herbarium and explanation of its importance to Afghanistan's education and research efforts, as well as to the country's future development.

Herbarium restoration was implemented through the Pastoral Engagement, Adaptation and Capacity Enhancement (PEACE) project. Other USAID-funded partners, the ECODIT-Biodiversity Support Program for Afghanistan's National Environmental Protection Agency, the Wildlife Conservation Society and Purdue University-Alliance for Afghanistan (A4) Project, joined with the PEACE project, which led restoration efforts.

Restoration work began in November 2009. Consortium participants and a team of technicians and student interns worked to restore the herbarium, photograph it and electronically record data on some 23,700 plant species.

At the herbarium opening, Dr. Baburi presented a plaque of appreciation from USAID to Dr. Ahmad Mirazai, a physiology professor and biology department head in the faculty of science, who has been hailed by that agency as a 'hero-scientist' for protecting the collection during the Taliban takeover.

During the Taliban regime, Mirazai moved most of the university's extensive herbarium to his home to protect it. Most of the original herbarium collection was donated to the university in the 1960s and '70s by German scientists, and it was feared the collection might be destroyed by the Taliban, who wanted to rid Afghanistan of foreign, especially Western, influence. When the Taliban fell, Mirazai returned the collection to the university, but safety issues and lack of resources left it languishing for years in a dusty storeroom until rediscovered by members of the PEACE project.

When PEACE project scientists examined the collection in March 2009, we were amazed at the sheer number and diversity of plant specimens in the herbarium collection. Equally amazing was that in spite of any specimen damage from time and inattention, most of the specimens remained in good condition and could be restored. Much of this was due to Dr. Mirazai's heroic and painstaking efforts.

The herbarium database is now available in the herbarium on a lab computer which can be used by students, faculty and researchers alike, along with photos of every specimen. This data also has been supplied to various government and non-government institutions to support their efforts in environmental management. The PEACE project continues to work to put it on the Internet so that it can be accessed by researchers and institutions worldwide. All the specimen information has been entered into a database, scientists, engineers, researchers and others involved in environmental impact assessments essential to Afghanistan's future development will have the best possible information on Afghan flora available anywhere.

The restored herbarium will be used to support the Afghan government's efforts to design, implement and manage development programs in cooperation with the university. The data has been shared with those responsible for livestock and irrigation within the Ministry of Agriculture, as well as with Afghanistan's National Environmental Protection Agency. Maybe the most gratifying part of the herbarium restoration was that, once again, Kabul University faculty and students will be able to use it for the purposes it was originally intended, those of teaching, training and research. (*Note: this account of the Herbarium Opening was drawn from an article written by Paul Schattenberg, Texas A&M University*)

Year Six: July 1, 2011 through June 30, 2012

SUMMARY

The Afghanistan Pastoral Engagement, Adaptation, and Capacity Enhancement (PEACE) project continues to provide excellent results in solving land-use conflicts in key areas of Afghanistan. The program has not only empowered 75 village and Kuchi leaders to resolve conflicts but has also built a team of Afghan individuals with the skills necessary to support communities and train future generations in conflict resolution and negotiation.

New funding for all activities except the Peace Ambassadors program ended on June 30, 2010. In April 2011, at the request of USAID/Afghanistan, the project submitted a proposal focused on the Peace Ambassadors program, conflict resolution and capacity building. The proposal was the result of extensive discussions with USAID and the Dept. of State officials and supported the continuation for the new direction of the PEACE project.

The PEACE Project extension that began on the 1st of May 2011 was the beginning of an expanded conflict resolution program with a focus to build capacity within the Independent Department of Kuchi, now known as the Independent General Directorate of Kuchi (IGDK). The approved extension workplan

increased the Peace Ambassador Program to 75 village and Kuchi leaders covering seven regions. In addition, a Peace Ambassadors program focused on young people was also implemented by the PEACE project. Targeting the youth creates long-term sustainability for the Kuchi in their effort to reestablish relationships along the migration corridors. Elder leaders are important today and the youth leaders will be vital for their communities for many years to come.

In addition to the Peace Ambassadors program, the PEACE project extension supported the work of the Independent General Directorate of Kuchi (IGDK). The PEACE project supports all 31 Provincial Directors working for the IGDK to hold monthly Shuras aimed at addressing conflicts and other social issues. Capacity building for IGDK staff is also provided through the PEACE project. Through adult education courses, 50 IGDK employees have been receiving instruction in English, computer skills, finance and management. As a relatively new Directorate, the IGDK has struggled to build its professionalism to a level needed to operate and communicate effectively with other government departments. The impact of these courses will increase their ability to effectively work with other government institutions and NGO's. The PEACE project continues to facilitate improving the working relationship between IGDK and the Ministry of Agriculture, Irrigation and Livestock (MAIL), specifically with the newly formed Kuchi Policy Unit.

Funding support for the three systems developed in the previous phase of the PEACE project, the Livestock Early Warning System (LEWS), Livestock Profiling System (NIRS) and the Livestock Marketing Information System (LMIS) ended in June 2010. At that time, the three systems had been accepted and placed within the MAIL's organizational structure. However, the Ministry of Agriculture, Irrigation and Livestock (MAIL) had been undergoing restructuring and USAID did not advise further support and investment in these systems during the 2011-2012 fiscal year. In April 2011, the PEACE project was instructed by USAID to maintain a low-level presence with MAIL by providing minor technical support and training during the extension phase. In addition, security concerns did not allow for the collection of data to operate the systems.

After a 10-month hiatus in financial support, limited funds were allocated by USAID to restart the technical assistance for the rangeland management technologies within the Ministry of Agriculture. The extension workplan provides only basic technical support for LEWS, LMIS and NIRS. In May 2011, when the extension proposal was approved, two of the three systems were operational The nutritional profiling laboratory (NIRS) and the livestock market information system (LMIS) had been established and were operational. LMIS was initiated in three markets as originally planned. The system was handed over to MAIL to run. The PEACE project provided minor technical support to MAIL and needed upgrades to software and equipment. Capacity-levels of MAIL staff and security issues have prevented the LEWS from becoming fully operational. The Ministry has repeatedly express interest in implementing and using LEWS. While the system is relatively high-tech, it has been successfully institutionalized in Mongolia, East Africa and is currently being adapted for Mali.

Achievements for the Afghanistan PEACE project this year include:

- Seventy-five Peace Ambassadors from 18 Provinces were trained in conflict resolution skills.
- In total, these Peace Ambassadors solved 987 conflicts. Of that total, 552 were land-use conflicts and 435 were social conflicts.

- Over 4,347 meetings were held with communities, individuals and government officials in the resolution of these conflicts.
- Forty-eight young Kuchi leaders from 10 Provinces were trained in conflict resolution skills with a focus on effectively building peace between communities. In June, two of the participants formed Peace Shuras in their districts.
- Fifty IGDK employees were trained through adult education courses in English, computer training, finance and management.

MAJOR ACTIVITIES IN YEAR SIX

Peace Ambassador Program

The PEACE project has been engaged with its government and local NGO partners to resolve land conflicts since 2007. Hundreds of leaders have been trained from different regions of the country but only the most committed have been selected to continue their training as Peace Ambassadors, a name given to them by our government partner and Advisor to the President on Tribal Affairs, Wahidullah Sabawoon.

The program started in 2008 with just 10 Peace Ambassadors focused on land issues in Wardak Province[2]. The following year, 52 Peace Ambassadors began work on land conflicts in Faryab, Jawzjan, Sar-e Pul, Balkh, Samangan, Baghlan, Kunduz, Takhar, Badakhshan, Parwan, Kapisa, Khost, Ghazni, Bamyan, and Wardak[3]. This past year, the program has expanded to 75 Peace Ambassadors to work in all the above Provinces as well as Nangarhar, Laghman, and Kabul[4].

During the past year, two selection workshops were held in which 60 people were trained in basic conflict resolution skills. From these 60 participants, 18 of the top leaders were selected to continue as Peace Ambassadors. The 18 joined the previously selected 57 Peace Ambassadors for a total of 75 Peace Ambassadors.

The Peace Ambassadors received extensive training and support. This year, they attended 3-day training workshops in August, October, December, February, April and June resulting in 144 hours of instruction. In addition, the PEACE project team monitors PA activities in the communities. Each PA is assisted in developing a workplan and reports on progress at the bi-monthly workshops. The workshops also provide PAs networking support and facilitates the exchange of ideas, imparts new information and, of course, further skill training.

Approximately one-half of the Peace Ambassadors represent villagers and the other half represent extensive livestock producers (Kuchi). The PA's have undergone extensive training in mediation, negotiation, and conflict resolution to build their skills. The training program is implemented by the PEACE project's local partner, Sanayee Development Organization.

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[2] Funded by the Global Livestock Collaborative Research Support Program, UC Davis.
[3] Funded by the Office of Democracy and Governance, USAID/Afghanistan.
[4] Funded by the Office of Agricultural Development, USAID/Afghanistan.

Key to the development of the program is the PEACE project's partnership with the President's Peace Commission and Sanayee Development Organization. This partnership allows for transparency in the selection process that ensures that trusted leaders from communities are chosen. The partnership also builds sustainability directly through investment in a local NGO as well as developing a workable government structure. The PEACE Project keeps the program on task and provides the objective interface between the government and the NGO. Together the partners are promoting not just peace for farmers and livestock producers but for government legitimacy as well.

Conflict Resolution. The 75 Peace Ambassadors (PAs) from 15 Provinces have been working independently and together over the last year to solve conflicts in their communities. In the past year, 987 conflicts were solved. The PEACE project collects disaggregated data on the type of conflicts by province. In addition, the following variables are measured: how many communities and households benefit from the resolution of a given conflict, number of hectares impacted, number of livestock impacted and number of females benefiting. Conflicts over migration routes, farm land, rangeland, harvest, water, forest and property are considered land tenure or land access conflicts. The remaining categories are considered social conflicts. Although resolving social issues is not in their work plans these types of conflicts are being solved when communities are specifically requesting the Peace Ambassador's assistance to resolve them. At the request of the communities, the PAs have been solving family disputes, accidents, and other fights. This is an indication of how much the communities trust the Peace Ambassadors for solving problems. The PEACE project has been instrumental in giving the PAs the tools to resolve the conflicts.

The new methods the Peace Ambassadors are learning are different from traditional ways conflicts have been solved. For the Kuchi the traditional way to stop conflicts between two parties involves the selection of representatives. Generally three people represent each party in the dispute. The representatives then, discuss the dispute and come to some solution. Everyone agrees that the solution reached will be followed. This method of resolving conflicts sometimes works to stop the fighting between parties but doesn't always resolve the issue or to build peace between the two parties. One or both sides may still disagree with the outcome and therefore ill-will persists.

Peace Ambassadors do sometimes work with the Government Officials to resolve particularly difficult issues, however, for the very reason mentioned above regarding trust. We are seeing an increase in the number of times the District or Provincial Governors will ask the Peace Ambassadors for help to resolve a particular issue. We feel that Peace Ambassadors will continue to better bridge the gap between the communities and the government as the program develops further.

Conflicts between villagers and herders over land use (i.e., grazing, farming, and water use) and the insecurity associated with these conflicts continues to be the primary obstacle to improving livestock production for Afghanistan. Resolving conflicts over land use will provide the enabling environment for better rangeland management practices, veterinary health care and use of technological systems. In addition to enabling improved management, conflict resolution efforts are not gender specific.

Facilitating the resolution of land access and tenure conflicts benefits both males and females in communities and households. This is not a minor point. In the last year, we have facilitated resolution efforts that have benefited 85,153 households. At an average of 7.5 people per household[5] that represents more than 300,000 males and an equal number of females.

The following is a brief summary of conflicts resolved during the past year by the PEACE project's Peace Ambassadors.

Example 1
Conflict Issue: Rangeland
Who: Chashme Qaladar and Dehmolayan Villages
Where: Badakhshan Province, Dariem District
Beneficiaries: 500 families from both sides
Area effected: 300 Hectares
Number of animals: 12,500
How - Methods used: Mediation/Negotiation

Details:
There was a dispute over the ownership of a jointly used rangeland involving Chashme Qalandar and Dehmolayan villages of Dariem District. The reason for the dispute was that both villages had sought more territory from the shared rangeland. Originally they had equal rights to this area but for the last 10 years these two villages have fought, thereby preventing each other from accessing the area. Recently the threats to each other escalated and they even threatened to kill each other over the use of this rangeland. One of the peace ambassadors of Dariem District mediated between two groups with in cooperation of tribal elders. After some initial efforts they convinced them to try to negotiate. On May 3, 2012 they conducted another gathering and discussed the interests of both sides. The elders finally agreed that both villages have the right to use the area jointly as they did in the past. Elders discussed the territory and then demarcated it in presence of village representatives. Both villages are satisfied with the resolution.

Significance:

- Resolution of a decade-old conflict
- Conflict was between two villages, so its intensity and sensitivity was high
- Large area of rangeland is now enabled for better management (i.e., not disputed)
- Two villages reconciled and reestablished their relationship

Example 2
Peace Ambassador: Mohammad Akram, Jawzjan province
Conflict Issue: Drinking and irrigating water
Who is in conflict: Darzab and Qoshtepa districts
Place of the conflict: Darzab and Qoshtepa districts of Jawzjan province

[5] UN Habitat Survey 2004 for City households; Rural household sizes average even more.

Beneficiaries: for about 10,000 households from both sides
Number of gatherings: 3 meetings were required to solve this conflict
Methods used for solving conflicts: Mediation, Discussion and Reconciliation

Details: During summer season the people of Qoshtepa district were facing a lack of drinking water. Due to the water shortage the Qoshtepa people began fighting with the Darzab people. The issue is that the people of Qoshtepa district were drinking the water coming in channels from Darzab district. In Darzab, people usually use another canal for irrigating of their lands. This summer, however, lack of irrigating water forced them to use the water which was going to Qoshtepa district. The people of Darzab have rights to the water in both channels.

Mohammad Akram said "When I was informed about the conflict, I held two separate gatherings with the elders from each District. Eventually, we came to a decision that we should have another gathering that would include the Darzab district governor in July. Fortunately, after long discussions, and with the assistance of the Darzab district governor and other elders, I was able to convince the Darzab people that in summer the water should be shared. Alternating the period of use between the 2 districts would solve the water issue. Sharing the water had been done in the past during very dry summers but this practice was recently lost. During Spring, Fall, and Winter, both Districts have enough water. It was decided then that the Qoshtepa people will use the water for 11 days straight and then Darzab people will use it for the next 14 days. The Districts will alternate on this schedule through the dry summer months.

This example shows that conflict resolution is occurring across District boundaries. Sometimes solutions are readily available or have been worked out in the past. Facilitating leaders to conduct these gatherings can have a major impact on reaffirming the commitment to work together for peaceful coexistence.

Young Peace Ambassadors. During this fiscal year, the PEACE project implemented training and selection of young Peace Ambassadors. Targeting the younger generation (ages 22 – 34) creates long-term sustainability for the Kuchi in their effort to reestablish relationships along the migration corridors. Elder leaders are important today and the youth leaders will be vital for their communities for many years to come. The majority of the youth selected have fathers that the community trusts and calls on to resolve conflicts. The PEACE project held two month-long training courses for the young leaders. Each participant spent one month in intensive training to develop skills in mediation, negotiation, and specific techniques used to resolve conflicts. In total 48 young Kuchi were trained from 10 Provinces. Exam results showed that a significant number had the aptitude to work as peace building trainers. With the completion of their training, the Youth Peace Ambassadors returned to work with their communities.

Lessons Learned. The PEACE project is continually collecting data from the Peace Ambassadors both on the types of conflicts they are seeing and feedback on the program itself. During the past year, the Peace Ambassadors reported that the most difficult land conflicts to solve involved stolen public land and any land issue that involves powerful people. Situations where the government or its representatives created the conflict were cited as some of the most difficult to resolve.

The major constraints to resolving conflict were interference (by government or powerful people), lack of support by the government, no ownership documents and one or both sides not willing to negotiate. Lack of security in the conflict region was also noted as a constraint. The Peace Ambassadors called on the Peace Commission to provide more training, increase the number of Peace Ambassadors and raise awareness for both villagers and herders about the program. They also suggested that the PEACE project could organize exchange trips between provinces and regions to share solutions and conduct more workshops in each Province so local people have access to training. The Peace Ambassadors requested training in rangeland, inheritance, irrigation, forest and other natural resource laws as well as report writing.

When the Peace Ambassadors were asked about what the country needs to solve the most difficult land conflicts, they suggested:

- Support and cooperation from the Afghanistan government is needed;
- Laws should be implemented equally for all people;
- A new land database that retains land documents must be created, and;
- Natural resource laws need to be amended and agreed upon.

Provincial Kuchi Shuras

Over the past year, the PEACE project has continued to build capacity within the Independent General Directorate of Kuchi (IGDK). Working with the IGDK enables the PEACE project to build hubs of dissemination in each of the provinces it works in. With support from the PEACE project, the Provincial Kuchi Directors hold monthly Shuras with Kuchi representatives of districts and clans. This year over 360 Provincial Shuras were facilitated by the PEACE project in 30 of the 34 provinces in Afghanistan. Support for these Shuras represent the development of Herder Associations and the direct link between sources of policy, rangeland and market information and the herders. In addition to holding discussions on education and health care for the Kuchi people, veterinary care for their livestock, and developing relationships with Provincial and District officials, the PEACE project has supported conflict resolution training for the Kuchi Directors to empower them to address land conflicts in their Provinces as well. All of the IDK Directors have undergone multiple conflict resolution trainings and continue to use those skills when holding monthly Shuras. They reported that they have resolved 110 land conflicts and 102 social conflicts this past year. The conflicts solved positively impacted a reported 31,843 households corresponding to 519,169sheep and goats.

Support for Kuchi Shuras yields results in resolving conflicts but also has increased their capacity to collect and disseminate information to and from the people and their central office in Kabul. The Provincial Directors have done a good job in maintaining their relationships with the NGO's and government organizations that they have been introduced to through the PEACE project development workshops. (See below for more information on the workshops). Recently, the Uruzgan Director secured 300 metric tons of wheat to be distributed to 1200 needy Kuchi families with the help of MAIL and the Red Crescent Society (IFRC).

Example 1

Issue: Distribution of Wheat for Kuchi people

Who: Kuchi of Khost Province

Where: Provincial Center, Khost Province

Beneficiaries: 7000 households

Details:

The Provincial Kuchi Director of Khost conducted his monthly Shuras in May and June of 2012. One of the main topics of these 2 Shuras was to discuss the distribution of 700 tons wheat. In attendance was Ministry of Agriculture Director, Faizurahman, representative of the Provincial Shura, Jahanmir, representative of the Khost Governor, Mohammad Zaman, and other IGDK representatives. During discussions the Kuchi elders specified each tribe's portion based on number of families and agreed that every family would receive 100 Kg wheat. The wheat was distributed peacefully and successfully to more than 7000 Kuchi families of Khost Province. The Kuchi elders mentioned that IDGK should request clinics for Kuchi people and access to veterinary health facilities for their animals.

Significance:

- Peaceful distribution of food for the Kuchi People

The Director of the IGDK in Kabul has also asked his Provincial Directors to work together with the Ministry of Agriculture, Irrigation, and Livestock to resolve land conflicts. This is key step forward for resolving public land conflicts. Although collaboration with MAIL has not worked well in all Provinces some are making progress. In recent discussions with the PEACE project, it appears that MAIL is still trying to determine their role in land conflicts, particularly over what is considered public land. It was also apparent that they will need some assistance in developing a transparent and neutral conflict resolution program within MAIL. Once the MAIL clarifies their role we feel that they could make substantial progress towards resolving land conflicts with the help of IDGK.

The role of the Provincial Kuchi Shura is large as they are mandated to resolve not only conflicts over rangeland issues but also to resolve and guide communities on livelihoods, security, health care, education, and animal care. These offices are understaffed but are learning to work more closely with other government officials to the mutual benefit of all people in their Provinces. Critical to facilitating this effort is continued support for Kuchi Shuras to use computers, write reports and to generally increase their professionalism when it comes to communicating the status of the Kuchi People.

Capacity Building

The cornerstone of the Afghanistan PEACE project is capacity building. All activities are centered around building the capacity of participants. In addition to the capacity building presented above, the following workshops and trainings were held:

Policy Development Workshops

Objective: To facilitate coordination and cooperation between IGDK and non-governmental organizations and governmental institutions.

Summary: The Afghanistan PEACE Project organized a one-day workshop for representatives of the Independent Department of Kuchi to meet with representatives of various development organizations. The workshop was held at the German Guesthouse in Kabul. 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 4 IDK representatives and several Parliamentary Members and 18 representatives from 10 development organizations. The IDK staff in attendance were the Director and Department Heads from Health, Education, and Animal Husbandry. Representatives from the following development organizations were also present at the workshop: Youth Health and Development Organization, USAID, Dutch Committee (DCA), Italian Cooperation, Asia Foundation, PALAD/MAIL, CTAP/MAIL, Save the Children, UNICEF, and the Egyptian Embassy.

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.

Provincial Kuchi Director's Training Workshop

Participants: 30 Provincial IGDK Directors

Objective: Training in reporting conflicts. Participants were given instruction on how to prepare provincial reports for IGDK. Most Directors do not have administrative staff so capturing the details of the Shura meeting is a challenge.

Summary: In addition to training on report writing, the workshop included discussion of working with a counterpart from the MAIL Provincial office. The PEACE project supported Shuras have had a positive impact by facilitating cooperation.

Conflict Resolution and Peace Building Workshop in Herat

Participants: 32 from Herat (15), Badghis (8) and Ghor (8) – including Deputy Governor of each Province.

Objective: Train village leaders in conflict resolution skills with the purpose of resolving a long-standing migration conflict in the mountains of Herat, Ghor and Badghis.

Summary: Held at the request of the Afghanistan government's Peace Commission. The workshop focused on training participants in mediation, negotiation, reconciliation and conflict resolution skills. The workshop was well received with participants asking that subsequent workshops be held in their provinces.

Adult education courses for IGDK

As a relatively new Directorate, the IGDK has struggled to build its professionalism to a level needed to operate and communicate effectively with some of the other government bodies. One of the areas that IGDK requested assistance was staff capacity building for their procurement, administration and management people. The PEACE project has supported adult education courses that cover English, computer training, finance and management. Though originally proposing to train 30 IGDK employees, the PEACE project negotiated a reduced rate that has allowed 50 IGDK employees including 5 women to receive training. Courses are taught by local teachers and the employees attend classes daily. The response from the participants is overwhelmingly positive and most are already requesting that the courses continue longer than the scheduled one year.

Basic communication, finance and management skills are critical for this Directorate if they are expected to represent and address the needs of the extensive livestock producers of Afghanistan. As Zaref, an IDGK employee in the Coordination Department said, "before this program I did not know how to use the computer correctly. Since I have been taking classes, my computer skills have improved and this has really helped me to do my daily activities at work".

Overwhelmingly the trainees interviewed indicated satisfaction with the courses and the trainings being offered. Many have found direct relevance for the new skills in their jobs. A sample of the survey responses is presented below:

> English Course
> Name: Wahidullah
> Position: Secretary of Director
> Program effectiveness: This program is very useful. Since I have joined this program I have experienced positive changes in my English language skills. Now I can solve most of the problems that are related to my job.
> The reason for selecting this Program: Because of my position requirement and personal interest for learning a foreign language.
> Suggestion: This program should be continued a least for one more year or after this program, if possible, to provide us a bachelor program in economics or political science.
> Course material and method of teaching: I am pleased about course material and teaching methods
>
> Name: Masoud Wahidi
> Position: Procurement officer
> Program effectiveness: This is a very good program, my English skills have improved a lot since I have been learning English in this program. Before this program, I knew a little bit of English but now I have learned how to use English regularly in my job.
> The reason of selecting this program: Position requirement and personal interest
> Suggestion: This capacity building program should be continued and if possible provide us with a bachelor's program in social science.
> Course material and method of teaching: The methods the materials are satisfactory for me.

Name: Ebrahimi
Position: The Shura and Identification Manager
Program Effectiveness: I have achieved what I had expected. Right now I can solve my problems.
The reason for selecting English program: My personal interest in the English language
Course material and teaching method: It is good up until now.

Management Course
Name: Noristani
Position: Deputy of the IGDK
Program effectiveness: This is a useful program for administrative staff of IGDK. It is a great opportunity for administrative staff to learn new things regarding management, finance, business, banking, accounting and other useful subjects related to their job. This program has facilitated our administrative work, especially in the finance and administration departments. The whole class has become familiar with modern subjects like business management and finance.
The reason for selecting the Management course: My position and job requirement
Suggestion: This program should be continued for one more year. One year diploma is not satisfactory for all staff, so they need to achieve a 14 grade degree instead of a one year diploma.
Course material and teaching method: I am happy about the course materials and teaching methods to this point. The teacher is very supportive of us.

Name: Shir Ahmad
Position: Service Manager
Program effectiveness: This program has facilitated our daily works.
The reason for selecting the Management course: Job requirement and personal interest to management
Suggestion: This program should be continued for one more year.
Course material and teaching method: good

Name: Ahmad Zahir
Position: Education Manager of Planning and Policy Department
Program effectiveness: We learn new things. We now have an idea how to run a business, how to manage our daily activities, and how to deal with finance issue.
The reason for selecting the Management course: Job requirement and interest
Suggestion: This program should be continued for one more year.
Course material and teaching method: the teaching method and teaching materials are useful.

Computer Course
Name: Syghani
Position: Administration Manger
Program effectiveness: This program is very interesting and useful for all staff. Right now I can solve my computer problems. This program has brought a lot of assistance to our daily work.
The reason for selecting Computer course: Because it's a position requirement and I am enthusiastic about computers

Suggestion: the computer program should be continued for one more year, because a one-year diploma is not enough for IDK staff. Most of them are high school graduates.
Course material and teaching method: We are satisfied about the teaching methods

Name: Liloma
Position: Archives Manager
Program Effectiveness: In the past I did not know much about computers but now I know a lot about computers. The program is very useful for us. It helps me with my daily job.
The reason for selecting the computer course: Job requirement and personal interest
Suggestion: The program should be continued for one more year because one is not enough for us.
Course material and teaching method: The teaching method and teaching material are good.

Training and Support for MAIL

This fiscal year, three trainings were planned, one for each of the three technologies. As full support of these technologies was terminated in June 2010, the additional training was aimed at supporting MAIL's management and ownership of the systems.

LMIS Training

As part of an ongoing effort to continue support to the MAIL LMIS Program, the Afghanistan PEACE Project obtained a limited amount of funding from USAID to provide training to MAIL staff on how to generate and write livestock market reports using tools on the Afghanistan LMIS website. The training was offered from 17-19 March 2012, to staff from the MAIL Department of Statistics by Dr Catherine Schloeder, PEACE Project Research Scientist. It should be noted that the LMIS website was not functioning during the training due to mismanagement of the LMIS equipment by the MAIL MIS staff.[6] The training ended one day early as a consequence, and was introductory in nature only rather than inclusive of the intended hands-on practical.

Specifically, a MAIL MIS staff member reconfigured the LMIS battery back-up electrical system without understanding the electrical system or its limitations. The reconfiguration resulted in the destruction of the battery back-up system and the crash of the LMIS server. Fortunately, all data and recent software modifications had just been backed up by staff at TAMU, so nothing was lost. Unfortunately, the PEACE Project is currently not in the position to fund any repairs given that this program formally ended in 2010.

For the most part, the majority of participants had some prior experience with collecting and analyzing a variety of non-livestock related commodity data. The exceptions were two recent hires from the

[6] At the request of the Deputy Technical Minister of MAIL, the LMIS server was installed in the MAIL Management Information System office. The data, however, are collected by the MAIL Department of Statistics (DS). They are also supposed to be analyzed by the DS but to date, they have not.

Management Information System Office.[7] Following the practical in requesting data via the SMS system using a cell phone, all participants demonstrated an aptitude using this method. With two exceptions, however, the participants were unfamiliar with the on-goings of Afghanistan's livestock markets. The field exercise proved important as a result because it not only reinforced the importance of the field methodology and building relations in the market places in order to assure quality data; it also gave them a chance to see what is actually sold in the larger markets since there was some strong disagreement about this prior to their visiting the Kabul Nakhas Company market during the field exercise.

In the classroom, all participants demonstrated a reasonable aptitude in computers and most understood English. The latter is not a requirement, however, given that the Afghanistan LMIS system has a multi-lingual option (languages available: English, Dari and Pashto). Most participants demonstrated a reasonable math background as well. As a consequence, they demonstrated little confusion over how to use the website tools and follow the graphic and tabular results. Given the flexibility that one is afforded when generating reports, much emphasis was placed on the correct selection of parameters and interpretation of results during the training. Unfortunately, despite their previous experience in preparing commodity reports, most fell repeatedly into the trap of wanting to over-interpret results based on unsupported personal opinions and guessing. Attempts were made to repeatedly remind the participants that there was no place for anything but what the reports illustrated, when it came to interpreting results and that reports can always be improved by selecting parameters specific to the question of import. A few finally understood these points but there were those that did not for their own reasons including, being of the opinion that they knew best. Unfortunately, these points could have been made better if the participants had had the opportunity to do a practical exercise in report generation and interpretation. During a practicum, the trainer would have had the opportunity to concretely demonstrate the problems with unsupported opinions and guessing and the importance of knowing what questions to ask (e.g. what parameters should be selected) in advance of generating a report.

Conclusions. This training set out to accomplish a series of goals, including an introduction to the LMIS system, SMS protocols, data collection, report generation, interpreting results and a practicum in report generation and write-up. All were accomplished except for the latter exercise which was unfortunate given that the majority demonstrated an inability to interpret results from the data solely. The participants clearly showed strengths in computers, math and commodity reporting, with the latter specific to agricultural products. However, they also demonstrated a strong propensity to interpret results based on unsupported opinions and guessing. Behaviors of this nature should be of concern because they will lead to gross errors, unsubstantiated management decisions and of greater concern, erroneous policies. Additional training in data interpretation, once the LMIS system is up and running again, should be considered.

[7] The two recent hires, unfortunately, missed the first day of training.

Livestock Early Warning System (LEWS) Training

The LEWS training was provided from 11 - 13 March 2012. Because the majority of participants had no prior experience with this program, the training had to be modified from one focusing entirely on plant modeling to a training that included a review of the Afghanistan PEACE Project LEWS Program; field methodologies; data types, features, sources and entry; and a limited overview of plant modeling requirements and results.

There were a total of five MAIL participants in this training in addition to the PEACE Project trainer and translator. The participants were from two MAIL Departments: Natural Resources Management (NRM) and the Monitoring and Information System (MIS). The MAIL-NRM participants were from two different divisions: Rangeland and Medicinal Plants. Said Azizullah Hashami, from the Medicinal Plant Division, was a previous trainee during implementation of the LEWS Program. In 2010, this trainee was transferred from the Rangeland Management to Medicinal Plant Division thereby limiting his ability to develop the MAIL-LEWS Program further.

The training took place at the offices of Mercy Corps. It began with a presentation of LEWS Program objectives, survey methodologies and field data types, features and sources, including site, soils, plants, plant communities, grazer preference and grazing profile data specific to sites surveyed between 2007 and 2010. Following, the participants engaged in data entry exercises using “phantom” site data and alternative sources of data where applicable. To facilitate this effort, a hard copy of the LEWs training manual developed for the MAIL-NRM in 2009 was utilized. The LEWs manual was accompanied by both hard and electronic copies of all data compiled from all field surveys conducted between 2007 and 2010, web research, and TAMU’s new interactive soils website for Afghanistan. The CD provided to the participants also contained an interactive soil parameter estimation tool and files of all field methodologies applicable to Afghanistan.

Three teams were created for the data entry exercises: two teams of two with each comprised of the participants unfamiliar with LEWs; and a team of one comprised of the individual who had worked as a trainee with the PEACE-LEWS Program in the past. The data entry exercise specific to plant species involved training in the practices of plant parameterization specific to LEWS applications. Plant parameterization entails entering data specific to the individual growing requirements of each species including but not limited to: temperature requirements (base, suppression, and optimum), leaf area index, rooting depth, above ground biomass and seasonal growth behavior.

The participants exhibited a wide range of capabilities in their understanding of computers, computers applications, research protocols, advanced math, sciences, and English comprehension. As was the case in a previous training given in 2009, the lack of an adequate academic background in plant physiology and biology, and a lack of field experience in general, meant that the data entry portions of the training took significantly longer than anticipated. Understanding TAMUs new soils interactive website and the soils calculator also took some time given the participant’s limited experience with computers, Microsoft Office products, web-based technologies and the discipline of soil science in general.

The trainees did succeed in completing the data entry training portion with an average understanding of the process and methods used. It is expected that with further guidance, they will be able to eventually master the data entry process. The review of the plant parameterization component in LEWS had limited success, however, as a consequence of the participants' limitations as indicated in Table 2, as well as their unfamiliarity with the LEWS Program in general. The one participant with prior experience in the LEWS program continued to struggle with the parameterization component mostly because of a lack of adequate field experience, limited computer and math skills and a general failure to pay attention to detail. Forage forecasts to date have been, as a consequence, a result of parameterization and modeling by the PEACE Project's LEWS Program Manager (e.g. Dr Schloeder). Given the degree of confusion exhibited again by the training participants during this exercise, parameterization and modeling will continue to remain the responsibility of TAMU until such time that the MAIL staff develops the skill level needed to undertake this responsibility themselves.

Conclusion. The Afghanistan PEACE Project LEWS program has succeeded in obtaining data, and forage forecasts for 69 sites in Afghanistan. Field training efforts were largely successful with MAIL participation. Data entry and LEWS forecasting efforts, however, have had limited success due to a continued limited capacity. The limitations evident in the training discussed in this report are similar to those in evidence during previous training efforts. MAIL participants continue to demonstrate limited computer, field and academic skills necessary to implement this technology. The LEWS Program has been instrumental in increasing the skills of MAIL trainees in general, however, success has been limited given the extreme low capacity from which we had to start. There is hope for their eventual mastering of this technology, given further capacity building.

NIRS Training

An introductory training on the Afghanistan PEACE Project's NIRS Program and using NIRS technology to predict diet quality from fecal samples obtained from free-ranging livestock was given to staff from the MAIL Department of Animal Production and Nutrition (DAPN) from 5-7 March 2012, by the TAMU NIRS Program Manager, Dr Catherine Schloeder. It should be noted here that the original training plan had to be modified when it was learned that Dr Hamidullah, the NIRS Laboratory Manager trained by Dr Schloeder, would not be the recipient of the training as planned; and that the participants would instead represent staff with little knowledge of NIRS technology.

There were a total of 11 MAIL participants in the training: 10 from the DAPN and one from the DAH, in addition to Dr Schloeder and a translator. The participants represented five divisions within the MAIL-DAPN and one consultant working with the DAH. The DAH participant, Dr. M. Farouq, is a consultant for the DAH Development Program and his attendance was related to wanting to learn the wider range of applicability of NIRS technology. Of the 10 from the MAIL-DAPN who attended the 3-day workshop, four had participated in two other trainings giving by the PEACE Project, in 2008 and 2009.

The training took place at the offices of Mercy Corps with the exception of a brief outing to the NIRS Laboratory at the CDL. It began with a presentation describing the purpose, intent and goals of the Afghanistan PEACE Project and then specifically, the purpose, intent and goals of the PEACE Project's NIRS Program. Data from a livestock market survey conducted by the PEACE Project in 2009 were

presented as additional evidence of the need for Afghanistan to focus on diet quality issues related to extensive livestock production. Following this presentation, the participants then broke into groups of two so that they could begin working with a NIRS E-learning module developed by Texas A&M University. This module is an effective computer-based educational tool for delivering trainings on the principles of NIRS for nutritional profiling, in one of three languages of choice: English, Dari or Pashto. The modules are interactive and include an overview and history of NIRS technology; its implications to livestock health; protocols for collecting fecal samples; responsibilities of lab managers and workers; processing samples; and predicting diet quality. Audio and written tutorials are included in the module, on a chapter-by-chapter basis, as are audio transcripts and complete glossaries (in all languages).

After completion of the NIRS E-Learning module exercise, the participants were given a brief presentation on how the Afghanistan PEACE Project carried out three research studies involving qarakul and turki sheep, and watani goat. Following, the participants went out to the NIRS Laboratory where a presentation was given on why research is needed to develop calibrations; what specific experiments were required to achieve our goal of being able to predict diet quality; how to select animals when conducting experiments; and the protocols that must be followed in terms of their feeding, handling and health. Participants then visited the processing room where forage and fecal samples are dried, ground, cataloged and stored; and the office where all samples are scanned. Samples of ground dried forage and fecal materials were demonstrated, emphasizing the importance of labeling and storage protocols.[8] The discussion then switched to data entry and file management protocols after which the group returned to the Mercy Corps office for the next training component.

The E-Learning module provides invaluable direction in the purpose and use of scanning equipment and software used for scanning and calibration purposes. The next part of the training provided the participants with actual hands-on experience in the use of the NIRS scanning equipment and software, starting with the set up of the scanning equipment. Teams of two took turns assembling the equipment in a specific order; scanning a sample using the SpectraSuite software and saving the spectral data files; and then dissembling the scanning equipment in a specific order. Following, participants were given a presentation in how to build a calibration equation using GRAMS software. The example presentation was based on data from the three diet:fecal pair research studies conducted in 2007-2008. The presentation specifically included importing both spectral and non-spectral data files; manipulating the spectral data files to remove data of inconsequence; selection of different calibration parameters; and interpreting the calibration results in the context of when and where the data were collected and dietary requirements of the various classes of sheep and goats.

The calibration portion of the training did not include a hands-on practical for several reasons. The first was that the NIRS technology and associated software require that the user to be relatively fluent in English and skilled in mathematics (particularly parametric mathematics). This technology also assumes that that the user has a strong background in computers, their use, function and basic software applications including Microsoft Office Excel. Participants were evaluated in light of these requirements and as to whether or not they exhibited a reasonable comprehension of the subject matter after going

[8] Dr Hamidullah, the PEACE trainee and former NIRS Laboratory Manager, was in attendance during this exercise and did help explain PEACE's diet:fecal pair research protocol.

through the following E-learning exercises: NIR wavelengths, research protocols; assembly/disassembly of equipment, scanning and calibration. The participants exhibited a range of capacities in their understanding of computers, computer applications, research protocols, advance math and English comprehension. Of note was that no participants demonstrated excellent skills and only three demonstrated any potential for learning the subject matter given sufficient time as a trainee. Whether or not the three participants with any potential can learn how to conduct research experiments and demonstrate a strong comprehension of parametric statistics to calibrate a model, however, remains unclear. Those that were considered unsuitable candidates for further training were those exhibiting little to no comprehension in the following areas: computer skills, English, statistics, research design and implementation and technology. The issue of poor comprehension is purely a function of the participants having had little to no academic and practical experience which is not surprising given Afghanistan's recent (e.g. last 30 years) history of conflicts. Regardless, these are impediments to the future success of any NIRS Program in Afghanistan.

At the start of the training, when asked about their interests, the participants mentioned a range of applications they hoped the technology could help them with. During the course of the training, it was also revealed that the participants fully expected to be able to use this technology and equipment upon completion of the 3-day training, in their area of interest. Upon completion of the training, all participants understood that all NIRS programs, including the Afghanistan PEACE Project's NIRS Program, require: 1) a research component in addition to the technological component; 2) equipment specific to the topic of interest; 3) that the NIRS equipment provided by the PEACE NIRS Program was specific to fecal and forage analyses only; and, 4) that the trainings that they had received to date were insufficient to prepare them for implementing a NIRS program on their own.

Conclusion. Originally, this training was intended to be the fourth in a series of structured trainings on the use of NIRS technology for predicting diet quality of forage consumed by free-ranging livestock. As a consequence of having to change to an introductory training, the intended benefits were not achieved. The training provided did, however, enlighten MAIL staff as to the underlying principles and potential of using NIRS technology for investigative, quality analyses and monitoring purposes.

FINAL PERIOD: July 1, 2012 – October 31, 2012

SUMMARY

In the final quarter of the project, the strong leadership of the Afghan staff and the project's government and non-government partners guided the concluding activities. Peace Ambassadors continued to work along four of the major migration routes in the Central, Eastern, and Northern parts of the country. With the collaboration of the Independent General Directorate of Kuchi the PEACE project trained a younger generation of Kuchi in the hopes that that they will, in turn, encourage people from their communities to resolve land conflicts and live peacefully. The project's support for Kuchi Shuras in 30 Provinces led to more land conflicts being resolved across the country.

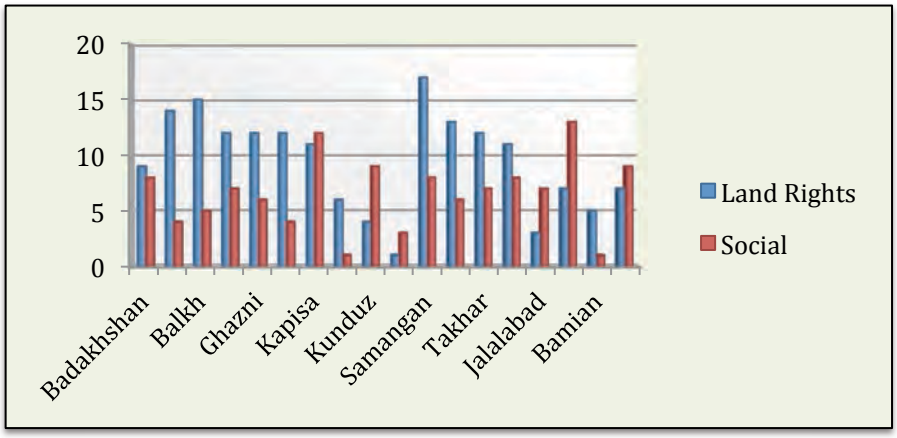
Building capacity within the central office of IGDK was accomplished with adult courses in management and finance, English language, and computer science. Fifty IGDK staff participated in these courses which were conducted over the past year ending this month. Along with their graduation the project transferred computer equipment to the IGDK offices. The PEACE project also assisted in the establishment of a website for their Directorate.

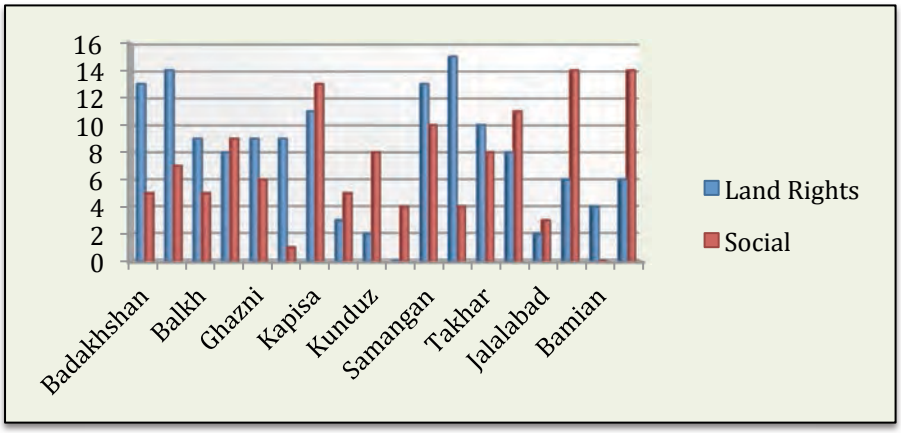
Major Implementation Activities: Final Quarter 2012

Peace Ambassador Program

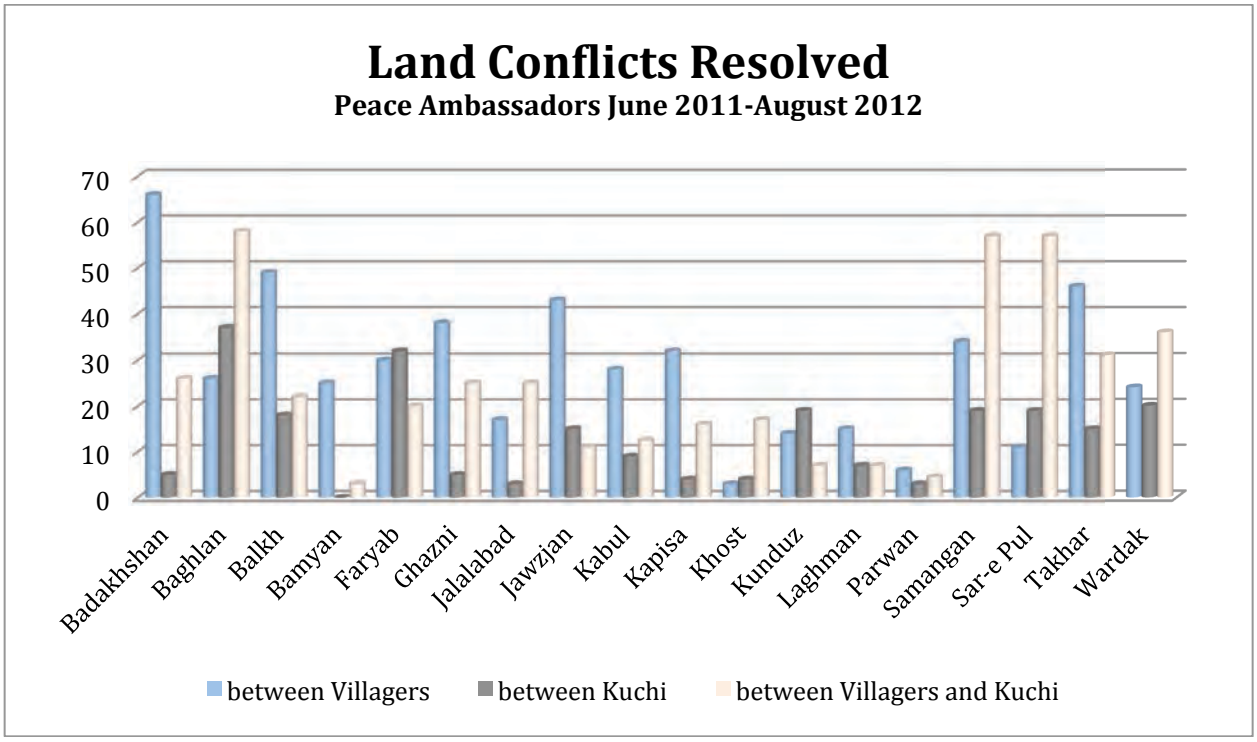
Reports from the June and August workshops show that 558 conflicts were resolved through the Peace Ambassadors Program. This includes 313 land conflicts and 245 social conflicts. The following graphs display the Provinces where these conflicts were resolved and number of land and social conflicts resolved for each province.

Many do not understand that rangeland access conflicts are not only between villagers and herders. Some of the most difficult problems are between villagers or between herders. The figure below provides the Provincial information regarding land conflicts so that those differences can easily be seen.





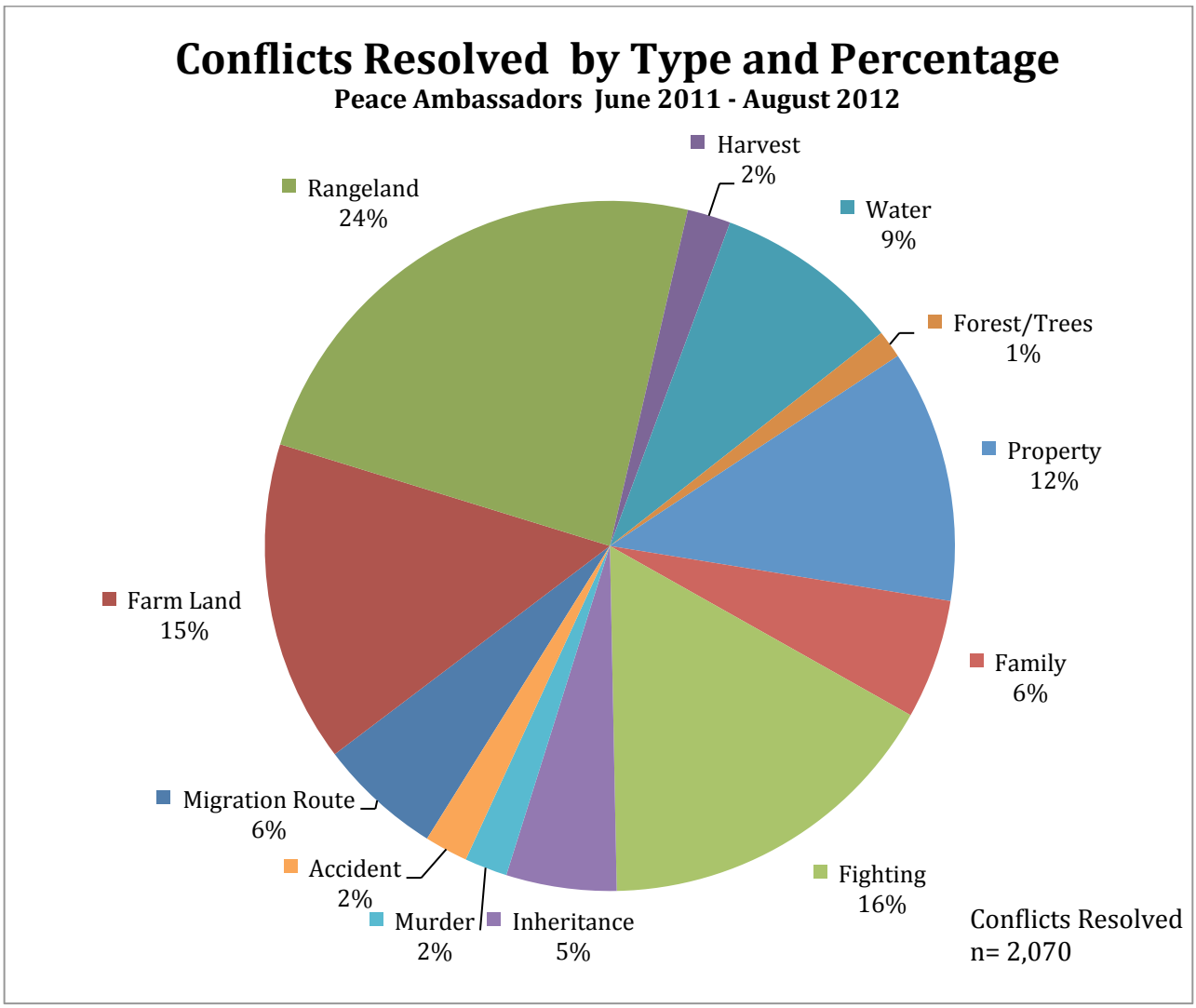
Number of Conflicts Solved by Province,
June 2012 (top); August 2012 (bottom) reporting.

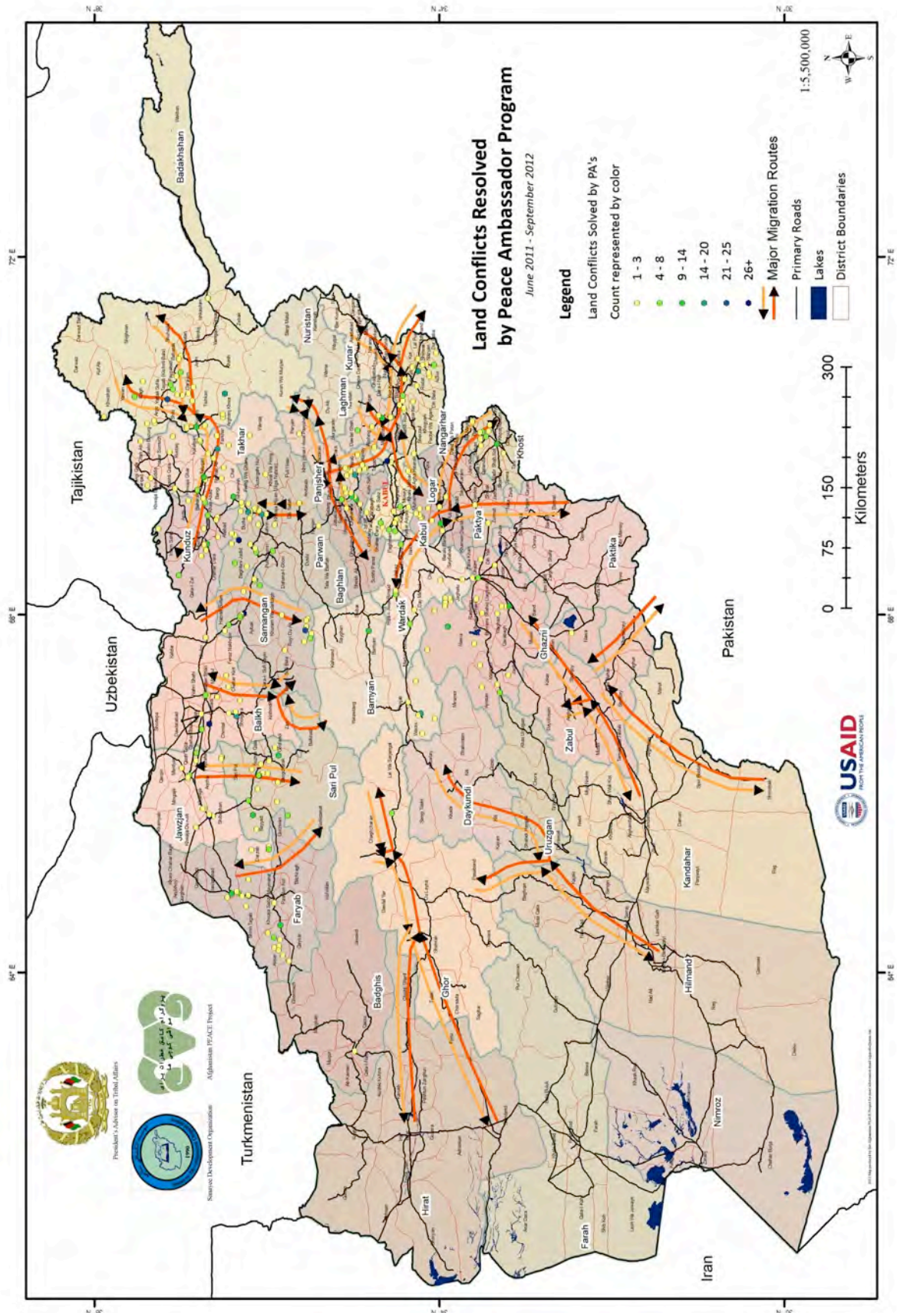


Another way to display the conflicts that are being addressed by Peace Ambassadors is to examine the proportions of the types of conflicts that are being resolved. Peace Ambassadors are meant to focus on the difficult land access and tenure conflicts but the communities they work in commonly ask them to resolve a wide variety of social conflicts as well. The pie chart shows that 30% of the conflicts resolved were over rangeland and the migration routes that Herders require for producing livestock.

The chart below displays all conflicts resolved by Peace Ambassadors since the start of the last extension of the Project. New Ambassadors were selected in May 2011 and began their work in June 2011. From June 2011 through August 2012 the 75 Peace Ambassadors have resolved 2070 conflict in total.

Locations for these same conflicts can also be seen in the following map of Afghanistan. We have placed markers on the map to indicate the number of conflicts resolved in each location. The map also displays the major migration routes used by Kuchi herders. From the map it is easy to determine which migration routes are currently receiving attention and which are not. Future work is planned for resolving conflicts along the migration routes in the West and Southern parts of the country.


Conflicts Resolved by Type and Percentage
Peace Ambassadors June 2011 - August 2012
Harvest 2%
Water 9%
Forest/Trees 1%
Property 12%
Family 6%
Fighting 16%
Inheritance 5%
Murder 2%
Accident 2%
Migration Route 6%
Farm Land 15%
Rangeland 24%
Conflicts Resolved n= 2,070


Land Conflicts Resolved
by Peace Ambassador Program
June 2011 - September 2012
Legend
Land Conflicts Solved by PA's
Count represented by color
1 - 3
4 - 8
9 - 14
14 - 20
21 - 25
26+
Major Migration Routes
Primary Roads
Lakes
District Boundaries
1:5,500,000
0
75
150
300
Kilometers
Tajikistan
Uzbekistan
Turkmenistan
Iran
Pakistan
Badakhshan
Nuristan
Kunar
Laghman
Nangarhar
Khost
Takhar
Panjsher
Kabul
Logar
Paktya
Paktika
Kunduz
Parwan
Baghlan
Samangan
Wardak
Ghazni
Balkh
Bamyan
Zabul
Sari Pul
Daykundi
Jawzjan
Uruzgan
Kandahar
Faryab
Badghis
Ghor
Helmand
Nimroz
Hirat
Farah
USAID
FROM THE AMERICAN PEOPLE
President's Advisor on Tribal Affairs
Afghanistan PEACE Project
Source: Development Organization

Examples of Conflicts Resolved by Peace Ambassadors
The following are brief summary examples of selected conflicts resolved during this final quarter.

Example 1
Peace Ambassador: Zulfiqar Shinwari
Where: Qarati village, Jawzjan province
Type of conflict: Rangeland
Who: Kuchi and Villagers
Beneficiaries: 130 families from both sides
Area: 100 Hectares
Animals impacted: 2000

Details:
A conflict occurred between Villagers and Kuchi of Fakhrani tribe over rangeland. The reason of conflict was that both sides claimed a particular rangeland as their own. Through treats they prevented each other from grazing the area. This issue was getting serious and was close escalating into violence. One of the Peace Ambassadors from Jawzjan Province with the cooperation of tribal elders intervened and mediated between the two groups. After some efforts they convinced both communities to attempt to negotiate. A gathering was held and discussions regarding the rangeland access rights proved useful. As a result both sides agreed with the elders who recommended a solution where the rangeland would be shared (60 hectares for Kuchi and 40 hectares for villagers). The community representatives promised that they would never have problem with each other anymore. The elders from the communities marked out the boundaries. The conflict was resolved in a peaceful manner that satisfied both sides.

Significance:
- Tensions were dissolved and a basis for peaceful co-existence was created.

Example 2
Peace Ambassador: Mohammad Haroon
Where: Baghram District, Parwan Province
Type of conflict: Selecting of Social Shura members
Beneficiaries: 200 families
Method used for solving of conflict: Mediation and Negotiation

Details:
In Baghram District there is a Shura that addresses Social issues and is very beneficial to everyone living there. Shura members work hard for the community and solve many conflicts. Recently, Tajik people wanted to bring changes to the leadership of the Shura. This resulted in a conflict between local Tajik and Pashtoon groups and was very near to escalating into violence. Both groups were requesting to have the leadership of the Shura and they were not finding agreement. One of the Peace Ambassadors, along with tribal elders arrived to see if he could help with the issue. First he negotiated with representatives

from both groups to have them participate in a session to discuss the Shura leadership. During the meeting the Peace Ambassador was able to convince the groups to create a process by which Shura members and leaders would be selected. Shura members would be selected based solely on their performance not their ethnic group. This was accepted by both sides and the selection process will occur next month. Stay tuned.

Significance:

- Created a means to work together for the good of all involved.

Example 3
Peace Ambassador: Abdul Aziz, Joma Khan, Abdul Wasi
Where: Argu and Darayem Districts, Badakhshan Province
Type of conflict: Road Construction
Beneficiaries: 600 families
Method used for solving conflict: Mediation and Negotiation and reconciliation

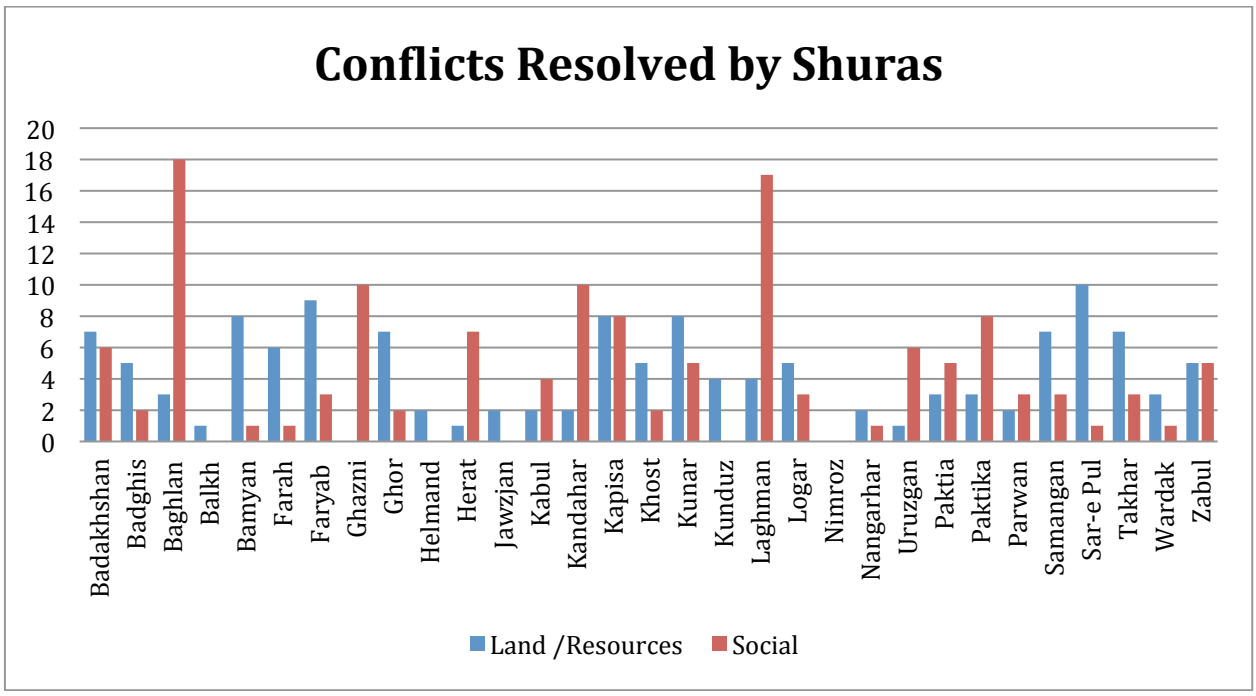
Details:
People of Khoja Moli Village and Zerk Village needed a road to connect the two villages. It would allow for better transport of agricultural good to the markets. However, a problem arose with the placement of the road. Initially it was planned to go straight through agricultural lands that belonged to Zerk Villagers. When the people of Zerk blocked the construction of the road, the conflict began. The Peace Ambassadors from Badakhshan went to the area to see if they could resolve the issue with the villagers. They first conducted several meetings about the issue with representatives from both villages to better understand the problem. We then encouraged the Zerk Villagers to at least give some of their land for the construction of the road since they would also be using this road. After long discussions we were able to convince the Zerk Villagers to accept elders' request and let the roadwork continue. Construction was restarted by Mullah Ehsanullah and the issue was solved.

Significance:

- Facilitation of better communication improved the welfare of both communities

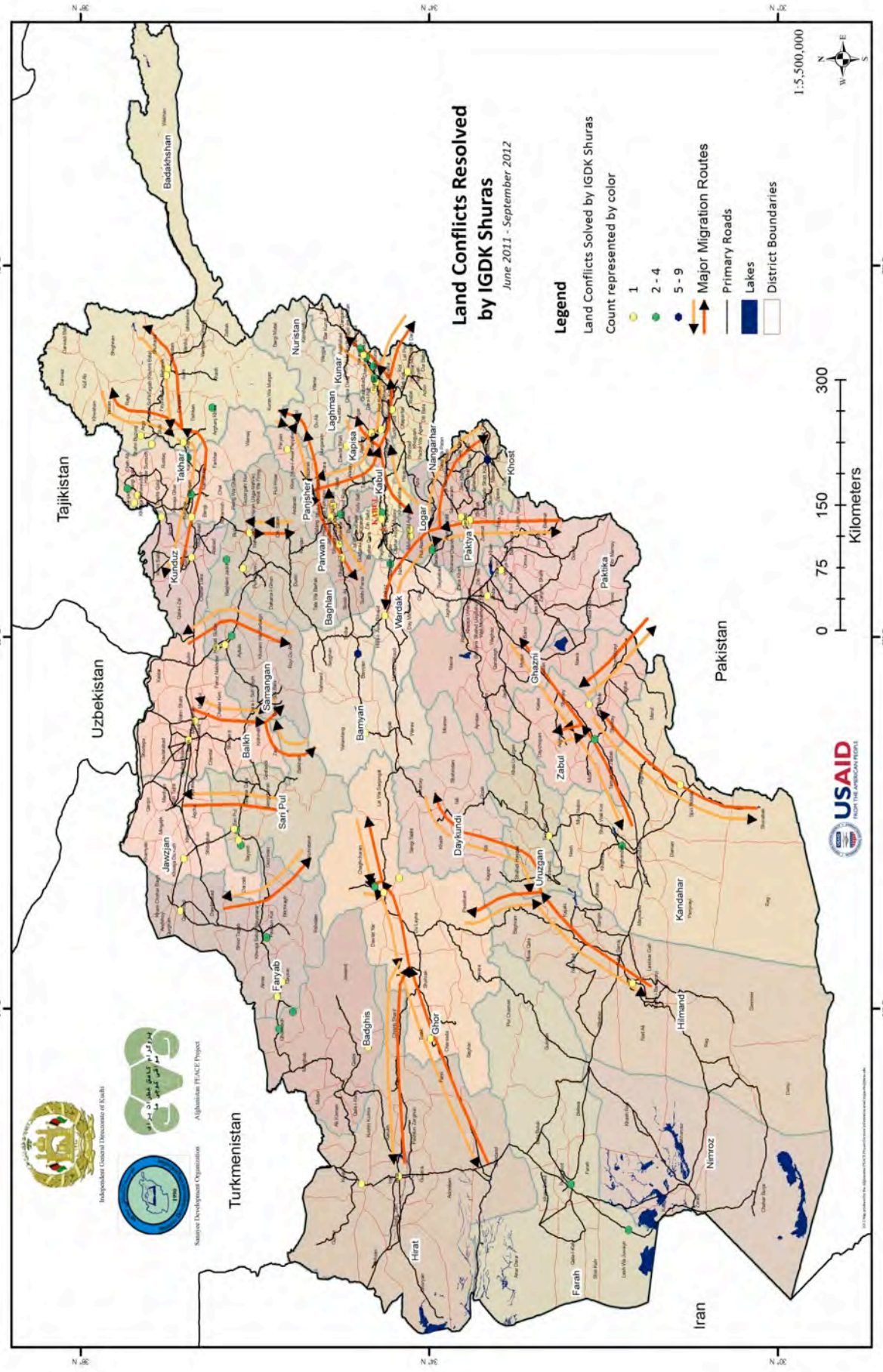
Independent General Directorate of Kuchi (IGDK)

Herder Alliance - Kuchi Shura Program. Provincial Kuchi Shuras are held in 31 of the 34 Provinces in Afghanistan. The PEACE project facilitated Shuras in 30 of these Provinces during the last year. This quarter Provincial Directors have resolved 41 conflicts in addition to their other duties. There were 19 land conflicts and 22 social conflicts resolved. The graph below displays the Provincial breakdown of the conflicts addressed by the Provincial Directors.



Conflicts resolved between June 2011 and September 2012

Land conflicts resolved were also mapped to show their distribution and magnitude. Obviously there are some Kuchi Directors that are more active than others in resolving land conflicts for the Kuchi people. Unlike the Peace Ambassador program, the Provincial Directors are selected without input from the PEACE project. However, monthly Shura reports are shared with the project and PEACE project team members have visited most of the Provinces personally to see how the Shuras are being conducted. As a result the PEACE project provided "Provincial Director Evaluations" to the IGDK Director. Currently the top 10 Provincial Directors for IGDK are Herat, Balkh, Samangan, Baghlan, Laghman, Logar, Nangarhar, Kunar, Ghazni, and Zabul,


Land Conflicts Resolved by IGDK Shuras
June 2011 - September 2012
Legend
Land Conflicts Solved by IGDK Shuras
Count represented by color
1
2 - 4
5 - 9
Major Migration Routes
Primary Roads
Lakes
District Boundaries
1:5,500,000
0
75
150
300
Kilometers
Tajikistan
Uzbekistan
Turkmenistan
Pakistan
Iran
Badakhshan
Takhar
Kunduz
Nuristan
Kunar
Laghman
Kapisa
Nangarhar
Khost
Panjsher
Kabul
Logar
Paktya
Paktika
Parwan
Baghlan
Wardak
Samangan
Balkh
Bamyan
Ghazni
Zabul
Sari Pul
Jawzjan
Daykundi
Uruzgan
Kandahar
Fariyab
Badghis
Ghor
Hilmand
Hirat
Farah
Nimroz
USAID
FROM THE AMERICAN PEOPLE
Independent General Directorate of Kuchi
Sustainex Development Organization
Afghanistan PEACE Project

Examples of Issues Addressed by IGDK Shuras

The following are brief summary examples of selected issues and conflicts addressed during this past quarter.

Example 1

Who: Between Shinwari and Gojor Kuchi groups
Where: Zar Sang village, Doshi District, Baghlan Province
Type of conflict: Rangeland
Beneficiaries: 170 families from both Kuchi groups
Area effected: 200 hectares
Number of animals: 2200
How – Methods used: Negotiation and traditional Shura (Jirga)

Details:
Two Kuchi groups were in dispute over rangeland in the Kelagi area of Doshi district. The Shinwari group complained to the District Governor about the Gojor Kuchi. The District Governor referred the conflict to the Kuchi Shura for resolution. The issue was addressed in the following monthly Shura and discussed with Shura members. After a series of effective and positive discussion the conflict was solved when both sides agreed to share the 200 hectares of land. In the end both herder groups were satisfied with the decision because neither had been able to use the area previously due to the dispute.

Significance:

- Conflict ended in the peaceful usage of rangeland
- Collaboration between Kuchi Shura and District officials.

Example 2

Who: Between Arab Kuchi and Villagers
Where: Asiab Abad Village, Hazrat Sultan ditrict, Samangan Province
Type of conflict: Kuchi migration route
Beneficiaries: Two villages
How – Methods used: Kuchi traditional Shura.

Details:
There was a dispute between Arab Kuchi herders and Villagers over the use of a traditional movement corridor for the Kuchi. Local villagers were trying to prevent the Kuchi from passing through the area with their animals creating a conflict between the two groups. When brought to the attention of the Provincial Kuchi Director, he held a Shura in Hazrat Sultan District, to address the issue. Included in the Shura were members of the Samangan Kuchi Shura as well as high ranking officials such as Samangan's Deputy Governor, Hazrat Sultan District Governor, and elders representing

the complaintants. Shura was opened with a speech by the Deputy Governor and then each elder talked about peace and possible peaceful resolution of the dispute. Then representatives were persuaded to stop the dispute. It was determined that the Kuchi would be allowed to move their animals thought the area. The Villagers were not happy about the decision but said they would accept it because the Kuchi had used that route for many years.

Significance:

- Movement route reopened for Kuchi herders.
- Conflict was resolved due to cooperation of officials and local Shura members.

Example 3
Who: Two groups of the Kakar tribe
Where: Gull Khan Region of Qisar District, Faryab Province
Conflict Issue: Access to potable water
Beneficiaries: 550
How – Methods used: Tradition Jirga

Details:
There was a dispute between two groups over access to potable water from shared deep wells. The groups had bought a piece of land together for the purpose of drilling for water. However, after the water source was established one group denied access to the well. The issue caused a series of arguments between them that resulted in physical altercations. The Faryab Kuchi Director conducted a Shura in cooperation with the elders of the area. The Shura members investigated all aspects of the issue and then discussed the findings with the groups that were fighting over the water. The Shura members determined that because the groups purchased the land together for the purpose of finding potable water, one group could not decide that they would be the only group to have access. After presenting this finding they were able to convince both groups to use the well jointly and in a peacefully atmosphere. The Kakar families should share the well without making further disputes.

Significance:

- Shura members were effective in investigating the issue in a way that resolved the conflict.

Capacity Building for IGDK

At the end of September, the adult education courses were completed by 50 IGDK staff members. The original plan was to train 30 IGDK staff but the PEACE project successfully negotiated reduced rates allowing for training almost 75% more staff than originally planned. The IGDK staff successfully completed a full year of courses in management, finance, English language, and computer science. Of the 50 staff, 12 were women (more than double the original plan). This type of staff capacity building is paramount if the

government is expected to improve their ability to provide services for the people. This effort with IGDK was very successful because of the openness and desire of their Director. The PEACE project has worked with four different IGDK Directors since 2006. The current Director has been exceptionally responsive. This Director personally attended the adult university courses and conflict resolution trainings. He has been interested in learning and his participation shows others that no one is too "important" to learn something new.

With the computer courses completed, the computer equipment was transferred to IGDK for their use. The PEACE project also assisted in the establishment of a website for the Directorate.

Capacity Building for Kuchi Younger Generation

Third Group of Kuchi Young Leaders

During the month of September the 3nd group of Kuchi Young leaders were brought to Kabul. They attended an in-depth training course that included several major topics such as reconciliation, mediation, do no harm, negotiation, self-awareness, and peace from perspective of Islam. This group included five young women in addition to the 25 young men. The IGDK was responsible for selecting the people to receive this month-long peace building training. It was encouraging to see that they selected women to attend. Momentum is stronger than ever for continuing the program with IGDK and the PEACE project hopes to continue this work under a different donor.

Provincial Trainings by Kuchi Younger Generation

The Kuchi young people that attended the month-long training earlier were subsequently very active in delivering training to others. Kuchi Young people from 6 Provinces held training workshops in their areas for 210 people. Provinces where the trainings were held included Baghlan, Balkh, Kunduz, Laghman, Nangarhar, and Wardak.

Reaction to the trainings delivered by young Kuchi leaders was one of gratitude and hope. Participants in all cases mentioned the need for more of these types of workshops in the rural districts of Afghanistan. It was generally felt that increasing the awareness related to peace building will resolve conflicts between Kuchi and Villagers.

Training and Support for MAIL

Livestock Market Information System. The LMIS was returned to working condition in June. The battery back-up system was replaced and the system was reset by programmers at Texas A&M University. The system ran through the month of August and into the first week of September. The system went down again during the first

week of September and repeated email and cell phone inquiries to MAIL, about the problem, were not returned. During the 3rd week of September, the PEACE project Chief of Party personally visited the MIS office where the server was housed to determine what the problem might be. It turned out that the power had been unreliable at MAIL and therefore they simply turned off the server. It was reported that MAIL had experienced a fire in one its buildings and because of that, the power was being turned off during the night in nearly all the buildings in the compound.

Following discussions with the head of Statistics, MIS staff and the IT Director at MAIL, it was determined that the server would be moved to the IT offices. The IT building is one of the buildings that receives 24-hour power. The IT Director agreed to provide a public IP address for the server as well so as to avoid having to place the server behind their firewall. The final issue that remained to be resolved was the purchase of the sim card, by the Ministry so the modem would operate properly. The system still has good functionality even without the modem running so the plan was to move the server to the IT Department immediately.

As of the writing of this report the server and other equipment had not been transferred into the IT Building. The PEACE project scheduled the move several times but MAIL staff within the MIS Office and/or Statistics Department have cancelled the move each time due to being called away for emergency meetings.

Livestock Early Warning System. The LEWS did not receive any attention from the MAIL during the last quarter. Insecurity in the Provinces was their main concern. The PEACE project Chief of Party attempted to initiate discussions with the Head of the NRM Directorate regarding the conflict resolution program in the hopes that if the staff in the Rangeland Department were involved in conflict resolution in specific locations it may create the environment for their staff to at least conduct rangeland surveys in some of those locations. There was no response to those proposals.

Nutritional Profiling System. During the previous quarter the project worked with Dr. Halimi to take the Nutritional Profiling Lab to the next step. Unfortunately Dr. Halimi was removed from his post this summer. Mir Amad Amadzai was put in place as acting Director of Animal Health and Production. He has agreed that the lab will remain as it is and will be made available to both the Departments of Animal Health and Livestock Production. In addition, Dr. Hamidullah will help the Livestock Production people to understand the ways the lab could be useful to them.

All additional equipment was subsequently handed over to during the final month of the project (October 2012).

COMPONENT REPORTS

Community-based Risk Management Pilot Project

Introduction. The Kuchi, Afghanistan's dominant transhumant livestock producers, are one of the most marginalized cultures in Afghanistan. Subjected to decades of war, drought and insecurity, poverty is now the norm for many Kuchi, along with food insecurity. Furthermore, their capacity to manage risks associated with their livelihood continues to deteriorate, due to the lack of investment in reducing their vulnerability to the many risks encountered throughout Afghanistan. This leaves them vulnerable to shocks inherent in their livelihood. Recent efforts to reduce vulnerability, improve livelihoods and promote human welfare among other traditional pastoral societies have focused on non-traditional participatory methods and collective action. The mechanisms for achieving these goals have included human capacity building, micro-finance savings-led investing, and improved livestock marketing.

In 2008, based on the Global Livestock Collaborative Research Support Program's PARIMA project (Improving Pastoral Risk Management on East African Rangelands), which successfully demonstrated the benefits of a non-traditional approach to risk management along with their inherent sustainability, PEACE project began the process of developing a risk management strategy for the Kuchi. The PEACE Community-Based Risk Management (CBRMP) pilot project began implementation in July 2009. The purpose of the pilot project was to develop a plan of action for adapting the PARIMA model to the unique circumstances of Afghanistan and the Kuchi.

Methods. The mechanism for achieving risk management among the Kuchi centers on the formation of Collective Action Groups (CAGs), based on savings and credit programs. PEACE initiated the pilot Community-Based Risk Management Project (CBRMP) in northern Afghanistan in July 2009, with an emphasis on developing one primary CAG each in the Jawzjan, Balkh, and Kunduz Provinces. This pilot project began with a 10-day training in two tools used successfully by the PARIMA project in East Africa: the *Application of a Participatory Approach to Develop a Risk Management Plan,* and *Participatory Rural Appraisal (PRA)*.

Results. Two distinct messages emerged from the CBRMP trainings and discussions: (1) Kuchi participation in development programs in Afghanistan was not genuine; and (2) partnership formation to promote development in Afghanistan is uncommon. Participants agreed that development facilitators and managers need more training and practice in these development models, though the adoption of this community-based and participatory philosophy will require major changes in attitude along with a paradigm shift in the thinking of development facilitators. All three Kuchi groups identified a degree of commonality in the types of problems associated with risk, with

water shortages, lack of human and animal health services, transportation issues, and animal feed shortages all reported as the most prominent and persistent problems. Progress was made in CAG development among the three groups, with founding members receiving in-depth training on CAG formation, and the role CAGs can play in empowering communities and increasing community self-reliance. All three CAGs have established organizational structures, identified areas of emphasis, and initiated savings activities among members.

Conclusions. Based on the successes of the initial CBRMP activities, it is advisable to plan additional trainings for other provinces where the Kuchi are active, and to begin a planned expansion of the pilot phase. It is recommended that the trained Collective Action Group (CAG) members receive more training in the PRA process to better enable their use of the tools for generating more gains in community empowerment. In addition, it is clear that development facilitators with the intention of working with the Kuchi receive proper training in the concepts and application of PRAs, to ensure that the beginnings of truly participatory partnerships initiated during this pilot phase between the development organization actors and beneficiaries they intend to serve are further encouraged and improved. The CBRMP trainings helped the Kuchi develop a greater sense of collective self-confidence and self-reliance, attributes critical for continued development and problem solving. In addition, through the trainings, considerable gains have been made in risk education: the Kuchi have expressed a desire to develop the capacity to protect their pastoral livelihoods against a crisis situation, while also diversifying this livelihood to greater non-livestock based economic activities to minimize their vulnerability to risk thereby becoming more resilient to shocks. The CAG process begun by this pilot is a step in this direction. With well-planned capacity building assistance from either the PEACE project or another donor, these newly formed Collective Action Groups can achieve most if not all of the activities they have identified as group priorities. As a result of the training and subsequent capacity building interactions the groups have had with the PEACE team, the momentum for continued progress has been created. Efforts must continue to keep up and drive this momentum.

In April 2010, the Office of Agriculture at the USAID Mission to Afghanistan chose not to fund an expansion of the PEACE project's Community-based Risk Management pilot activity. The local communities have continued their efforts without international support.

Livestock Sector Market Assessment

Introduction. It is widely recognized that improving livestock production in Afghanistan is important for stabilizing the country's economy. Developing sustainable livestock production practices will require several components acting in unison. These include delivery of animal health services; adoption of effective rangeland policies; research and the development of rangeland management plans; production of supplement feed

sources; resolution of conflict and access issues; and a good understanding of the country's livestock market. Efforts are underway to implement many of these components. Information regarding Afghanistan's livestock market, however, is limited.

In 2008, there were conflicting opinions about who are the major contributors to Afghanistan's livestock market; who might be responsible for setting market prices; and what is the actual volume of animals traded in the different markets throughout the country. There are those who believe that the Kuchi nomads of Afghanistan are the major contributors over others; and those that purport that it is the buyers who set the price. To what extent Pakistan is a supplier of livestock is also little understood, as is the volume and makeup of livestock traded throughout the year. In 2000, Thieme and Suttie (2000) reported that Kuchi nomads owned one-third of the total number of livestock in Afghanistan. (Thieme and Suttie, 2000) The Kuchi rely primarily on Afghanistan's rangelands for forage production throughout the year; and on traders to deliver their goods to the market. It is unknown to what extent they support the economy indirectly, through sales to villagers.

In an effort to clarify Afghanistan's livestock market, the PEACE project conducted a series of livestock market surveys between October 2008 – October 2009. The data from the study aimed to determine who are the major suppliers of livestock to Afghanistan's markets and who might be responsible for setting market prices. The study also sought to collect information on the volume and types of livestock sold throughout the year. It was conducted by Altai Consulting on behalf of the Afghanistan PEACE Project, on a quarterly basis, with four reporting periods.

Methods. The data presented here is from a synthesis of four livestock market surveys, which in combination were intended to elucidate the dynamics of Afghanistan's livestock markets; direct efforts to improve marketing opportunities; and, to increase income generation opportunities among Afghanistan's key livestock producers, the Kuchi. The surveys were conducted in six major trading centers: Herat - Ganj Bazar and Ganj Shash markets; Kabul - Nakhas Company, Chaman Babrak and Darwazai Lahori markets; Kandahar - Ganj Bazar market; Kunduz - Mal Bazar market; Mazar-e-Sharif (Balkh) - Mal Bazar markets; and Jalalabad (Nangarhar) - Angoor Bagh, Shaiwa and Chaparhar markets. The study was based on the following objectives:

- Determine the proportion of the livestock market that is supplied by the different livestock producers
- Determine the role of the Kuchi in all sectors of the livestock markets in Afghanistan
- Determine the approximate volume of livestock sales
- Determine the approximate market value of different categories and breeds of livestock and who is responsible for setting market prices

Each quarter, surveys were conducted over a multiple-week period ranging from nine – four weeks. The survey team consisted of one international Project Manager who was

responsible for coordinating the project, and a team of two national consultants and eight interviewers who led the field interviews. All components were monitored by the Project Manager either directly or remotely depending on the security concerns of the region.

Results. The traders, including individual sellers and business men engaged in animal trading, present in Afghanistan's major markets were predominately of Pashtun origin with one-third claiming to be Kuchi. Both Kuchi and non-Kuchi participating in the markets reported that they mostly lead a sedentary lifestyle, with trading being their primary means of earning income. The majority of butchers, in contrast, claimed that their ethnicity was Tajik.

Sheep, including Turki, Qaraqal and Qaragh, were the most common livestock supplied to all the trading centers. Estimates of the total volume of livestock, in 2008-2009, was not insignificant: 1,176,400 sheep, 355,600 goats and 259,500 heads of cattle; with volumes highest in the fall and lowest in later winter.

Despite the fact that only one-third of interviewees claimed to be of Kuchi origin, it was widely and consistently reported that the Kuchi were the single most important suppliers of small livestock to Afghanistan's markets. Actual counts in the market indicated that the Kuchi supplied 60% of all sheep and 62% of all goats to the six major trading centers in 2008-2009, whereas sellers/buyers estimates put these figures much higher, 79% and 72% respectively. In contrast, the Kuchi played a very minor role in terms of the numbers of cattle supplied to the trading centers. Given that the transhumant/nomadic Kuchi were poorly represented in these surveys and this group tends to sell their livestock in the field rather than in markets, the latter figures are probably much more realistic estimates. What these data indicate then is that the Kuchi, a group of people representing less than 5% of Afghanistan's population, supply more than 75% of the small livestock found in Afghanistan's markets but very few of the cattle.

Livestock sales were dependent on an open negotiation process. Market prices were primarily obtained by using cell phones to call ahead to friends in the market or by asking others in attendance, with sellers asking other sellers and buyers asking other buyers. The final selling price, however, was based on a one-on-one negotiation with the seller taking into account such factors as species, breed, sex, age and body condition (in order of import) and whether or not the buyer intended to resell their purchase at a later date. In general, there was little price fluctuation throughout the year, with males selling for more than any other category of animal.

The estimated income generated from the sale of the sheep and goats alone, was not insignificant: $147,826,196 USD; neither was it for cattle: $107,573,085 USD. The majority of this income was generated in the Kabul, Kandahar and Herat trading centers. Given that the majority of small stock sold in the six major trading centers were traded prior to their arrival to the markets; that the majority of traders reported plans to resell

their purchases; and, that the majority of young-of-year purchased each year were bought in order to resell at a later date (generally in the fall), after having fattened them; the actual amount of income generated from the sale of small livestock was more likely closer to three times this amount (i.e., approximately $443M).

Conclusions. The fact that approximately 5% of Afghanistan's population are extensive livestock-producers, and that they contribute at least 75% of the small ruminants to the Afghan markets, suggests that extensive livestock producers rather than rural communities with small herds are the people to target to improve livestock production in Afghanistan. This point becomes particularly critical when you consider that these same extensive producers are the primary sources of animals purchased by farmers living in rural communities as the Kuchi pass by a village. Facilitating extensive livestock production will best be accomplished by helping the Kuchi to re-establish their relationships with villagers along the migration corridors.

Afghanistan's livestock producers, the transhumant/nomadic Kuchi, were poorly represented in this survey. This suggests that they do not gain as much value from the sale of their livestock as they could if they had sold their animals themselves directly in the market or through family or business-trade partnerships. Moreover, when approached in the field to sell their animals, they are at a disadvantage in that they do not have access to first-hand, real-time market price information unless they can reach someone in the market place by cellphone. They also do not have knowledge of cycles in the markets that they could use to their advantage when making sales decisions. In previous studies by the PEACE Project, it was also determined that the Kuchi faced many livelihood risks in addition to being poorly diversified. These factors, in addition to climate-related risks, were all cited as being one of the main reasons for their reluctance to sell their livestock, except under duress.

One obvious solution is the need for real-time market price information to facilitate sales transactions and improve decision-making capabilities. Another is the need for training and capacity building for Kuchi in business development and trading, in addition to supporting productive business linkages (producers, abattoirs, shippers, other traders, markets, etc.). These can be accomplished either on an individual basis or through such mechanisms as a risk management program. The end result will be empowerment of Kuchi communities and individuals; a shift in perception of livestock as a status of wealth to one of income instead, and the reduction of risks associated with a livelihood based on extensive livestock management. Efforts such as these would also facilitate the integration of Kuchi with other Afghans. Additionally, the national economy would grow as a result of an increase in number of jobs related to a thriving livestock economy. Some indirect effects would be increased opportunities for rangeland rehabilitation and the development of sustainable community-based range management plans. Another would be increased political stability by eliminating the probability of this culture of people from joining extremist movements as an act of desperation.

Conflict Resolution

Conflict resolution has always been a component in the PEACE project but it became more important given how critical the land access situation was in Afghanistan. The PEACE project's approach to conflict resolution was very simple: 1) understand how the Kuchi, as a culture, organize themselves; 2) understand their traditional means of solving problems; and 3) begin to deliver training in ways that incorporate lessons learned from the first two approaches and that facilitates peaceful resolution of conflicts at the community level.

Background. The Kuchi are organized into clans with a clear leadership structure. In 2006, the Independent Department of Kuchi (IDK) was established. It operates as a governmental quasi-ministry and a representative body of the Kuchi. The IDK is responsible for addressing all social, economic, and political issues affecting the Kuchi across Afghanistan. This newly formed department has little capacity or capital to really help the Kuchi, particularly the herder majority. The Department has 31 provincial directors and PEACE has identified several interested in improving extensive livestock production and gaining conflict resolution skills. In Afghanistan, *shuras* are the "assemblies of leaders" that Kuchi and other groups use to make decisions, solve problems, and settle disputes. *Shuras* are comprised of the most powerful and respected leaders in a province or district. The *shuras* and traditional decision-making assemblies are estimated to account for more than 80% of conflict-based cases settled throughout Afghanistan (UNDP/Human Development Index 2007). After understanding the nature of the traditional Kuchi problem-solving context, PEACE began providing training to 26 Kuchi Provincial Directors. To provide training in local languages, PEACE partnered with the Sanayee Development Organization (SDO), an Afghan NGO experienced in delivering conflict resolution training both Dari and Pashto.

In June 2008, the PEACE project also began facilitating monthly Kuchi *shuras* in 10 Provinces. Because the Provincial Directors had no budget to hold these meetings, PEACE project support enabled the peace and negotiation messages to reach more Kuchi leaders. In addition, by supporting these meetings, PEACE was able to collect information about the Kuchi on a wide range of topics by clan and by season. The PEACE project began by supporting *shuras* in 13 provinces in collaboration with the IDK.

The next step in the peace-building and conflict resolution process was to increase the capacity of the Kuchi, at the Provincial level, to resolve conflicts independently. Provincial Directors that demonstrated a commitment to peaceful resolution of conflicts during the *shuras* were asked to select leaders from their provinces for this program. Nine leaders from three provinces participated in one-month long training programs emphasizing conflict resolution strategies and negotiation methods. Since this training, the nine leaders have participated in numerous mediation and conflict resolution exercises, and have worked to develop multi-ethnic Peace *Shuras*. The PEACE project actively monitored the impact of this training effort through continual feedback. In

addition, the same nine Kuchi leaders held their own conflict resolution workshops passing on some of the conflict resolution skills that they had been taught during the month-long training course to 51 additional Kuchi leaders.

As the word spread about the trainings provided by the project, PEACE began to receive requests for similar trainings, including one directly from President Karzai's office through his Advisor on Tribal Affairs, Wahidullah Sabawoon. He requested that the project develop trainings aimed at resolving long-standing land disputes between the Kuchi and Hazara communities. In 2008 - 2009, the PEACE project brought together over 300 Kuchi and non-Kuchi leaders from five regions to engage in joint conflict resolution workshops. Ten "Peace Ambassadors" (PAs) (i.e., 5 Kuchi and 5 Hazara) were selected to work at the community level to seek common ground and to resolve the Kuchi / Hazara conflicts over access to rangelands in the Hazarijat region (i.e., Besud).

The effectiveness of PEACE project accomplishments are directly related to its partnership with SDO. SDO's ability to deliver peace-building messages within the context and culture of the Afghan people was a critical component in training the Kuchi and other participants. By organizing these peace-building programs at the community level, SDO was also able to strengthen the capacity of community institutions of key district government offices, while promoting and encouraging the building of positive relationships among the actors. Moreover, because SDO focuses their own programs at the same levels (village and district for the community-based peace building program) both PEACE and SDO have mutually benefited from a partnership enabling efficient use of a research institution with NGO field-based strengths.

Peace Ambassador Pilot Program. In 2007, the PEACE project began a series of widely attended conflict mitigation workshops for Kuchi leaders. Following these workshops, and at the request of the Afghan government in 2008, the PEACE project expanded the Kuchi conflict resolution program to include Hazara village leaders in areas where violence arising from land access issues presents significant risks to the Kuchi. With Global Livestock CRSP support, these activities culminated in a multi-ethnic workshop attended by both Kuchi and Hazara leaders for Wardak and Ghazni Provinces, where fighting between Kuchi and Hazara villagers is especially intense and often fatal.

In collaboration with the local peace-building Non-Government Organization Sanayee Development Organization (SDO) and with the assistance of the Tribal Affairs Office to President Karzai, PEACE initiated a series of separated and joint eight-day workshops attended by 30 Kuchi and 30 Hazara leaders to produce constructive dialogue as a first step towards cooperative conflict resolution. Workshops began with participants separated into two groups by ethnicity, where they were provided with basic problem-solving and negotiation skills. The second phase, joint workshops, brought the two groups together to focus on developing a sense of trust, as Kuchi and Hazara leaders discussed issues and initiated inter-group communication. Participants were then asked to self-select 10 representatives who would continue discussions of peace

building and conflict resolution throughout their respective communities. These nominated representatives were entitled "Peace Ambassadors" a term developed by the Advisor on Tribal Affairs to the President. As a result, five Kuchi and five Hazara Peace Ambassadors (PAs) were appointed to continue the conflict resolution dialogue in community meetings across Wardak and Ghazni Provinces.

Major Findings. The most significant outcome of the conflict resolution workshops was the mutual qualitative conflict assessments disclosed by the Kuchi and Hazara, in which leaders from both groups identified several critical points of agreement. Both Kuchi and Hazara leaders described a substantial governmental role in creating problems of land tenure and use of public rangelands. Participants advocated for the Office of Tribal Affairs to the President to become more active in seeking solutions to these problems, and agreed that given 30 years of war, resolution of issues related to land access could not be achieved quickly. Both groups shared the sentiment that political leaders do not allow them to settle land access issues at the community level, instead reporting that Kuchi and Hazara government leaders have perpetuated conflicts to further political agendas. Regarding their own history of conflict, participants widely agreed that fighting has not helped to solve conflicts, and should therefore be discouraged. Despite progress made during the workshops, neither the Kuchi nor Hazara could agree on a definitive solution to their disputes. However, the selection of Peace Ambassadors was a welcomed initial step, as the PAs vowed to transport the dialogue and skills obtained during the workshops to other communities.

Over a period of four months, these PAs returned to their communities to educate community members on workshop conflict resolution and negotiation techniques and to learn about other community-level conflicts within their ethnic group, striving to mediate and achieve solutions. In total, the 10 PAs organized and participated in over 250 community meetings, with as many as 60 participants per meeting.

Following these community meetings, Kuchi PAs reported that most community members wanted to live together peacefully with the Hazara. Kuchi elders insisted that peace was possible because Kuchi and Hazara had lived together peacefully in the past. Kuchi PAs reported that younger generations, however, have been greatly influenced by political leaders advocating for armed conflict over land. Hazara PAs reported that community members recognized the presence of foreigners to help Afghanistan stabilize, and did not want to waste an important opportunity to achieve peace, advocating for immediate pursuit of resolution agreements. Hazara communities expressed concern that if conflicts could not be resolved mutually with the Kuchi, a third party could intervene, causing both groups to lose access to disputed lands. In general, Hazara community members found the meetings informative, and commented that the PAs had accomplished more in four months than the government had accomplished in the last three years.

According to accounts from each of the 10 PAs, contact with the communities was overwhelmingly positive. Unanimously, the PAs reported that members of both the Kuchi and Hazara were happy to learn of attempts to address the conflict issues existing between the groups. While some PAs did report negative sentiments regarding compromises, the PAs agreed that the majority of community members simply wanted to work towards joint resolution. Following the community meetings, Kuchi and Hazara PAs consented that the resolution of land conflict issues on a case-by-case basis would be the most constructive path forward, with joint conflict resolution commencing through the resolution of less contentious issues for immediate impact and experience. Resolution of greater disputes could naturally follow thereafter. In terms of sustaining the peace process and progress made through the workshops, PAs discussed establishing a neutral provincial-level office where Kuchi and Hazara leaders could mediate land conflict issues, potentially within the Ministry of Agriculture Irrigation and Livestock (MAIL).

Practical Implications. To date, PEACE conflict resolution efforts focused on community workshops and the Peace Ambassadors have reached hundreds of community leaders, enhancing the Kuchi and Hazara's capacity to resolve a broad variety of conflicts in a way that encourages sustained peace. However, the reported claim by both the Kuchi and Hazara that the Afghan government is either not helpful or directly detrimental to the peaceful settling of disputes is a significant barrier to sustaining the peace process beyond the community level. The negligent role of government in this process may be partly due to a lack of incentives for government officials to actively seek conflict resolution as opposed to using conflict for the advancement of a political agenda. To respond to this policy level obstacle, the Kuchi and Hazara must be encouraged to jointly and formally address the Office of Tribal Affairs to the President with concerns about government policies for land-use conflict resolution, while the Office of Tribal Affairs should be encouraged to create neutral offices where disputes can be heard and resolved peacefully.

The most important outcome of the conflict workshops is the nomination and training of Peace Ambassadors in achieving relatively rapid impact in the peace process. Peace Ambassadors have proven to be a simple and direct solution to seemingly protracted and difficult issues at the community level, with the interest demonstrated by members of both Kuchi and Hazara in peaceful conflict resolution suggesting that more widespread training is both possible and welcomed. Given the importance and success of the PA model, it is recommended that other willing PAs should be identified and trained to conduct conflict resolution workshops and to scale-up the program. Training of the trainer programs have been widely successful in rapidly expanding the capacity needed to address technical and social issues, and are well suited for community-level applications (Bunn, et al., Forthcoming).

It is evident, however, that further research addressing conflict between the Kuchi and

other groups is needed. While village and Kuchi elders appear to be in agreement that peaceful resolution is possible, greater emphasis should be placed on educating and influencing younger members of these groups. PAs offer an excellent opportunity to reach this demographic, and it is possible that the community Peace Ambassador model could be successfully modified to include a younger set of PAs working directly with young people. In conclusion, support of monthly *shuras* and the PEACE Peace Ambassador as a viable community conflict mitigation tool should be expanded. The resulting achievements will further the goal of increasing confidence of Afghans in their government.

PEACE conflict resolution workshops demonstrated that training and providing support to a few leaders has a multiplier effect as these leaders go on to train others in their own communities. Both at the community and governmental level, the interest in peaceful conflict resolution has been demonstrated and more widespread conflict resolution training is both possible and welcomed. The PEACE project's investment in training and on-going support for *shuras* has proven to be an effective way to open up dialogue and encourage sustainable peace.

PEACE recognizes, however, that there can be "no development without peace, and no peace without development." All proposed activities targeting livestock production therefore, continued to be enhanced and enabled through critical peace-building and conflict resolution workshops in partnership with SDO. Working within the context of the Kuchi's current organizational structure and culture, PEACE and SDO have integrated existing and new methods to empower Kuchi leaders, attempting to build a large cohort who understand how and why it is best to solve problems peacefully and constructively. This comprehensive approach will allow PEACE to improve the social, economic and political environment in Afghanistan for the people, and through the people.

While village and Kuchi elders are in agreement that peaceful resolution is possible, greater emphasis should be placed on educating and influencing younger members of these groups to encourage appreciation for the benefits of peace and to give them the tools to mitigate conflicts. Further research is needed on how best to engage these younger members of Afghan society. The PEACE project's model for conflict resolution has the capacity to be scaled-up to other areas experiencing violent conflict and should be expanded in order to better evaluate the model's potential for replication.

GENDER

Conflict Resolution. According to the UN Habitat the average family size in Afghanistan is 7.5, and according to the Afghanistan Central Statistics Office, the male to female sex ratio of Afghan families is 1.05:1. In an effort to ensure that the project did not infer results from our conflict resolution efforts incorrectly, the project collected family size and sex ratio information from households that have benefitted from our Peace

Ambassador conflict resolution program. Not surprisingly, the project came up with results that were both similar and different. Specifically, the project data showed that the average family size was higher, averaging 10.9 individuals per household, and that the male to female ratio was similar, at 0.95:1.0 (males = 5.3, and females = 5.6). The project concluded from this effort that the number of people reported to have benefitted from the conflict resolution program is approximately gender equivalent as well as precise.

This does not mean, however, that there are no further opportunities to expand upon the current conflict resolution program. Knowing the number of men and women impacted by the current program does not necessarily explain if and how the benefits differ by gender. In fact, it is very likely that resolving conflicts such as those related to land-use/access results in some gender-specific benefits. For example, the project team observed that resolving conflicts over water rights affect women differently because it is the responsibility of the woman to collect the water for the family. When access is hindered, it is the woman who ends up having to travel farther to collect the water that is needed to meet the family's daily needs. This suggests a new area of consideration when it comes to the benefits of a conflict resolution program - understanding the differential impact that resolving specific types of conflicts has on women and men.

Additionally, the project found that there are conflicts that are gender specific. PEACE trained one Kuchi female in conflict resolution several years ago and word from her family is that she has successfully facilitated the resolution of several conflicts among extended female family members. Recently, PEACE has been approached by some of the Tribal Affairs Office Peace Ambassadors about whether women could receive training as well to resolve conflicts in their communities. When asked why they would want to give women these skills they simply said "they have conflicts that are specific to them".

Knowing how the different genders benefit when a conflict is resolved and the full extent of female-female conflicts is thus clearly important as is training more women in this capacity. Data of this nature would also help direct efforts towards specific gender goals.

At the conclusion of the PEACE project, in the final quarter of operation, five young women were selected by the IGDK to receive training. They attended an in-depth training course that included several major topics such as reconciliation, mediation, do no harm, negotiation, self-awareness, and peace from perspective of Islam. Momentum is stronger than ever for continuing the program and expanding to female participants. This also emphasizes the need to build trust and progress gradually when making social change.

Capacity Building. Providing women with professional training is culturally challenging for Afghan managers because they must guarantee the women's family that she will not

be treated inappropriately. If the training involves travelling to anywhere beyond her District she will be accompanied by a male escort from her family. Initially five women were selected for professional training through the IGDK adult courses. At the conclusion of the project, the number of women trained more than doubled with 12 women receiving computer training with support from the PEACE project. In addition IGDK requested that we hold more professional trainings for large groups of Kuchi women. This exemplifies how the relationship developed between the PEACE staff and IGDK over the course of the project in one of increasing trust.

LESSONS LEARNED

There were many important lessons from this effort.

- The conflict resolution process is based on the principle that to defuse conflict, people must express their interests not their positions. This approach is highly valuable in all aspect of agricultural and natural resource projects because it allows the community or individuals to layout an array of requirements that then can be parsed in negotiation introducing flexibility and mutual understanding into the discussion. In Afghanistan, as elsewhere in the world, competition, sometimes conflict, is a common component of natural resource use projects. ***Before initiating any development activity, listen to what the community feels they need.***

- To ensure the safety of staff (both Afghan and foreign), implementing institutions (Government, INGO, NGO and contractors) must have the trust and buy-in of the community they are trying to help. Building trust and buy-in must be established initially. While fully respecting the need for armed security, in our experience, safety by force is not security. We used local information as our primary security and after we gained the trust of communities, they became our primary source of security. ***Agricultural Development Teams can play a development role but coordination with civilians and donor development projects must be discrete.***

- Two of the key elements that constrained the final implementation of LEWS at MAIL were:
    - Lack of a cohort of Afghans trained and assigned to implement LEWS
    - Lack of commitment by MAIL to maintain the individuals that PEACE trained in the LEWS technology in positions that supported LEWS

  In retrospect the project and USAID should have ***established a much stronger commitment from MAIL that those trained in specific technologies would***

remain in position that supported the technologies until others suitably trained would replace them.

- The lack of donor emphasis on long-term training in the face of a clear absence of such capacity in Afghanistan is a fundamental weakness for most development projects in the country. Unfortunately training in the US was not favored for a number of reasons including costs, but USAID's own studies of the impact of such degree training are clear.[9] Training in the US, while more expensive per person, is less expensive per impact. The soft skills, such as work ethic, management approaches, and positive impression of US society, all are precisely the characteristics needed in Afghanistan that support the kind of economic and social development we desire. ***The lack of investment in that human capacity is a critical constraint for all projects, impacting their effectiveness now and the sustainability of their achievements.*** In our experience Afghans were eager to learn, wanted to upgrade their capabilities and wanted to extend their education.

- If you wish to transform an institution, be it a university or a ministry, one must concentrate enough resources in training individuals to create an innovative core. ***This investment should be based on a plan for institutional transformation with clear agreement on goals and implementation between the government and the donor.***

- Understanding the constraints of USAID assignments to Afghanistan, the PEACE project would recommend addressing some key management issues. In our six years we had 24 staff with whom we interfaced. They all were new at the onset, generally not familiar with our work, usually unfamiliar with the livestock sector in Afghanistan or the Kuchi situation and as soon as they gain knowledge they were gone. Communication with them was a challenge and in six years we never had a field visit with these agricultural advisors. Such a structure was not conducive to effective communication and development of a team approach to shared goals. ***The Agency must create a structure with more continuity or a process by which historical knowledge of projects is passed along more effectively.*** The present system is unfair to Afghans because it is not efficient, unfair to USAID employees because they are given responsibilities for management without the means to gather the knowledge to effectively carryout

[9] Gilboy et al. (2004) Generations of Quiet Progress The Development Impact of U.S. Long-Term University Training on Africa from 1963 to 2003. Prepared for the U.S. Agency for International Development by Aguirre International under the Global Evaluation and Monitoring IQC, Contract FAO-I-00-99-00010-00, Task Order 13

their responsibilities and to the implementers who have the experiential and technical knowledge but not the access to interact productively with USAID.

- ***US universities working with complementary International and national NGOs are an excellent combination that provides great technical knowledge, scientific and practical problem solving capacity and on the ground implementation.***

CONCLUSIONS AND NEXT STEPS

The Afghanistan PEACE Project accomplished a great deal during the 6 years they were funded by USAID.

Technologies

- A Livestock Early Warning System (LEWS) technology was developed and adapted to Afghanistan within the limits set by security and delivered to MAIL.
- LEWS Rangeland Surveys conducted in 15 Provinces (includes important summer areas) that allowed the LEWS system to be adapted for Afghan environments. PEACE conducted Long-term field training in LEWS methods (4.5 months per year; 3280 person-days of training) for the Ministry of Agriculture – Rangeland Department.
- PEACE established a Nutritional Profiling Lab (NIRS technology**)** located in the central diagnostic laboratory compound. Developed a nutritional profiling equation to be used to monitor the diet-quality on Afghanistan's rangelands essential to the LEWS system and to efficient animal production generally. Developed e-learning modules for nutritional profiling technology in Dari and Pashto. Ministry of Agriculture – Animal Husbandry Dept., NIRS Laboratory set up and training for fecal scanning underway (1605 person-days training)
- PEACE established and transferred LMIS**,** the marketing system and hardware, to the MAIL. MAIL collects and enters price market information from 3 major markets in Afghanistan, weekly. Data is accessible by web interface or sms text messaging. Ministry of Agriculture – Statistics Department 1420 person days of training provided).
- PEACE facilitates monthly meetings of Kuchi leaders in 31 Provinces. These meetings addressed land conflicts for herders and served as hubs of dissemination for all our information (3265 person days of training).
- PEACE provided IGDK Professional Capacity Adult courses to Kabul Office staff in Business Management, Finance, English and Computer use (7800 person days of training provided).

Conflict Resolution and Peace Building

- Provincial Kuchi Leaders trained in conflict resolution skills (31 leaders, multiple trainings, over 400 land conflicts solved within their provinces)
- Long-Term training for additional non-government Kuchi Youth leaders to train others and act as mediators (75 Youth from 20 Provinces)
- Peace Ambassadors established for 5 regions of Afghanistan. Kuchi and Village leaders have solved more than 3450 conflicts since 2008.
- Over 360 Kuchi and non-Kuchi leaders trained in joint 16-day workshops

Other Accomplishments

- PEACE, being the sole representative of Kuchi interests, contributed substantially to the first drafts of the UN led efforts at a Rangeland Law that was meant to govern issues of land tenure, access to resources and rangeland management.
- Led the reestablishment of the National Herbarium at Kabul University including the digitization of 25,000 specimens that are fundamental to range use decisions for biodiversity policy as well as animal production.
- Developed a new land cover map for Afghanistan to allow more effective land policy decision to be developed.
- Produced a land conversion map for the country that identifies the amount and location of rangelands converted to rain-fed agriculture that addresses the conflict areas between migratory herder and sedentary farmers.
- Internships for 34 University students during sheep and goat feeding trials that allowed development of the nutritional equation that supports the LEWS system. Students learned how to design and conduct experiments, run digestion trials and analyzed results.
- Trainings delivered to students at Kabul University regarding vegetation sampling methods, GPS technology, and research protocols.
- Total of 2508 males and 32 females trained in the PEACE project.

Final Thoughts. Improving extensive livestock production for Afghanistan will require a longer-term effort to capitalize on the momentum developed in the areas of conflict resolution and rangeland management. The MAIL represents a major challenge for those who attempt to build capacity within the Ministry. Low salaries, lack of strong leadership at most levels, and an unclear agenda for helping the people of Afghanistan make efforts to strengthen the Ministry difficult. More time is needed to work with the Rangeland Section and the Livestock Sections. More generally the key to advancing and maintaining an Afghanistan nation is building human capital that is capable of advancing economic and social development. Past investments in long-term degree training in the US in the agricultural sciences has a remarkable track record of impact and is entirely appropriate to move Afghanistan forward in all aspects of development. The effort should be large enough to create the kind of cohort that will affect change and exposure outside of Afghanistan for future leaders is fundamental to the trajectory of the country.

Kuchi leaders are also in need of more assistance as they struggle to represent a population with severe illiteracy rates and a general lack of education. Herders, the primary livestock producers in Afghanistan, play an important role in the economy of the nation but are sidelined by prejudice and mistrust. Efforts to resolve the land conflicts they have with villagers and powerful people remain critical to maintaining livestock production. PEACE has initiated a way forward but much more effort is needed.

The National Staff that worked with the PEACE Project have decided to continue this work on their own. They are currently working for Mercy Corps to train their staff regarding the incorporation of conflict resolution and peace building into Mercy Corps programming. The PEACE staff would like to form their own NGO in the future. One determination of whether USAID's PEACE Project has accomplished something positive in Afghanistan could be that we have left behind committed nationals that want to carry on the work we have started with them.

APPENDIX

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