

# AQIP

Afghanistan Quick Impact Project

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# Afghanistan Quick Impact Project

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*Dari Translation*

Good Irrigation Construction Practices

*Dari Translation*

Quality Road Construction for Non-Paved Roads

*Dari Translation*

Providing Oversight to Local NGOs

*Dari Translation*

Planning Good Site Visits

*Dari Translation*

Good Reporting Practices

*Dari Translation*

Optimizing Women’s Participation in Projects

*Dari Translation*

Developing Afghanistan’s Future Women Leaders

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## Executive Summary

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The people of Afghanistan's Shamali Plain have suffered tremendously over the past 20 years due to war, crises in food security, and a severe water shortage that climaxed recently in an historic five-year drought. The Afghanistan Quick Impact Program (AQIP) responded with infrastructure improvements, employment and job training for men and women, and programs to build the capacity of local NGOs. The 17-month project, completed in November 2003, brought tangible relief, sustainable change, and hope to this agricultural region and its people.

### Helping Families Rebuild

"'Go from here and don't come back,' they shouted at us as we walked away. And then they burned our house."

In 1997, 13-year-old Rahulla and his nine-member family were evicted from their home by a small army of Taliban fighters. And although Rahulla's father was a respected mason in their village of Istalif, he was fortunate to have salvaged a wheelbarrow from their burning house.

That wheelbarrow became his family's livelihood during Taliban rule for four years. Rahulla and his younger brother worked as carpet-weaving apprentices in Kabul. School was an afterthought.

But in 2002, the family returned and rebuilt their burnt home, living in a tent until the work was completed. Still, food and money were running short. Then a USAID-funded poultry production program gave Rahulla's family – and 8,600 other families – a boost with 10 chickens, feed and supplies to house the birds.

With eggs to eat or to sell in the local market, the family has a cushion against malnutrition and poverty. Rahulla and his mother also have a new pastime: "We care for the chickens together. ...They like bread with oil the best."



AQIP transferred two activities from the USAID-funded Revitalizing Agricultural Markets and Production project (RAMP). For the purposes of the final report, the impact assessment of these two activities—a bridge in Wardak and three dams in Parwan—have been aggregated with those of other activities, as 90 to 95 percent of the work was completed under the AQIP project.

AQIP has remained sensitive to its outreach responsibilities and the need to involve stakeholders including the Afghan people, the Afghan government, USAID, other US government agencies, and the American public. In keeping with the goal of optimizing the outreach of AQIP activities, the report is a portfolio of stand-alone factsheets. The factsheets offer multiple arrangements of messages, lessons learned, best practices, and guidelines for a variety of audiences. Factsheets can be removed, consolidated into a working packet, and distributed to the intended audience. The factsheets follow this Executive Summary, as demonstrated in the Table of Contents. The Table of Contents also points out that 11 success stories, immediately following their corresponding project activity, further illustrate the success of AQIP. We hope that you will find these stories useful in a variety of capacities, as with the factsheets. For data, photographs, project blueprints, and an electronic copy of this final report, refer to the CD located in a pocket in the back of the report as Annex A.

The following table presents the breadth of activities led by AQIP and the results of our work.

<b>Activity</b>	<b>Location (Provinces)</b>	<b>Summary Results</b>
Irrigation Rehabilitation	Parwan, Kapisa	Rehabilitation of canal intakes and cleaning of karez/canals irrigating 38,851 hectares for 52,850 households 46,362 person-days of employment opportunities for local workers Construction of 8 shallow wells irrigating 376 hectares for 681 households
Road Construction	Wardak	Rehabilitation of 35 km of good, well-compacted road serving 1,751 households 35,715 person-days of employment for local labor Construction of bridge linking secondary road from Ghazni to Hazarajat markets. Value of trade along road estimated at \$13,908,514 per year; since rehabilitation, traffic is up 10-15%
Income Generation	Parwan	Poultry handling training and distribution of 8,600 chickens to 860 women Training and distribution of embroidery machines for 140 women to embroider products for sale Training and distribution of materials/equipment to 40 families for small patu-weaving industries Construction of a jointly-funded oil press to revive oil production in Istalif
Drinking Water Access	Logar	Construction of 52 shared hand pumps for community drinking water
Drip Irrigation	Parwan, Kabul, Wardak	Training and installation of drip irrigation in 56 family gardens and 5 commercial gardens In conjunction with IFDC, conducted soil samples for 4 family gardens and 5 commercial gardens Distributed fertilizer and seed to 56 family gardens Trained and equipped 10 community workers and NGO staff in drip irrigation maintenance and installation
Agriculture Market Information Systems	Parwan, Kabul, Wardak	Installation of 11 price information boards and training for 11 communities to update the boards
NGO Capacity Building	Kabul	In conjunction with UNOPS, provided theoretical and practical road construction training for 12 engineers Installed software and trained NGOs in QuickBooks, a computerized accounting system Improved financial, administrative systems for NGOs through intensive ongoing basis 8 factsheets (English and Dari) for dissemination by other USAID projects on best practices for construction, management and other issues Maintenance training and distribution of more than \$200,000 worth of construction equipment to the NGOs
Women's Leadership	Kabul	Developed a model leadership seminar series for junior professional women Held 6 seminars featuring prominent Afghan women leaders involving an average of 30 participants from the government, NGOs and private sector Hosted a conference on the past, present and future of Afghan professional women attended by approximately 100 women

## AQIP Best Practices

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As with any project, AQIP staff—both Chemonics and the local implementing partners—often met with implementation concerns and obstacles. Working in conjunction with others such as the United Nations, the Afghan government, local communities and additional NGOs, AQIP crafted appropriate solutions and strategies—solutions and strategies that AQIP believes are applicable to other organizations in Afghanistan. Below are general best practices and lessons learned from the AQIP experience. Specific best practices and lessons learned can be found in factsheets in the AQIP Best Practices series. The series, available in English and Dari, consists of the following:

- Good Irrigation Construction Practices
- Quality Road Construction for Non-Paved Roads
- Providing Oversight to Local NGOs
- Planning Good Site Visits
- Good Reporting Practices
- Optimizing Women’s Participation in Projects
- Developing Professional Afghan Women
- Basic Financial Management for the Field

### **General Best Practices**

#### **Promote Good Engineering and Construction**

Many of the donor-funded efforts completed thus far have had the humanitarian aim of employing as many people as possible and delivering immediate impact. Employing local workers helps communities meet short-term cash requirements; delivering quick impacts is important in a country with extreme needs. Yet some infrastructural projects have not incorporated the principles of good engineering design and workmanship, which can be successfully combined with humanitarian priorities to provide jobs for the community and build structures that are more sustainable, as shown by the AQIP project.

For Afghanistan’s production and marketing systems to develop, infrastructure must last. This may require the use of heavy machinery to complement labor, and will certainly involve the training of implementing partners to rehabilitate infrastructure with this new perspective.

#### **Build Local Capacity through Training and Oversight**

Local NGOs in Afghanistan are accustomed to a high level of funding with very little oversight from donors. As a result, administrative, financial and management systems are often in need of substantial strengthening. Close oversight and training is crucial to ensure the following:

- Financial and administrative integrity
- Project implementation success
- Ability of the organization in transitioning from a humanitarian to development NGO

AQIP found that weekly meetings with its NGO partners, an open door policy, close financial and technical oversight and ongoing written feedback have effectively helped the NGOs develop their technical and management capacity.

In the same way that local NGOs need assistance, local staff requires the same effort. English writing, computer operation, problem solving, and management are some of the skills that benefit from strengthening. Over 20 years of war has adversely affected the ambition and initiative of the older generation. A younger generation is returning from schools in Pakistan or Iran. They possess better skills in English, computers and problem solving but lack proper job experience and technical knowledge. AQIP worked to address these issues by exposing staff to external courses, developing internal leadership and mentoring seminars/modules, organizing staff retreats centered on professional development, and conducting periodic performance reviews.

### **Focus on Outreach and Information Sharing**

As there is greater pressure from donors, the Afghan government and the Afghan people for results from the reconstruction initiative, the implementing partners now have a responsibility for outreach. Outreach is extremely important to:

Account to donors (and their constituency) how their funds are effectively used.  
 Demonstrate to the Afghan people that reconstruction is still happening successfully (and on track), despite attempts by some to subvert the process with terrorism.  
 Recognize the work being done by all stakeholders involved in the process, from the community up to the Afghan government and donors.

Site visits, media outreach and information sharing with other implementing partners are all elements for an effective outreach strategy. Information sharing is not only programmatic lessons learned. It can consist of operational issues such as the process to register organizations with the Afghan government and security intelligence.

### **Coordinate with Ministries and Other Donors**

Afghanistan presents a myriad of donors and implementing partners, all with overlapping geographic and technical focuses. Therefore, coordination is extremely important in optimizing investments by donors in the country's reconstruction. In addition to coordination with other implementers/donors, the Afghan government needs to be involved. Government ministries—in addition to coordination—often provide useful technical and community relation support to projects. Although fundamental and requiring re-emphasis, coordination with communities is key to the success of any project in terms of ground-truthing project designs, mobilization of labor, sustainability, and security for project personnel and equipment.

### **Develop and Maintain Clear Project Goals**

When designing and commencing with projects, ensure their high impact and optimize the funds. A road serving 25 medium-sized villages that leads to a primary market will yield more impact than a road serving two small villages leading nowhere. Statistics on number of people served, number of hectares irrigated by a dam, etc., must be ground-truthed as statistics/numbers in Afghanistan are notoriously inaccurate.

Well-chosen indicators and targets are extremely important in guiding all implementing partners and stakeholders. Indicators and targets need to go beyond “intermediate results” such as kilometers of road built or number of dams built. Road construction, for example, leads to greater access to social services (decrease in transportation time) and access to markets (increase in income/trade).

All parties should periodically revisit the indicators and targets to ensure that everyone remains focused on the big picture.

### **Be Aware of Poppy Cultivation Issues**

As more and more poppy is cultivated for opium, every project needs to be aware of the following:

The state of poppy cultivation in target areas (information available from the UN Drug Control Program and investigation of the community).

The plan of action before any implementation occurs. Assistance can be tied to the eradication of poppies, moved to a different target area or a whole host of possibilities. The donor and the implementation partner should collaborate to develop an appropriate plan.

### **In Post-Conflict Environments, Optimize Existing Infrastructure**

In post-conflict environments, when situations are fluid and there are few established procedures, quick mobilization often means working with organizations already on the ground.

For example, when AQIP opened offices in Afghanistan, the staff relied heavily on the International Rescue Committee (IRC). Through a sublease agreement, the project received office space, security/information services, facilitation and introduction assistance, and a list of other services. In addition, IRC helped guide the project through many issues for which little documentation existed, such as banking, organizational registration and labor laws. By receiving help from an organization already on the ground, AQIP was able to begin immediate implementation without encumbering, basic operational issues—issues that might have taken months to resolve.

## در افغانستان AQIP برگزیده بهترین روشها و درسهای از فعالیت

پروگرام سریع التاثير برای افغانستان (AQIP) به سر پرستی کیمائیکس و همکاران اجراکننده محلی آن—در طول دوره فعالیت شان مثل هر پروژه دیگر به مشکلات و پرابلم های اجرايوي روبرو شده است و در همیاری ملل متحد، دولت افغانستان، مردم و بقیه موسسات غیر دولتی راه حل های و ستراتی های را طرح ریزی کرده که فکر میشود ثمره آن برای موسسات دیگری که در افغانستان فعالیت دارند، بکار آید. در زیر روشها و درسهایست که AQIP آنرا به تجربه آموخته است—بصورت خاص بهترین روشها و درسهای آموخته شده آن در نیشته های دریافت میشود که بنام *سلسله بهترین روشهای AQIP* به نشر رسیده است. سلسله مذکور که به زبانهای انگلیسی و دری آماده میباشد، شامل عناوین ذیل میباشد:

- روشهای اعمار سیستم آبیاری خوب
- سیستم با کیفیت اعمار برای جاده های خامه
- مهیا ساختن دیدگاه برای موسسات غیر دولتی
- طرح یک محیط کاری خوب برای بازدید کنندگان
- تهیه یک گزارش خوب
- انکشاف سهم گیری زنان در پروژه ها
- اصول مدیریت مالی ساحوی

### ارتقا بخشیدن یک سیستم انجیری و ساختمان خوب

اکثر پروژه های که تا حال به پول تمویل کنندگان اجرا شده، با این تلاش بشر دوستانه همراه بوده که تعداد بیشتر اشخاص جامعه را بکار مشغول ساخته و تغییر فوری را در جامعه رونما سازد. اشتغال مردم محل، به ضرورت کوتاه مدت پول نقدی شان جواب میگوید و تغییر فوری در کشوری که اشد ضرورت بدان دارد خیلی ها دارای اهمیت میباشد. اما هنوز هم پروژه های زیر ساختی، اصول یک ساختمان و انجیری خوب را اساس کار قرار نداده اند- که میشود بصورت موفقانه آنرا با اهداف بشر دوستانه تلفیق نموده—چنانکه در پروژه های AQIP نشان داده شده ساختار های را اعمار کرد که تا حد زیاد دایمی باشد.

برای انکشاف سیستم های تولیدی و بازاریابی افغانستان، زیر ساختها بایست پر دوام باشند. برای اجرای هدف فوق نیاز به بکار گیری دستگاه هایست برای سهولت در کار فیزیکی افراد و هم شامل تربیه همکاران اجراکننده در جهت احیای زیر ساختها بدین دیدگاه جدیدی میباشد.

### ظرفیت بخشی به مردم محلی را از طریق تربیه و مراقبت نزدیک بسر رسانید

موسسات غیر دولتی محلی افغانستان پول زیادی را در اجرای پروژه ها به مصرف رسانده اند بدون آنکه مراقبت جدی از طرف ارگانهای تمویل کننده را متقبل شده باشند. در نتیجه، سیستم های اداری، مالی و مدیریتی شان ضعیف مانده و به صورت بنیادی ضرورت به تقویت دارند.

مراقبت نزدیک و تربیه برای متیقین شدن از مسایل ذیل مهم است:

- یکدست بودن امور مالی و اداری
- موفقیت اجرای پروژه
- توانا بودن موسسه برای ارتقا از یک موسسه غیر دولتی بشر دوستانه به یک موسسه غیر دولتی انکشافی

پروگرام سریع التاثير برای افغانستان (AQIP) دريافته است که با دیدار های هفته وار با موسسات غير دولتی همکارش ، پالیسی تمویل کننده ء واضح، مراقبت مالی و تخنیکي نزدیک و داشتن پاسخ دهی های کتبی به موسسات غير دولتی کمک نموده تا ظرفیت تخنیکي و مدیریتی خویش را انکشاف دهند.

به همین گونه موسسات غير دولتی محلی و پرسونل محلی نیاز به همکاری دارند. نویسندگی به زبان انگلیسی، کار با کمپیوتر، راه حل یابی به مشکلات و مدیریت ، شامل مهارت هایست که هر چند گاه بایست سطح شان بلند برده شود.

جنگ در دو و نیم دههء گذشته بصورت جدی اشتیاق کاری و ابتکاری نسل های پیر تر را صدمه زده است. غالباً نسل های جوانتر که در پاکستان و ایران درس خوانده اند از نگاه تعلیمات انگلیسی، کمپیوتری و راه حل یابی در سطح بلند تری قرار دارند اما تجربه کافی ندارند. برای رسیدگی به این مسایل AQIP به ارسال پرسونل به کورسهای بیرونی و انکشاف رهبریت درونی و برگذاری سیمینار ها و برنامه ها ، تنظیم کم ساختن پرسونل که بر محور انکشاف مسلکی میچرخد و راه اندازی بازرسی های نوبتی از کارایی کارمندان ، توصل جسته است.

### تمرکز روی معرفی پروژه و تبادلہ معلومات

از آنجائیکه دولت و مردم افغانستان به نتایج مثبت اقدامات بازسازی نیازدارند و چنان که تمویل کنندگان همه روی آن تاکید می ورزند، ضرورت توجه تبادلہ معلومات و احتیاج به احساس مسئولیت همکاران اجرايوي در معرفی پروژه محسوس است. معرفی کاری پروژه به دلایل ذیل اهمیت دارد:

- برای حسابدهی به تمویل کنندگان که چگونه پول شان به صورت موثر استفاده گردیده.
- نمایش دادن به مردم افغانستان که بازسازی چگونه در کشور جریان دارد ( و در حال حرکت است ) باوجود آنکه عده از طریق تروریزم کوشش دارند تا آنرا تخریب نمایند.
- شناخت کار همه جوانب از مردم و دولت گرفته الی تمویل کنندگان.

بازدیدهای ساحوی، انعکاس در رسانه های گروهی و تبادلہ معلومات با دیگر همکاران اجراکننده همه عناصر ارزنده برای سنتراتی معرفی به شمار میروند. برنامه تبادلہ معلومات حتمی نیست که از طریق برنامه های طرح ریزی شده در باره تجارب و درسهای آموخته بعمل آید ، بلکه از راه پروسه راجستر کردن موسسه در دولت افغانستان و امنیت دولتی بسر رسیده میتواند.

### هماهنگی با وزارت ها و دیگر تمویل کنندگان

چون حجم عظیمی از ارگانهای تمویل کننده و همکاران اجراکننده شان با ساحات کاری مدغم در یکدیگر در افغانستان موجود است پس هماهنگی یک اصل عمده در بهتر ساختن سرمایه گذاری توسط تمویل کنندگان در بازسازی کشور می باشد. در پهلوی آن هماهنگی با دولت افغانستان هم جز عمده کار می باشد. وزارت های دولت بر علاوه هماهنگی می تواند حمایت تخنیکي و مردمی را برای پروژه ها تهیه بدارد. لیکن هماهنگی با مردم که تاکید بر آن لازم شمرده می شود کلید موفقیت در پروژه در ساحات بهره برداری از زمین، انتقال نیروی بشری، دوامدار بودن، و امنیت کارکنان و وسایل پروژه در کنار دیگر مسائل خیلی با اهمیت می باشد.

### اهداف روشن برای پروژه ترتیب نموده و به آن پایند باشید

وقتی یک پروژه را طرح نموده و راه اندازی میکنید، متوجه باشید که تاثیر عالی و کار برد اعظمی از پول تمویل را داشته باشد. یک جاده که 25 قریه را به هم وصل نموده و یک مارکیت فروش مواد اولیه منتهی میشود خیلی مثمرتر از جاده ایست که دو قریه را وصل نموده و به هیچ کجای نرسد. آمار در مورد تعداد کسانی که از خدمات بهره ور می شوند، تعداد جریب زمینی که توسط یک بند آبیاری میگردد، و غیره باید درست تهیه شود زیرا آمار و ارقام در افغانستان به شکل اقتضاح آور آن غیر دقیق است.

انتخاب خوب شاخصه ها و اهداف، در رهنمائی همکاران اجراکننده و جوانب ذیدخل خیلی با اهمیت است. شاخصه ها و اهداف باید فراتر از نتایج میان مدت مثل کیلومتر جاده که ساخته شده یا تعداد بندهای که بسته گردیده، انتخاب گردد.

اعمار جاده ها به طور مثال به دسترسی همه مردم به خدمات اجتماعی (و تقلیل در وقت انتقال) و دسترسی به بازارها (از دیدار درآمد و تجارت) میانجامد.

شاخصه ها و اهداف باید توسط همه جوانب ذیدخل بصورت نوبتی بازرسی شود تا یقین حاصل گردد که همه هنوز هم روی هدف اصلی تمرکز دارند.

### از مسأله کشت و زرع کوکنار آگاه باشید

از اینکه برای تولید مواد مخدر، کشت کوکنار زیاد شده، ضرورت تا هر پروژه از مواد زیر آگاهی داشته باشد:

1. وضعیت کشت کوکنار در مناطق کاری (با استفاده معلومات ارایه شده توسط اداره کنترل مواد مخدر ملل متحد و اداره های محلی)

2. برنامه ریزی قبل از اجرای هر برنامه انجام میگردد. میتوان با دست بهم داد تا کشت کوکنار را ریشه کن ساخت، به یک منطقه کاری دیگر تمرکز نمود و یا هم از دیگر احتمالات و راه ها استفاده کرد. تمویل کننده و همکاران اجراکننده باید باهم یک برنامه کاری درستی را طرح نمایند.

### در شرایط پس از جنگ، بهبود بخشیدن به زیر ساختهای موجود

در شرایط پس از جنگ، وقتی که اوضاع ثابت نبوده محدودیت جدی در پروسه ها وجود داشته باشد، رسیدن به فعالیت سریع اجرایی به معنی کار با موسساتیست که از قبل در ساحه مصروف فعالیت بوده اند. طور مثال، وقتی AQIP دفترش را در افغانستان گشود تا حد زیادی روی IRC تکیه نمود. براساس یک موفقیتنامه، پروژه صاحب یک ساحه دفتری، خدمات امنیتی و معلوماتی، سهولت بخشی ارتباطات و معرفی و تعداد خدمات زیادی دیگر گردید. بر علاوه، IRC کمک نمود تا پروژه را در مسایلی عمده که لازم به داشتن سوابق و اسناد بود همچو مسایل بانکی، راجستر شدن موسسه و قوانین کاری کمک نماید. با اخذ کمک از یک موسسه که از قبل در ساحه فعالیت داشته AQIP توانسته که بدون تاخیر در اثر مصروف شدن به مسایل اولیه اجرایی که ممکن ماه ها وقت را در برمیگرفت، کار خویش را فوری آغاز نماید.

## **Good Irrigation Construction Practices**

Afghanistan is in dire need of irrigation, both for agricultural production and household consumption. The following represent best practices from past USAID activities on how to improve the irrigation construction process.

### **Understand the Context Regarding Water Rights**

Understand who is using the water and what will happen once irrigation structures are constructed. Who controls the water? When constructing a canal intake, consider how much water the downstream community needs. Will a dam raise the water level and flood upstream community lands? Will upstream and downstream communities support the construction?

### **Involve the Ministry of Irrigation, Water Resources, and Environment (MIWRE)**

MIWRE, in addition to approving the project, will need to approve the construction designs. They will often send oversight engineers for both the design and construction phases.

### **Understand the “Normal” Behavior of Water When Designing the Structures**

Determine the actual seasonal changes in water level and flow when designing the irrigation structure. Afghanistan’s drought and displacement of people over the past five years may not provide an accurate picture of “normal” water levels and flow in local communities.

### **Discuss with the Community Any Potential Water Diversion During Construction**

Prior to construction, gather all affected communities together and get written agreements if water must be diverted during a construction phase. It is in the best interests of the communities, particularly if they rely heavily on the water for irrigation and household consumption, to agree on an appropriate time for the diversion, the duration for the diversion, and if needed, how to secure other sources of water. The provincial government and MIWRE can help in the negotiation process.

### **Get Recognition for Your Hard Work**

Too often what is reported to donors doesn’t fully reflect all the benefits resulting from the work in the community. In addition to reporting figures such as the kilometers of canals rebuilt, for example, also measure indicators such as the following:

Number and type of beneficiaries affected. Accomplish this by conducting a survey that looks at the following: number of beneficiaries, number of jeribs of land cultivated by beneficiaries, the percentage of returnees and women, etc. Often, one can only obtain this information through surveys, as statistics from the community or central sources are incomplete or inaccurate.

Increased income (or projected increased income) as a result of higher yields or higher number of jeribs cultivated. Remember also to disaggregate the increases from the rehabilitated irrigation system and increases from other water sources (i.e. the end of the drought). To do this, conduct control surveys and ask beneficiary communities how much water they receive from sources not related to your construction.

## روشهای اعمار سیستم آبیاری خوب

افغانستان برای تولیدات زراعتی و مصرف فامیل ها ضرورت شدید برای آبیاری دارد که در نتیجه پروژه های زیاد ساختمان آبیاری در حال حاضر تطبیق میگردد. بعضی از بهترین تجارب فعالیت های سابق USAID ذیلا تذکر گردیده تا چگونه پروژه اعمار سیستم آبیاری را بهتر نمود.

هنگامیکه قبل از هر پروژه ساختمانی سروی انجام میدهید، باید بدانید که چه کسانی از آب استفاده بعملی میاورند و

### دانستن مفهوم حقوق آب

زمانیکه ساختمان های آبیاری ساخته شود چه واقع خواهد گردید. کی آب را کنترل می نماید؟ اگر یک کانال آبیگر اعمار میگردد، مردمیکه از پایین آب استفاده مینمایند، به چه اندازه نیاز دارد؟ آیا یک بند سطح آب را بلند خواهد برد و باعث جاری شدن سیلاب در زمین هایی مردم که نزدیک رودخانه با لای از بند موقعیت دارد خواهد شد؟ آیا مردمیکه بالای رودخانه و تحت رودخانه قرار دارند، از ساختمان حمایت خواهند نمود؟

### وزرات آبیاری، منابع آب و محیط زیست را دخیل نمایند

نیاز به موافقه وزرات آبیاری، منابع آب و محیط زیست نه تنها در مورد پروژه بلکه در مورد نقشه ساختمان هم میباشد. معمولا آنها انجینیران خویش را برای مراحل نقشه کشی و ساختمان ارسال خواهند نمود.

### خواص طبیعی آب را در هنگام طرح ریزی ساختمان بدانید

تغییرات موسمی را در سویه و جریان آب در هنگام طرح ریزی ساختمان آبیاری مشخص نمایند. با وزرات آبیاری، منابع آب و محیط زیست در مورد معلومات های درو وضع جیوگرافیک صحبت نمایند زیرا آنها در مورد تعداد زیاد دریا ها معلومات دارند. چون در پنج سال اخیر خشکسالی و مهاجرت تعداد زیاد مردم رخ داده، فلهاذا مردم ساحه در مورد سطح و جریان نارمل آب معلومات دقیق ارایه نخواهند نمود.

### در جریان ساختمان هر تغییر مهم در جهت آب را با مردم مطرح نمایند.

همه جوامع متاثره را قبل از ساختمان با هم جمع آوری نموده و از ایشان موافقه تحریری را در مورد نیاز تغییر جهت آب در جریان مرحله ساختمان اخذ نمایند. این جوامع، بخصوص اگر ایشان متکی بر آب آبیاری و مصرف فامیل باشند، شاید ضرورت به موافق بودن بر یک وقت مشخص برای تغییر جهت، مدت تغییر جهت، و اگر ضروری باشد که چطور سایر منابع آب را تحفظ نمود، داشته باشند. حکومت ولایتی و وزارت آبیاری، منابع آب و محیط زیست در پروژه مذاکرات همکاری میتوانند.

### اعمار نمایند تا دوام نماید

همه ساختمان های آبیاری را طوری طرح ریزی و اعمار نمایند که بر دوام باشد. بر علاوه آن، قبل از ساختمان ان متیقن سازید که جوامع میدانند و موافق اند تا مسئولیت حفظ و مراقبت آن (مانند پاک کاری کانال ها و بازسازی خسارات کوچک به ساختمان ها) را بدوش گیرند.

### با پشتکار خویش صاحب شناخت شوید

معمولا چیزی که به تمویل کنندگان گزارش داده میشود، تمام مفاد نتیجوی کار اجتماعی را مکلا تشریح نمی نماید. بر علاوه ارقام راپوردهی مانند رقم کیلومتر جاده متراکم شده، تعداد ساختمان های که تکمیل گردیده، و همچنان نشاندهنده های اندازه گیری مانند ذیل:

- دسترسی بیشتر به مارکیت ها و خدمات اجتماعی . طور مثال ، وقت سفر اولی و دومی را به مارکیت ها، کلینیک ها، و غیره مقایسه نمائید.
- ازدیاد عواید (یا ازدیاد درآمد پیشبینی شده) در اثر سفر آسانتر در طول جاده . طور مثال ، بعضی از دهقانان شاید بتوانند که تا وقتی انتظار نمایند که قیمت ها بلند رود و ایشان اشیای خویش را بفروش برسانند.
- تعداد و انواع مستفیدین متاثر شده. این نقطه با انجام دان یک سروی برای دریافت : تعداد مستفیدین، تعداد جریب های زمینی که در آن کشت و کار صورت میگیرد، فیصدی بازگشت کنندگان و زنان و غیره ، صورت گرفته میتواند.

## **Quality Road Construction for Non-Paved Roads**

Many of the current road construction projects in Afghanistan have a cash-for-work aim of employing as many people as possible. However, by focusing solely on providing cash-for-work opportunities, many groups have produced roads that do not incorporate the principles of good engineering design and workmanship. As a result, many recently completed roads barely last beyond one season.

Infrastructure must last for Afghanistan's economy to develop. This often requires the use of heavy machinery to complement labor as well as careful attention to engineering principles. Below are some lessons learned from recent USAID activities in Afghanistan.

### **Involve the Governments and Local Community from the Onset**

From the surveying and planning stage, community input is crucial. Discussions with the community can clarify the amount of laborers they can mobilize (which affects the construction timeline), whether roads can be widened in specific areas (particularly for additional drainage), the security situation vis-à-vis construction staff and equipment, expectations for community contributions during and after construction (maintenance), and seasonal weather/runoff patterns. Because they may need to approve construction designs, it is also necessary to involve the Ministry of Public Works (MoPW) or the Ministry of Reconstruction and Rural Development (MRRD) at the onset, depending on the size of the road.

### **Ensure Adequate Drainage**

Any road—no matter how good it may look to some—will not last without adequate drainage. There are three major components to drainage: crowning, side ditches and structures.

- Crown all roads (the surface should resemble an inverted “V” shape in order to allow water to drain off the road); build at least a 6 percent slope. For roads without adequate drainage on either side, slope the road entirely toward the drainage side.
- Dig or rehabilitate side ditches for the entire length of the road. Note: There may be issues with property ownership that will not allow crews to dig side ditches. Therefore, hold discussions with the community during the survey, not the construction stage.
- Build structures such as culverts and washes to accommodate all seasons, not just the season during road construction. Water runoff patterns are of particular importance.

### **Compact Roads for Durability**

Although roads simply “cut and filled” by laborers may “look” good, they will not last. Both the gravel sub-base and the crown of the roads need to be compacted. Compactors are sold by suppliers in Kabul and can be rented from the Afghan Coordination and Logistics Unit (ACLU) and private owners/suppliers. Sufficient walk-behind double rollers generally weigh one ton or more.

### **Get Recognition for Your Hard Work**

Too often, what is reported to donors doesn't fully reflect all the benefits resulting from the work in the community. In addition to reporting figures such as the kilometers of road compacted and the number of structures completed, also measure indicators such as the following:

- Increased access to markets and social services. For example, compare travel times to primary and secondary markets, clinics, schools, etc.
- Increased income (or projected increased income) as a result of easier travel along the road. For example, some farmers may now be able to wait until commodity prices are higher to sell their goods.
- Number and type of beneficiaries affected. Accomplish this by conducting a survey that looks at the following: number of beneficiaries, number of jiribs of land cultivated by beneficiaries, the percentage of returnees and women, etc.

## سیستم با کیفیت برای اعمار سرک های خامه

فعلا تعداد زیاد سرک ها در افغانستان با استخدام نمودن حد اعظمی ممکنه کارگران در مقابل پول نقد اعمار میگردد. خوب اگر فقط به تهیه نمودن پول نقد برای فرصت های کاری توجه گردد، تعداد زیاد گروه ها سرک های را تیار نموده اند که مطابق اصول و مبادی دیزاین و طرزکار انجینیری خوب نمیباشد. در نتیجه تعداد زیاد سرک های که در این اواخر اعمار گردیده، دوام اش فقط یک فصل (سیزن) بوده است. برای اینکه اقتصاد افغانستان پیشرفت نماید، (زیر بنا) سرک ها باید دوام نمایند. که برای این مقصد نیاز به استعمال ماشین های ثقیل برای همکاری با کارگران و در نظر گرفتن اصول و مبادی انجینیری دارد. در ذیل بعضی از درس های است که از فعالیت های اخیر USAID در افغانستان فراگرفته شده است.

### حکومت و جوامع محل را از آغاز نیدخل نمایند.

سهمگیری جامعه از مرحله سروی و تصمیم گیری اهمیت زیاد دارد. بحث ها با جامعه میتواند نشان دهد که به چه اندازه کارگر باید استخدام گردید (که به مدت کار ساختمانی تاثیر دارد)، آیا سرک ها در ساحات مخصوص باید وسیع گردد یا خیر (خصوصا برای دریناژ اضافی)، حالت امنیتی و همچنان کارمندان و وسائل ساختمانی، توقعات همکاری جامعه در جریان ساختمان و بعدا (برای حفظ و مراقبت) و هوای موسمی و تغییر هوا. همچنان با در نظر گرفتن اندازه سرک، وزارت فواید عامه یا وزارت بازسازی و انکشاف دهات، باید در آغاز نیدخل گردند و شاید موافقه ایشان در مورد طرح ساختمان نیاز باشد.

### متیقین سازید که دریناژ کافی وجود دارد.

- هر سرک که به بعضی ها شاید بسیار خوب به نظر رسد، بدون دریناژ کافی دوام نخواهد نمود. برای دریناژ سه جز بزرگ وجود دارد: پوشاندن، مجرا های آب و ساختمان های جوار سرک.
1. تمام سرک ها باید طوری پوش گردد (سطح سرک باید به شکل یک V سرچپه مشابه باشد تا به آب اجازه دهد که از سطح سرک دریناژ گردد) باید کم از کم شش فیصد میلان موجود باشد. اگر به هر دو کنار سرک دریناژ کافی وجود نداشته باشد، سرک باید به طرف دریناژ مکملا میلان داده شود.
  2. مجراهای آب جوار سرک در طول همه سرک باید یا خوب حفر و یا هم بازسازی گردد.
  3. نوت: شاید مسائل ملکیت جوار سرک موجود باشد که اجازه حفر نمودن را ندهد و باید در مرحله سروی با جامعه مطرح گردد نه در مرحله ساختمان.
  4. مجرای آب زیر جاده (بولول) و دستشوی ها باید برای طوری ساخته شود که در همه موسم ها کار دهد نه اینکه برای آن فصل که در آن سرک ساخته میشود. طرح ریزی جریان آب اهمیت زیاد را دارا میباشد.

### سرک ها را برای دیرپایی خوب کامپکت نمایند

گرچه سرک های که توسط کارگران "بریده و پرکاری گردد" شاید خوب به نظر برسد، ولی دوام نخواهد نمود. سنگچل های که در قسمت قاعده سرک انداخته میشود و پوش سرک باید بعد از انداختن آب با هم متراکم شود. کامپکتورهای فروشی در شهر کابل موجود است و از موسسه اکلو (ACLU) و مالکان و سپلای کنندگان شخصی هم به کرایه گرفته شده میتواند. رولر های خوب که عقب ان قدم زده شده میتواند معمولا یک تن یا بیشتر از ان وزن داشته میباشد.

### برای کار زیاد خویش شناسایی بدست آرید

معمولا چیزی که به کمک کنندگان راپور داده میشود، تمام مفادات نتیجوی کار اجتماعی را مکملا تشریح نمی نماید. بر علاوه ارقام راپوردهی مانند رقم کیلومتر سرک متراکم شده، تعداد ساختمان های که تکمیل گردیده، و همچنان نشاندهنده های اندازه گیری مانند ذیل:

- دسترسی بیشتر به مارکیت ها و خدمات اجتماعی . طور مثال ، وقت سفر اولی و دومی را به مارکیت ها، کلینیک ها، و غیره مقایسه نمائید.
- ازدیاد عواید (یا ازدیاد عواید برجسته) در نتیجه سفر آسان در طول سرک. طور مثال ، بعضی از دهقانان شاید حالا بتوانند که تا وقت انتظار نمایند که قیمت ها بلند رود و ایشان اشیای خویش را بفروش برسانند.
- تعداد و انواع مفاد مربوطه. این نقطه با انجام دان یک سروی برای دریافت : تعداد مفاد، تعداد جریب های زمین که در آن کشت و کار صورت میگیرد، فیصدی بازگشت کنندگان و خانمان و غیره ، صورت گرفته میتواند.

## **Providing Oversight to Local NGOs**

There are countless local NGOs in Afghanistan, some well-meaning, some dishonest some experienced, some not, and some acting like private companies. The abundance of donor funding and the enormous need for rehabilitation has reduced NGO oversight by donors. The result is relaxed administrative, financial and management practices on the part of some local NGOs.

While choosing which NGOs to work with is extremely important and requires careful due diligence (i.e. financial reviews, donor references, community references, etc.), this factsheet focuses primarily on suggestions for oversight agencies once implementation has begun.

### **Maintain Close and Regular Contact with the NGO**

Conduct regular meetings with the NGO to ensure that all implementation and administrative issues are clearly talked out and resolved. Regular contact conveys to the NGO that the oversight agency:

- Has an interest in the work implemented by the NGO.
- Expects to be informed of any problems or issues.
- Will effectively intervene, if needed, with a complete understanding of the situation.

By asking tough questions and demanding high performance standards, the oversight agency helps build the NGO's capacity for present and future implementation and management.

### **Conduct Regular Financial Reviews**

Map out the financial and administrative systems of the NGO during reviews—although this is ideally done before the NGO is chosen. Require adequate checks and balances. Also require that relevant files are open for your review throughout the life of the project (and for a period thereafter), and use the opportunity to conduct regular reviews and audits.

### **Pay Attention to the Numbers**

When conducting periodic site visits, count. Count the equipment. Count the number of laborers. Ask about the price of labor and materials from various sources. This information, when cross-referenced with vouchers, is a vital function of any oversight agency.

### **Always Require Complete Receipts**

Receipts should always contain enough information for independent verification of prices. This includes the following information:

- Date of purchase
- What was purchased (with enough specifications or detail for independent verification)
- How much was purchased (e.g. two water pumps, 400 m<sup>3</sup> of sand)
- The name/address/contact information of the vendor/seller
- How much was paid, in which currency, and any applicable exchange rates
- The signature and/or stamp of the vendor.

The NGO should note on an attachment any circumstances that have dramatically affected the prices of goods and services (i.e. rush deliveries, seasonal supply fluctuations).

## مهیا ساختن دیدگاه برای موسسات غیر دولتی

فعلا موسسات غیر دولتی محلی بیشماری در افغانستان فعالیت دارد. یکتعداد اهداف خوبی دارند اما تجربه کم، یکتعداد مقاصد نادرست دارند، بعضی سابقه طو لانی دارند و بعضی مانند شرکت های خصوصی عمل می کنند. وفور کمک دهنده گان و ضرورت عاجل مقادیر هنگفت برای بازسازی، نظارت کمک دهنده گان را بر موسسات غیر دولتی محلی کم نموده است. بنا بعضی موسسات در مقابل مسایل اداری، مالی و تجارب گردانندگی کم توجه شده اند. چون که انتخاب موسسات غیر دولتی محلی برای همکاری مشکل است و توجه جدی را در زمینه.... (بازنگری مالی، مراجعه به کمک دهنده، مراجعه به اجتماع و غیره...) ایجاب می کند، این نبشته بر پیشنهاد های مقدماتی دیدگاه برای آنده از موسسات که فعالیت شان قبلا آغاز یافته، تمرکز دارد.

### بقای روابط نزدیک و منظم با موسسات غیر دولتی

گفت وگو های منظم با موسسات غیر دولتی داشته باشید تا اجرا امور وحل مسایل اداری را تضمین کنید. روابط نزدیک و منظم به موسسات غیر دولتی نشان می دهد که دیدگاه نماینده گی: به اجرای وظایف توسط موسسه غیر دولتی توجه دارد. توقع می کند در صورت وقوع هر مشکل یا امری آگاه ساخته شود. قادر باشد در صورت ضرورت، با داشتن آگاهی لازمه، مداخله موثر داشته باشد.

با مطرح ساختن پرسشهای سخت و تقاضای اجرای وظایف به سطح عالی، دفتر نظارت کننده میخواهد توانایی کاری موسسه را برای حال و آینده بلند ببرد.

### بق بازرسی های منظم از مسایل مالی

سیستم مالی و اداری موسسه را در هنگام بازرسی ترسیم کنید، هر چند این کار قبلا، پیش از آنکه موسسه انتخاب گردد، به صورت دلخواه انجام یافته است. لازمست تا بازرسی های بیلائس ها کافی بسر رسد و تا ختم پروژه (و مدتی بعد تر از آن)، اسناد مربوطه در مقابل شما باز باشد و فرصت رابطه و بازرسی را داشته باشید.

### توجه جدی در زمینه ارقام

هنگام بازدید نوبتی ساحه، حساب کنید. تعداد تجهیزات را حساب کنید، تعداد کارگران را حساب کنید. قیمت دستمزد و مواد را از منابع مختلف برسید. این معلومات، وقتی رسید ها را بررسی کردید، نقش حیاتی را برای هر دفتر نظارت کننده دارد.

### همیشه خواستار رسید های تکمیل شده باشید

رسید ها همیشه باید دارای معلومات کافی و جداگانه برای تحقیق قیمتها داشته و معلومات زیر را ارایه نماید:

تاریخ خرید

آنچه خریداری شده، (مثلا 2 واترپمپ و 400 m<sup>3</sup> روی آبی)

قیمت خریداری (با معلومات کافی برای تحقیق آزاد.)

نام، آدرس، و معلومات دستیابی فروشنده.

مبلغ پرداخته شده، نوعیت پول و قیمت تبادل پول.

امضا یا مهر فروشنده.

به خاطر واضح بودن در مواقع نادر که قیمت اجناس را متاثر میسازد (مانند تحویل دهی عاجل، تغییر فصلی فرآورده) باید

توسط موسسه، یادداشتی ضمیمهء رسید گردد.

## Planning Good Site Visits

Part of every implementing entity's job is showing their good work to local or visiting dignitaries and other interested parties. Although these site visits often require a lot of preparation, they are important because they:

- Give recognition for good work
- Justify to donors that their money is well spent and perhaps that more money should/can be given for Afghanistan's reconstruction
- Share good practices and models with other implementing entities and donors
- Publicize all the good work underway in Afghanistan, to help raise the morale of the Afghan people and explain to taxpayers of donor countries the endpoint of their money.

Each site visit is different and requires different preparations. However, here are some overall suggestions for planning a successful site visit.

### Develop and Share Draft Schedules as Early as Possible

If the site visit involves participants from donor agencies, they will often be subject to security regulations and a whole host of administrative approvals. Develop a draft schedule with precise locations (maps with the locations identified often preferred), so that the donor security department and others can approve the proposed schedule. It is much easier to incorporate proposed changes at an earlier date, rather than just days before.

### Develop Handouts for the Participants

Developing handouts helps both the organizer and the participants. The organizer has a clearer idea of what he/she wants to convey to the participants, the participants have something for reference and an overview of what they are seeing. Handouts for each activity should be short and include the following information:

- Background on the activity being seen (i.e. the problems experienced by the community before the activity, information on the community)
- Facts and figures about the activity implementation (i.e. activity timeline, amount of material being used, amount of labor employed)
- Data about activity results (i.e. number of hectares irrigated, number of beneficiaries served).

### Conduct a Practice Run Two Days in Advance

Often, site visits are tightly scheduled in order to maximize the usefulness to the attendees/visitors. As a result, go through the whole program two days in advance: check travel times between sites (they may be different for reasons such as road blockages and road damage), check the appropriateness of the terrain for planned activities (i.e. make sure pathways for walking are not too steep or muddy), confirm the participation and scheduling of speakers, etc. As communication to the field is difficult, all problems should be identified two days prior to the planned site visits,

leaving one day as a buffer to resolve any major issues before the actual site visit. Also check that signs crediting the donors are visible on site.

### **Invite Local and International Press**

Check first with the participants about the appropriateness of press coverage. If so, focus on the message you want to convey. You may want to change your handouts accordingly. Coordinate with the press so that they know exactly what is going to happen, where, and when they need to be there.

### **If Possible/Applicable, Review All Speeches One Day Before**

Ensure that speeches are relevant to the event and that speakers understand:

- The reason for the event
- Their role in the event
- Length and other parameters on their speeches.

### **Remember to Plan Washroom Breaks**

Ensure beforehand that regular washroom breaks are scheduled and the bathroom facilities are adequate.

## طرح یک محیط کاری خوب برای بازدید کنندگان

بخشی از کار اجرا کنندگان پروژه ها ایجاد یک ساحهء کاریست که برای مقامات، مهمانان و کسانی که از آن بازدید مینمایند جذاب و عالی باشد. لیکن آمادگی برای چنین یک بازدید هایی تلاش زیادی را لازم دارد. ارزش و اهمیت این بازدید ها در نقاط ذیل نهفته است.

- شناختاندن سیستم کاری خوب
- برای تمویل کنندگان تثبیت میکند که پول شان درست به مصرف رسیده است و میشود که سرمایهء بیشتری برای بازسازی افغانستان اختصاص داد.
- در تبادلء نمونه ها و تجارب با دیگر ارگانهای اجرا کننده و تمویل کننده کمک میکند
- فعالیتهای مثبتی را که در افغانستان انجام شده، مشهور میسازد، تا برای بلند بردن مورال افغانها و برای اینکه مالیه دهندگان کشور های تمویل کننده بدانند که پول شان در کجا مصرف شده است. کمک گردد.

هر بازدید ساحه کاری مختص بخود بود خواهان آمادگی جداگانه میباشد.

### مسوده بی از جدول های زمانی را هرچه زود تر که امکان دارد تهیه و به مشوره بگذارید

اگر این بازدید ها از طرف ارگانهای تمویل کننده انجام میشود، پس ساحه کار باید دارای مقررات ایمنی بوده و از نگاه اداری تصدیق شده باشد. یک جدولی زمانی را که در آن همه موقعیت ها دقیقاً معرفی شده باشد، تهیه گردد که با استفاده از آن شعبه ایمنی ارگان تمویل کننده و دیگران جدول پیشنهاد شده را تصدیق نمایند. بهتر است که تغییرات پیشنهاد شده، وقت تر درج جدول گردد.

### تهیه رهنمود ها برای اشتراک کنندگان

تهیه رهنمود ها، تنظیم کننده و اشتراک کننده را کمک میکند. تنظیم کننده با داشتن رهنمود، میداند که چه مسایلی را باید تقدیم اشتراک کنندگان نماید. و اشتراک کنندگان هم یک ریفرینس و دیدگاهی در دست دارند که چه چیزهایی را خواهند دید. رهنمود هر فعالیت باید کوتاه بوده و مسایل ذیل را در بر داشته باشد:

- پس منظری از فعالیتی که از آن بازدید میشود (مثلاً مشکلاتی که جامعه قبلاً بدان مواجه بوده، معلومات در مورد جامعه)
- حقایق و ارقام در مورد فعالیت های اجرایی (تقسیم اوقات فعالیتها، مقدار موادی که استفاده شده و تعداد کارکنانی که استخدام شده اند)
- حقایق و ارقام در مورد نتایج فعالیتها (مقدار ساحهء که آبیاری شده، تعداد مستفیدین)

### یک بازدید تجربی را دو روز قبل به انجام رسانید

اکثراً دیدارها از ساحهء کاری خیلی فشرده پلان میشود تا حاضرین/ بازدید کنندگان حد اعظم استفاده را ببرند. فلها، دو روز قبل از بازدید تمام پروسه را سرتاپا اجرا نمایید، زمان سفر میان ساحه ها را بررسی نمایید (این فاصله های زمانی شاید نظر به بندش جاده ها یا خرابی آن فرق کند)، مناسب بودن ساحهء بازدید را از قبل باز رسی کنید (متیقین شوید که راهرو ها خیلی شیب دار یا پر گل نباشد)، اشتراک و تنظیم سخنرانان را تثبیت کنید و غیره. چون برقرار کردن ارتباط با ساحه مشکل است، همهء مشکلات باید دو روز قبل از بازدید معلوم شود—یکروز را به حیث احتیاط نگهدارید که اگر کدام مشکل عمده قبل از بازدید پیش آید بدان رسیدگی شود. همچنان متوجه باشید که علایمی که از سهم تمویل کنندگان حکایت میکند واضحاً در معرض دید باشد.

### از ژورنالیستان داخلی و خارجی دعوت بعمل آورید

نخست از اشتراک کنندگان پرسید که آیا انعکاس دادن بازدید در سطح مطبوعات مناسب است یا خیر. اگر موافق

بودند، روی پیغامی که شما میخواهید نشر شود تمرکز کنید، که به اساس آن شما میتوانید رهنمود هایتان را نیز تغییر دهید. برنامه را با ژورنالیستان هماهنگ سازید تا آنها بدانند که چه مسایلی واقع شد نیست و ایشان چی وقت و در کجا حضور داشته باشند.

اگر ممکن یا عملی باشد همهء سخنرانی ها را از قبل مطالعه نموده وقت آنرا محدود سازی

ببینید که آیا سخنرانی با اصل موضوع ارتباط دارد و آیا سخنران میدانند که:

- برنامه به کدام مناسبت است.
- نقش شان در برنامه چیست.
- مدت تعیین شدهء سخنرانی شان و دیگر محدوده ها از چی قرار است.

بیاد داشته باشید که وقفه هایی برای دست شویی رفتن، در نظر گرفته شود

از قبل وقفه هایی را برای دست شویی رفتن در نظر بگیرید و متیقین شوید که شرایط آن آماده است.

## **Good Reporting Practices**

Every donor has its requirements and formats. However, most will require enough information to understand what is going on in the field and how the work benefits the Afghan people. In addition, reporting allows the report-writer/implementer to sit back and reflect on the project—what the project is doing and what issues it may face.

The following are suggestions for submitting good reports, no matter what format the specific donor requires.

### **When Using Numbers, Show How the Numbers Were Derived**

Numbers are helpful in painting an accurate picture of field activities. However, they can sometimes be misleading or inaccurate. When numbers are used—particularly when they are estimates—show where the numbers come from (i.e. surveys, interviews, government statistics) and what estimates, if any, were used in coming up with final numbers.

### **Take Many Pictures and Include Them in Reports**

People say that a picture is worth a thousand words. Take pictures before, during and after your projects to show progress, and include these pictures in your reports. Your donors may even want copies of these pictures for their own reports.

### **Include Stories about Individual Beneficiaries**

In order to show how activities impact individual people, not just aggregate communities, interview beneficiaries and include their stories in reports. The interviews will be useful not only for reporting purposes, but for helping flag potential implementation issues. The interviews may point to implementation concerns or issues of which project managers are not yet aware.

### **Be Honest about Progress and Any Obstacles to Progress**

Truthful and complete reports are the responsibility of all implementing partners. If there are any serious problems with the project, donors/oversight entities can often help resolve issues by suggesting solutions (learned from other projects or experience) or useful resources.

### **Use Clear Language, Charts and Lists**

Reports should be easy to read and understand. When possible, use charts or lists to display related pieces of information.

### **Share Best Practices, Lessons Learned and Innovations**

What did you learn from your experiences? Were there any solutions for problems that others may find useful? Since many others are working towards the same goal—the rehabilitation and reconstruction of Afghanistan—share your experiences in your reports so that your donor/oversight entity can disseminate the information accordingly.

## تهیه یک گزارش خوب

هر تمویل کننده مقتضیات و چهار چوب بندی های خود را داراست. لیکن، بیشترین شان به معلومات مکمل ضرورت دارند تا بدانند که در ساحه چی میگذرد و چگونه فعالیت پروژه به مردم افغان نفعی رسانده میتواند. به بر علاوه، گزار شدهی به گزارشگر یا اجرا کننده اجازه میدهد تا بنشینند و روی پروژه تأمل نمایند که چه کارهایی را پروژه بسر میرساند و بکدام مسایل مواجه خواهد شد.

در زیر پیشنهاداتی برای یک گزار شدهی خوب ارائه شده که بدون در نظر داشت تمویل کننده خاصی یا چارچوب بندی معینی بکار گرفته میشود.

**وقتی در باب ارقام حرف میزنید، نشان دهید که چگونه این ارقام استخراج شده**

ارقام تصویر دقیقی از کار در ساحه را به نمایش میگذارند. ولی، گاهی میتواند گمراه کننده و غیر صحیح باشد. وقتی ارقام را بکار میبرید—خصوصاً وقتی که این ارقام تخمینی باشد—نشان دهید که از کجا آمده (مثلاً سروی ها، مصاحبه ها، احصایه های دولتی) و تخمین بر کدام معیار ها صورت پذیرفته است تا ارقام نهایی حاصل شود.

**تصاویر زیادی گرفته و آنرا ضمیمه گزارش نمایید**

مردم میگویند که تاثیر یک تصویر مساوی به صد کلمه است. تصاویری قبل از آغاز پروژه، در جریان آن و بعد از ختم پروژه بگیریید تا بیانگر جریان کار باشد و این تصاویر را در گزارش جای دهید. تمویل کنندگان شما شاید خواهان کاپی های از این تصاویر باشند تا آنرا در گزارش های خویش درج کنند.

**گفته هایی را از عده مستفیدین بگجانید**

برای نشان دادن اینکه چگونه پروژه در کنار اینکه به گروهی از مردم بصورت مجموعی مفید بوده، به فرد فرد مجتمع نیز تاثیر داشته با مستفیدین مصاحبه نموده گفته هایشان را درج گزارش کنید. مصاحبه ها نه تنها برای گزارش دهی مفید است، بلکه برای دریافت مسایل عمده اجرایی کمک می کند. مصاحبه ها میتواند که جنبه ها و مسایلی را در مورد پروژه آشکار سازد که گرداننده پروژه تا آنوقت بدان توجه نداشته است.

**در باره پیشرفت و موانع پروژه صادق باشید**

تهیه گزارشهای کامل و صادق مسوولیت هر ارگان اجرا کننده میباشد. اگر کدام مشکل جدی پیش آید تمویل کننده یا ارگان نظارت کننده میتواند مشکل را با ارایه پیشنهادات (که از تجارب خود آموخته) و یا با استفاده از منابع مفید خویش آنرا حل کند.

**از یک زبان واضح، چارت ها و لست ها استفاده بعمل آورید**

گزارش ها باید از نگاه نوشتاری ساده و قابل فهم باشد. در هنگامیکه ضرورت، از چارتهای، یا دیگر مواد تشریحی استفاده بعمل آورید.

**بهترین تجارب، درس ها و ابتکارات خویش را به تبادل بگذارید**

چی مسایلی را شما از تجارب خود آموخته اید؟ آیا راه حل های برای مشکلات یافته اید که شاید برای دیگران مفید باشد؟ از آنجاییکه دیگران هم شاید با عین هدف مصروف فعالیت باشند (در راه بازسازی افغانستان) پس بهتر است که در گزارشهایتان تجارب خویش را درج کنید تا تمویل کنندگان یا نظارت کنندگان بتوانند معلومات را پخش نمایند.

## **Optimizing Women's Participation in Projects**

Despite 23 years of war, Afghan women enjoyed a long history of freedom before the Taliban assumed power. Women served as government ministers and members of the country's highest legislative body. Under the Taliban, Afghan women were shunned from public life, often prohibited from working outside the home and punished for showing their faces. Education was forbidden.

Through its many humanitarian and development projects, USAID has worked to improve the lives of women in the professional, public and domestic sphere. Below are some lessons learned on including women in non-gender-specific projects.

### **Hire Women Managers and Field Workers**

Women managers and field workers are difficult to recruit in Afghanistan. However, projects without women outreach workers/field staff cannot reach women, as men are often not allowed to contact women beneficiaries directly. Secondhand stories from brothers or fathers are a poor substitute for direct contact with female beneficiaries. Female managers are also extremely important in all phases of the project, from design to implementation and monitoring. Their understanding and access to women can help tailor the project to better reach female beneficiaries.

### **Provide Job Training for Women**

Previously, women were discouraged or banned from joining the workforce. Therefore, many women have not had the opportunity to gain important job-related skills that their male counterparts may have had. It is very important to target women staff members for a variety of trainings, from building confidence and public speaking to computer usage and English. The availability of such training opportunities will also help reinforce to women staff members that they are worth investment and are expected to fully participate in the workplace.

### **Develop and Measure Against Strong Indicators**

As with any project, strong and measurable indicators are keys to setting a vision and goal for the overall project. Develop and include specific indicators and targets relating to women—and hold the project accountable for reaching those targets.

### **Take Advantage of Resources for/on Afghan Women**

There are many organizations with experience working with Afghan women. These include the UN, international NGOs, local NGOs and government ministries. Consult with appropriate organizations to discuss lessons learned and best practices relating to your project.

### **Understand What Is Culturally Feasible**

Design and implement projects with the cultural, religious and political context in mind. Projects that are too ambitious or don't fully address cultural sensitivities will not succeed. Discussions with beneficiaries, the community and other stakeholders can help clarify these issues.

## انکشاف سهم گیری زنان در پروژه ها

با وجود 23 سال جنگ، زنان افغان، قبل از به قدرت رسیدن طالبان، مدت طولانی از آزادی بهره مند بودند. زنان تا منصب وزارت دولت رسیده بودند و در ساختار قضایی مقامات بلندی را دارا بودند. در زمان طالبان، زنان افغان از سهم گیری در زندگی روزمره محروم ساخته شده، غالباً از کار در بیرون از خانه منع شده بودند و در صورت نشان دادن چهره در محضر عام مجازات می شدند. تحصیل زنان هم ممنوع بود.

USAID از طریق پروژه های بشردوستانه و انکشافی خویش برای بهبود بخشیدن وضع زندگی زنان در ساحات تخصصی، عامه و منزل فعالیت داشته است. در ذیل درسهای است که در جریان پروژه ها فرا گرفته ایم بشمول پروژه های که غیر محدود به مسایل جنس بوده است.

### استخدام و آموزش اداره چپان و کارکنان ساحوی زن

پیدا کردن زنان اداره چپی و کارکنان ساحوی زن در افغانستان خیلی مشکل می باشد. اما، پروژه های بدون عضو زن مستقیم با زنان در تماس شده نمی تواند، زیرا مردان اجازه ندارند تا خود با زنانی که از پروژه مستقیم می شدند تماس داشته باشند. گفتار دست دوم از زبان برادر ها یا پدر ها یک بدیل خیلی ضعیف در مقابل دریافت معلومات از طریق تماس مستقیم می باشد. داشتن ادارچپان اناث نیز در پروسه عملی نمودن پروژه ها خیلی با اهمیت است زیرا درک و تفاهم شان با زنان می تواند که در انتخاب پروژه های که به نفع اناث باشد کمک کند.

### انکشاف و بررسی با معیارات عالی

در هر پروژه داشتن معیارات عالی و قابل اندازه گیری کلید هایست برای ایجاد یک هدف و دیدگاه در سطح کلی پروژه. انکشاف دادن و شامل ساختن معیارات و مقاصد مربوط به زنان و نگهداشت پروژه طوری که حسابد و موفق در رسیدن به اهداف باشد نیز حایز اهمیت است.

### استفاده از منابع به نفع زنان افغان

تعداد زیادی از موسسات هستند که تجربه زیاد در قسمت کار با زنان افغان داشته. که این شامل موسسات مربوط ملل متحد، موسسات غیر دولتی بین المللی و کشوری و وزارت خانه های دولتی می باشد. با موسسات مربوطه در تماس شده و در باب درسهها و تجارب اندوخته شده آنها در رابطه به پروژه ها تان بحث کنی.

### درک اینکه چه مسایلی از نگاه کلتوری عملی است

پروژه باید با در نظر داشت مسایل کلتوری، دینی و سیاسی طرح و اجرا شود. پروژه های که خیلی بلند پروازانه باشد یا حساسیت های کلتوری را در نظر نگیرد موفق نمی باشد. مباحثه با مستقیدین و مردم و صاحبان امور برای واضح سازی این مساله کمک می کند.

### تهیه فرصت ها برای آموزش های کاری

در جریان یک دهه گذشته جنگ، خصوصاً در دوران طالبان زنان را از کار بازداشته و حتی محروم ساخته بودند پس اکثر زنان به اندازه مردان فرصتی نداشتند تا به مهارت های کاری دسترسی پیدا کنند. این خیلی با اهمیت است تا کارمندان زن را در ساحات مختلف از ایجاد اعتماد به نفس تا سخنرانی و آموزش کمپیوتر و انگلیسی مصروف ساخت. دسترسی به چنان فرصتهای برای تقویه این احساس در زنان که ایشان قابل آن می باشند که در کار ها گماشته شوند و از ایشان توقع برده می شود که در ساحه کاری فعالاً سهم بگیری.

## Developing Afghanistan's Future Women Leaders

At the current time, training for women is targeted primarily at those serving in leadership positions and rural women in need of livelihood support. However, very few opportunities in training, career support and mentoring exist for professional women working for NGOs and other organizations—the women who will become the next generation of Afghan leaders. In response, USAID developed a seminar series designed to help junior professional and professional women gain the necessary skills that will enable them to become the leaders of tomorrow.

The well-received Women's Leadership Seminar Series (WLSS) worked to bring together junior professional women from various domestic and international NGOs, the government, academia, and the private sphere. The seminars, held regularly, aimed to:

- Transfer personal knowledge/lessons learned from an invited prominent Afghan woman leader to the future women leaders
- Enable networking and discussions between Afghan women professionals on important issues such as career-home balance, workplace obstacles etc.

### Why Use the Seminar Series Model?

The women's seminar series model was designed flexible, self-sustaining and replicable on a larger scale. Seminar organization is very straightforward and can be modified to cater to the needs of any implementing organization and its participants. Simply change the focus—in this case, supporting junior professional women—to themes such as training women field workers, providing career guidance for new graduates, etc. The possibilities are endless and the organizer's investment is minimal.

In short, the women's seminar series model:

- Is flexible to fit any theme and fill any niche.
- Brings participants together for networking and mutual support. Develops the confidence of participants in a "safe space."
- Requires minimal effort and investment (tea and cookies) on the part of the organizer.
- Can be organized by junior staff (ideally women) to further develop their capacity and involvement in an organization

### How Anybody Can Organize a Seminar Series

- Decide on a topic or theme for the seminar series.
- Research an appropriate speaker and contact them to set a time for the seminar that is mutually convenient for both the speaker and the participants.

- Obtain a copy of the speaker's biography or resume and write up a fact sheet on the speaker. Make sure to discuss the topic of the seminar with the speaker and to get a good idea of what the speaker will discuss.
- Find a place for the seminar. A regular conference room with chairs and table or mattresses/pillows on the floor should be adequate.
- Confirm the speaker, date, time and place of the seminar.
- Formulate an agenda for the seminar and send one copy to the speaker. The agenda should include an introduction by the organizer of the seminar, the topic of the speaker's speech, a time for questions and comments from the participants directed at the speaker, as well as discussion among the participants and closing remarks by the organizer.
- Use the speaker's biography/resume to write a brief introduction outlining their experiences as well as touching on the topic of the speech. The organizer may then use this piece to introduce the speaker to the participants on the day of the seminar.
- Write invitations to all participating NGOs, organizations, government offices, private businesses, etc. Include a copy of the agenda. Specify the number of places available for each organization and ask for the names of the participants from each organization. Also, ask whether they will provide their own transportation or whether they require you to arrange for their transportation in order to participate.
- Hand-deliver the invitations and ask for a response within one or two days.
- Arrange for light refreshments: cookies, biscuits, tea, soda, etc.
- If needed, arrange for the transportation of the speaker and participants. Make sure the cars and drivers know whom to pick up, when and where.
- One day before the seminar, call and confirm that the speaker will arrive half an hour before the seminar is scheduled to start.
- On the day of the seminar, two hours before the seminar: arrange the room for the seminar, set up all chairs and tables and lay out all refreshments.
- The Seminar: Welcome the speaker and participants and introduce the speaker to the audience. Give a brief overview of the speaker's experience and touch on what she will discuss. The speaker gives her speech. Afterward, the organizer facilitates a question and answer period among the groups. The organizer gives her closing remarks and thanks the speaker and participants for coming. The cars and drivers take those who do not have transportation back according to arrangements originally made.
- Write a brief report detailing the seminar proceedings and distribute among participants to reinforce what was discussed.

## رشد دادن زنان آینده ساز افغانستان

در زمان حاضر، آموزش برای زنان، فقط برای آینده در نظر گرفته شده که رهبریت را بدوش دارند یا زنان دهات که ضرورت به حمایت معیشتی دارند. لیکن، فرصتهای اندک آموزشی، مهارت های کاری و رهنمایی برای زنان مسلکی که در موسسات غیر دولتی و دیگر موسسات مصروف فعالیتهای زنانه—نسل آینده رهبری افغانستان را بدوش خواهند گشتی— موجود می باشد. به اساس این ضرورت، USAID تدویر یک سلسله سیمینارها را طرح نموده تا زنان کمتر مسلکی و مسلکی را کمک نماید تا مهارت های ضروری را که آنها را قابل میسازد تا آینده ساز شوند، حاصل کنند.

این سلسله سیمینارهای رهبریت زنان که خوب هم استقبال شده، تلاش می نماید تا زنان کمتر مسلکی را از موسسات غیر دولتی بین المللی و کشوری، ادارات دولتی، نهاد های خصوصی و موسسات اکادمیک گرد بی آورد. سیمینار که بطور منظم دایر می گردد اهداف ذیل را داراست:

- انتقال درسها و آگاهیهای شخصی زنان مطرح افغان که رهبریت را بدوش دارند، برای نسل آینده ساز زنان.
- ایجاد ارتباطات و مباحثات میان زنان مسلکی افغانستان در مورد مسایل عمده ای همچون تعادل کاری و خانه داری، مشکلات در ساحه کار و غیره.

### هدف استفاده از نمونه سازی سلسله سیمینارها

نمونه سلسله سیمینارها برای زنان انعطاف پذیر، خودکفا و قابل تقلید بودن می باشد. تنظیم این سیمینارها خیلی واضح بوده و به اساس ضرورت موسسه اجرا کننده و اشتراک کنندگان آن قابل تغییری و توافق پذیر است. نظر به اینکه کدام موسسه سیمینار را براه میاندازد موضوع کمک به زنان کمتر مسلکی به موضوعات دیگری همچون آموزش زنان در کارساحی، تهیه رهنمودها برای فارغ التحصیلان و غیره تغییری یابد. انتخاب های ما بی نهایت بوده اما سرمایه گذاری از جانب خود موسسه حد اقل خواهد بود.

به صورت خلاصه نمونه سلسله سیمینارها:

- انعطاف پذیر بوده تا بتواند هر موضوعی را در برگرفته به هر قالبی جای بگیری.
- اشتراک کننده گان برای ایجاد ارتباطات و حمایتی متقابل دور هم گردآمده و اعتماد اشتراک کنندگان را در یک "فضای امن" برقرار کند.
- کمترین تلاش را برای سرمایه گذاری (چای و شیرینی) از جانب موسسه در بر بگیری.
- توسط کارمندان تازه کار براه انداخته شود تا ظرفیت و سهم گیری شان در موسسه رشد یابد.

### چگونه می شود که سلسله سیمینارها را براه انداخت

- قدم نخست: روی یک عنوان یا موضوع تصمیم بگیری.
- قدم دوم: برای یافتن یک سخنران تحقیق نموده و با او در تماس شوی تا یک وقت مناسب را که برای سخنران و اشتراک کنندگان مناسب باشد تعیین کنی.
- قدم سوم: یک کاپی از سوانح سخنران را دریافت نموده یک صفحه در معرفی سخنران بنویسی. حتماً با سخنران موضوع سیمینار را مورد بحث قرار دهی و بصورت درست درک کنی که چه موضوعاتی را وی در روز سیمینار مورد بحث قرار خواهد داد.
- قدم چهارم: یک محل را برای سیمینار جستجو نمایی، یک اطاق کنفرانس با چوکی ها و میز یا دوشک ها کافی می باشد.

- قدم پنجم: مسأله سخنران، تاریخ، زمان و محل سیمینار را تثبیت نماید.
- قدم ششم: یک اجندا را برای سیمینار تهیه نموده و یک کاپی آنرا به سخنران بفرستید. اجندا باید شامل یک معرفی برنامه توسط تدویر کننده سیمینار، عنوان نطق سخنران، وقت دادن برای سوالات و نظریات اشتراک کنندگان که باید توسط سخنران جواب داده شود و همچنان وقت دادن برای بحث میان اشتراک کنندگان و تبصره های اختتامی توسط تدویر کننده باشد.
- قدم هفتم: بایوگرافی یا مختصر سوانح سخنران را برای نوشتن یک مقدمه مختصر استفاده نمایید که از یک جانب تجارب سخنران مطرح گردد و از طرف دیگر عنوان سخنرانی معرفی شود. تدویر کننده این نوشته را برای معرفی نمودن سخنران در روز سیمینار استفاده خواهد کرد.
- قدم هشتم: دعوت نامه ها را برای همه موسسات غیر دولتی، سازمان ها، دفاتر دولتی، تجارت خانه های شخصی و غیره اشتراک کننده بنویسید. یک کاپی اجندا را ضمیمه نمائید. تعداد سیت های که برای هر سازمان تخصصی یافته، ذکر نماید و اسامی اشتراک کنندگان را از هر سازمان درخواست نماید. همچنان از ایشان بپرسید که برای اشتراک ورزیدن در سیمینار آنها وسایل ترانسپورتی خویش را بکار میبرند یا شما باید وسایل ترانسپورتی را برایشان تهیه نمائید.
- قدم نهم: دعوت نامه ها را توسط یک شخص ارسال نموده و از ایشان خواهش نمائید تا در یک یا دو روز جواب دهند.
- قدم دهم: برای رفع خستگی در سیمینار کلچه، بسکیت، چای، سودا و غیره را تهیه دارید.
- قدم یازدهم: در صورت ضرورت شرایط ترانسپورت را برای سخنران و اشتراک کنندگان تهیه نموده، متیقن سازی که موترها و دریوران میداند که چه شخصی، چه وقت و در کجا باید برداشته شود.
- قدم دوازدهم: یک روز قبل از سیمینار با سخنران تماس گرفته و یقینی سازی که وی نیم ساعت قبل از آغاز سیمینار حاضر باشد.
- قدم سیزدهم: در روز سیمینار، دوساعت قبل از سیمینار اطاق را برای سیمینار ترتیب نموده و همچنان همه چوکی ها و میزها را منظم ساخته و نوشابه ها را بچینید.
- قدم چهاردهم: سیمینار: به سخنران و اشتراک کنندگان خوش آمدید گفته و سخنران را به سامعین معرفی نمائید، از سابقه کاری وی مختصراً یاد آوری نمائید و تذکر دهید که وی پیرامون چی بحث خواهد نمود. سخنران نطق خود را ایراد می نماید. پس از آن، تدویر کننده پرسه سوال و جواب را میان مدعوین و سخنران تسهیل نموده و گفتار اختتامی خویش را ارایه می کند. تدویر کننده در اخیر از سخنران و اشتراک کنندگان اظهار سپاس می نماید. برای کسانی که سهولت ترانسپورت ندارند، موترها و دریوران مطابق ترتیبات قبلی که اساساً گرفته شده بود، ترانسپورت مهیا می گردد.
- قدم پانزدهم: یک راپور مختصر را در مورد جریان سیمینار نوشته کرده و به اشتراک کنندگان توزیع نمائید تا در باب مسائلی که مطرح شده دوباره نزدشان تجدید شود.

## **Introduction to Drip Irrigation**

Drip irrigation is an agricultural technology that is known around the world for its water-saving benefits. The technology—in simple terms—comprises pipes with holes that channel water directly to the roots of plants. Drip irrigation was recently introduced in Afghanistan through several USAID-funded projects. It was a learning experience for both the beneficiaries and the implementing entities.

Overall, while drip irrigation offers potential for cost saving and is essential in a region plagued by periodic droughts and inadequate irrigation, it is not a magic bullet. Particularly, farmers need to fully understand the technology and be disciplined enough to use it effectively. The following are some of the lessons learned from the USAID experience. This factsheet assumes the reader has a basic familiarity with drip irrigation technology.

### **Ensure the Fit of Pipes and Pipe Parts Procured Locally**

Quality control of regionally produced pipe and pipe parts is quite poor. Often, specifications are rough approximations and parts from different manufacturers will not fit together. Before buying any large quantities, make sure the parts fit. For parts that do not fit, there are a few makeshift solutions. Parts that are too small can be fitted through sanding or heating. Parts too large often have leakage problems. Leakage can be reduced by using a combination of rope-thread with plastic or rubber strips to form a gasket and/or glue.

### **Flush Systems Periodically to Reduce Calcium Buildup in Hoses**

The water and soil when strongly alkaline promotes the build-up of calcium salts that clog drippers. As this is a particular problem in some parts of Afghanistan, farmers need to check their systems regularly to ensure that drippers are not clogged. When the problem is serious, flushing the system with a 4 to 5 percent sulphuric acid solution will dissolve the salts; the acid solution will not adversely affect the plants. Filtering the water (i.e. covering water tanks) before the water reaches the pipes can reduce calcium and other sediment buildup.

### **Target Beneficiaries Who Have a Greater Incentive to Use the System**

Drip irrigation decreases the amount of water used. As a result, farmers who pay to pump water for irrigation or who lack adequate and consistent sources of water are often more receptive to using and maintaining drip irrigation technology.

### **Keep Close Contact with All Beneficiaries through All Stages of Implementation**

As drip irrigation is a new technology for farmers in Afghanistan, close monitoring of beneficiaries is extremely important. Planting, maintenance and system troubleshooting are all issues that need to be addressed frequently and regularly.

### **Take Advantage of Expertise and Lessons Learned of Neighboring Countries**

Many neighboring countries have relevant experience with drip irrigation, including India, Tajikistan, China, Jordan and Israel.

## معرفی آبیاری قطره ای

آبیاری قطره ای یک تکنیک زراعتی است که بخاطر صرفه جویی بودنش در مصرف آب در سراسر جهان شهرت دارد. این تکنالوجی—به ساده ترین زبان- عبارت از لوله های سوراخ داریست که آب را مستقیماً به ریشه نباتات رهنمایی میکند. این نوع آبیاری درین اواخر توسط پروژه های تمویل شده USAID در افغانستان رایج گردیده و تجربه استفاده ازین تکنالوجی بر ای اجراکننده و مستفیدین پروژه یک تجربه آموزشی بوده است.

در حالیکه آبیاری قطره ای ارزان تمام میشود و در یک چنین منطقه که بارها راجد خشکسالی شده خیلی با اهمیت میباشد، این یک تیر جادویی نیست. دهاقین باید بصورت درست این تکنالوجی رادرک نموده و برای استفاده موثر از آن خوب آموزش ببینند. در ذیل یک تعداد درسهای است که USAID در جریان فعالیت هایش اندوخته است. درین نبشته قیاس شده که خواننده با اساسات آبیاری قطره ای آشنایی دارد.

### متیقن شدن از کارایی لوله ها و اجزایشان که در منطقه تولید شده است

کیفیت لوله ها و اجزایشان که در منطقه تولید شده است خیلی پایین میباشد، نرخ ها دقیق نبوده بلکه بر تخمین استوار است. پروژه جات فابریکه های مختلف باهم برابر نمی شوند. قبل از خرید تعداد زیاد اجزا خود را متیقن سازید که آنها بهم درست وصل میشوند. در باره اجزایی که درست جا نمی افتند راه حل هایی وجود دارد. آنچه پروژه های که خیلی کوچک اند توسط سنباده کاری و یا حرارت برابر شده میتوانند. پروژه های که بزرگ اند مشکل لیکمی میداشته باشند. لیکمی را میتوان با پیچاندن تار با پلاستیک یا رابر کم ساخت و یا هم میشود از چسب کار گرفت.

### پاک کاری سیستم بطور منظم برای تقلیل ترسب کلسیم در لوله ها

آب و خاک و قتی خیلی القلی باشد، در ترسب نمک های کلسیم کمک میکند که باعث بند شدن آبیاریهای قطروی میگردد. چون این یک مشکل عمده در بعضی قسمت های افغانستان میباشد. دهاقین باید بصورت منظم آبیاری یهارا تقنیش نمایند که بند نشده باشند. وقتی معضله خیلی جدی باشد. شستشوی سیستم با محلول سلفوریک اسید 4،5 فیصده همهء نمک ها را حل نموده و خود محلول اسیدی تاثیر منفی بالای نباتات نمیداشته باشد. ترسب کلسیم و دیگر مواد را میشود با فلتر کردن درست آب (مثلاً پوشش کردن تانکر آب) قبل از رسیدن به لوله ها تقلیل داد.

### مستفیدینی که ضرورت بیشتر به این سیستم دارند

آبیاری قطره ای مصرف آب را تقلیل میدهد. پس دهاقینی که برای تهیه آب از طریق واتر پمپ پول پرداخت میکنند و یا آنهاییکه به منابع آبی کافی دسترسی ندارند بیشتر از دیگران خواستار تکنالوجی آبیاری قطروی میباشد.

### با مستفیدین د رطول مدت اجرای پروژه تماس نزدیک داشته باشید

تکنالوجی فوق یک تکنالوجی جدید برای دهاقین در افغانستان می باشد، نظارت نزدیک از مستفیدین خیلی با اهمیت میباشد. پلان، حفظ و مراقبت و رفع نقایص سیستم مسایلی است که باید بشکل مکرر و متواتر عملی شود.

### ازتجارب ممالک همسایه استفاده کنید

تعداد زیادی از کشورهای همسایه همچو هند، تاجکستان، چین، اردن و اسرائیل تجارب خوبی در زمینه آبیاری قطروی دارند.

## **Basic Financial Management for the Field**

Often, a field manager is not an accountant or administrator, but an engineer or technical specialist whose primary mandate is the implementation of the project to technical specifications. As a result, financial management is often the weakest part of an NGO's financial and administrative system.

However, financial management is extremely important. Donors will not hesitate to stop technically successful projects with poor financial and administrative systems. Hence, financial and administrative oversight is just as important as technical workmanship. The following suggestions are not intended to transform field managers into accountants overnight, but rather to review some basic financial management practices.

### **Designate One Person to Be In Charge of All Administrative and Financial Issues**

One person—usually the field supervisor—should be responsible for all financial and administrative record keeping and oversight. If the field supervisor is relying on other staff to complete transactions, then finances and financial documentation should be reconciled on a daily basis.

### **Keep Duplicate Files on Site for Reference**

The project office should keep an ongoing ledger and copies of receipts and official documents. The field manager should request multiple copies of templates and forms that can make record keeping easier (i.e. blank ledger books or forms). On site accessibility to records is crucial for good financial management. The records allow for real-time verification and crosschecking, as well as a context for future financial decision-making.

### **Require Complete Receipts**

Receipts should always contain enough information for independent verification of prices:

- Date of purchase; What was purchased (with enough detail for independent verification)
- How much was purchased (e.g. two water pumps, 400 m<sup>3</sup> of sand)
- The name/address/contact information of the vendor/seller
- How much was paid, in which currency, and any applicable exchange rates
- The signature and/or stamp of the vendor.

For the sake of clarity, unique circumstances that have dramatically affected the prices of goods and services (i.e. rush deliveries, seasonal supply fluctuations) should be noted by the NGO on an attachment to the receipt.

### **Constantly Refine Financial and Administrative Systems**

Systems can always be improved—and financial and administrative systems are no exception. Examine existing systems and carefully evaluate how things are done. Who approves purchases? How are prices negotiated? When and how are contractors paid? What documentation is required for payment? How are documents filed? What does the NGO headquarters require? What happens if there is fraud? Asking these questions on a periodic basis and continuously striving for improvement is essential for any strong financial/administrative system.

## اصول مدیریت مالی ساحوی

در بیشتر حالات، مدیر ساحوی یک اداره چی یا محاسب نبوده بلکه شخص مسلکی و تخنیکی می باشد. مدیر ساحوی اکثراً یک انجینر یا متخصص تخنیکی است که هدف اصلی اش اجرای پروژه به اساس مشخصات تخنیکی داده شده می باشد نه رسیدگی به امور مالی و اداری. در نتیجه مدیریت مالی ساحوی غالباً ضعیف ترین بخش سیستم مالی و اداری یک موسسه غیر دولتی را تشکیل میدهد.

لیکن مدیریت مالی خیلی ارزشمند می باشد، اگر پروژه از دیدگاه مالی و اداری ضعیف باشد تمویل کنندگان در توقف آن تردیدی بخود راه نمیدهند. حتی اگر پروژه از نگاه تخنیکی کامیاب باشد. پس مسایل مالی و اداری به پیمانانه کارکرد تخنیکی با اهمیت است. پیشنهادات ذیل، به منظور تبدیل کردن مدیران ساحوی به محاسبین نبوده بلکه هدف مرور نمودن درس های اصول مدیریت مالی است.

### مسئولیت برای امور مالی و اداری تعیین نمایند

یک شخص باید مسئول امور مالی و اداری تعیین گردد، که سرپرست ساحوی بهترین انتخاب بوده می تواند. اگر سرپرست ساحوی، کارها را توسط زیردستانش بسر می رساند، مسائل و اسناد مالی روزانه باید بررسی گردد.

### از همه دوسیه ها یک کاپی نزد تان داشته باشید

اداره پروژه همیشه باید کاپی هایی را از دفتر چه محاسباتی و رسیدها و اسناد دفتری نگهدارد. مدیر ساحوی برای تسهیل کار تسجیل، امر کند تا چندین کاپی از فارم ها و نمونه ها تهیه بدارند (مانند دفترچه های محاسباتی سفید و فارمهای خالی). دسترسی آبی به ریکوردها برای یک مدیریت خوب مالی خیلی با اهمیت می باشد، داشتن ریکوردها برای فهمیدن جدول زمانی پروژه، سردادن ارقام در زمینه تصمیم گیری برای آینده اهمیت بسزای دارد.

### رسیدهها را به شکل مکمل آن تهیه نمایند

رسیدهها باید معلومات کافی برای دانستن دقیق نرخها را داشته باشند. این معلومات شامل مسائل زیر می شود.

- تاریخ خریداری، جنس خرید شده (با تمام مشخصات آن برای بررسی جداگانه)
- مقدار/تعداد خرید شده (دو واتر پمپ 400 m<sup>3</sup> ریگ)
- نام / آدرس / شخص خریدار / فروشنده
- چه مقدار پول پرداخته شد، به کدام پول، نرخ تبادل پول (در صورت ضرورت)
- امضا یا مهر فروشنده

برای وضاحت حالاتی را که تغییرات فوق العاده در نرخ اجناس و خدمات وارد کرده، از طرف موسسه طی یک ضمیمه با رسید ذکر شود (مثلاً، عجله داشتن در تحویل دهی، نوسانات فصلی،).

### بطور منظم سیستم اداری و مالی را واریسی نموده و آنرا بهبود بخشید

هر سیستم ضرورت به رشد و بهتر شدن دارد، و سیستم های مالی و اداری از آن مستثنی نیست، یک نگاهی به سیستم های موجوده انداخته محتاطانه بهبود بسر رسیده را به سنجش بگیرید. چه کسی خریدهها را تصدیق میکند؟ نرخ ها در داد و ستد چگونه تعیین میگرددند؟ پول قراردادهای در چی زمان و چگونه پرداخت میگردد؟ در هنگام پرداخت کدام اسناد تهیه و امضا می شود؟ اسناد دوسیه بندی میگردد؟ ریاست موسسه به کدام اسناد ضرورت دارد؟ اگر اختلاسی در کار باشد چه رویه پیشگرفته شود؟ پرسیدن این سوالات به صورت نوبتی و پیگیری منظم برای بهتر شدن، در داشتن یک سیستم مالی یا اداری از مسایل اساسی میباشد.

## Background

In response to an Annual Program Statement (APS) issued by USAID, Chemonics submitted a proposal for the Afghanistan Quick Impact Program (AQIP), which supports USAID's overall strategy to assist in refugee repatriation and infrastructure rehabilitation to enable Afghan farmers to improve their families' food security. USAID approved Chemonics' proposal in July 2002 and subsequently issued a letter authorizing Chemonics to incur project costs. In August 2002, a Cooperative Agreement was formally signed. Per the terms of the Agreement, the Project Completion Date was July 22, 2003.

After thoroughly reviewing project progress and analyzing the period required to complete all activities, Chemonics requested and USAID concurred with its request for a no cost extension until November 22, 2003. All NGO sub-grant implementation activities were completed by November 8, 2003 and the AQIP staff used the remaining time to close out the project, complete outreach activities and deliver the final report.



Four Afghan NGOs executed the project demands: the Agency for Rehabilitation and Energy Conservation (AREA), Helping Afghan Farmers Organization (HAFO), Partners in Revitalization and Building (PRB), and the Reconstruction Authority for Afghanistan (RAFA).

## PROJECT ACTIVITIES

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### Summary of AQIP Activities

Since March 2002, UNCHR has documented the return of over 2.4 million refugees to Afghanistan. Approximately 40 percent of those, or close to 960,000 people have returned to Kabul city and the outlying areas north, including southern portions of the Shamali Plains. The Shamali attracts just over 30 percent of the refugees returning to the Central Region, including the provinces of Kabul, Parwan, Kapisa, Wardak, and Logar. Altogether, that's over one million returnees congregating within and just outside the fertile region of the Shamali Plain.

However, five years of drought and over 20 years of war have crippled the Shamali, an area once renowned as the “breadbasket” of Afghanistan for its bountiful wheat harvest.

Moreover, consider that Afghanistan is an agrarian economy, deriving 53 percent of its 2002 GDP from agriculture and forestry products.

The volatile formula described above is the setting for the Afghanistan Quick Impact Project. To respond effectively to the developing food security emergency, AQIP recognized two essential factors:



Sign welcomes visitors to Istalif village in Shamali.

1. Water supply is crucial. Getting water to the country's small parcels of arable land (just 12 percent) is vital to support the farmers, daily wageworkers, and families living off the land. However, over 20 years of war have shattered Afghanistan's ancient irrigation infrastructure. Just in Kabul's Istalif district alone, most villagers tell stories of how first Russian and then Taliban fighters exploded their canals with dynamite to drive farmers and potential enemies from the area.

2. Infrastructure should be built to last, for long-term economic development. Giving communities employment opportunities does not come at the expense of quality.

AQIP quickly became a model USAID project, delivering solid results, introducing innovative approaches to implementation, organizing numerous site visits for visiting dignitaries, and developing an effective outreach program. The project comprised the following activities:

### Irrigation Rehabilitation

- Construction of two mid-sized water diversion dams in Tagab (Kapisa province) and Istalif (Kabul province)
- Construction of three large water diversion dams along the Ghorband River (Parwan province)
- Flood protection of two large canals in Parwan province
- Karez cleaning in Kabul province
- Construction of eight shallow wells in Logar province

<b>Results of Irrigation Work Under AQIP</b>				
Activity	Amount of Irrigated Land Downstream (Hectares)	Value of Agricultural Production Downstream (\$)	No. of Households Downstream	Employment opportunities for local community (Person-Days)
Ghorband River Dams	27,354	\$44,404,986	38,939	23,543
Gulbahar Flood Protection for Khuram and Khawaja Canals	10,907	\$12,308,014	11,707	3,338
Tagab Diversion Dam Construction and Canal Cleaning	240	\$263,003	313	10,771
Istalif Diversion Dam and Karez Cleaning	350	\$714,749	1210	8,710
Shallow Well Construction in Logar	376	\$382,189	681	n/a
<b>TOTAL</b>	<b>39,227</b>	<b>\$58,072,941</b>	<b>52,850</b>	<b>46,362</b>

### Road Construction

Construction of 35 km of road in Jaghatu, Wardak and construction of bridge linking the road across a flood plain

<b>Results of Road Construction Under AQIP</b>				
Activity	Value of External Trade Activity Using Road (\$)	Value of Agricultural Production on These Lands (\$)	No. of Direct Beneficiaries (Households)	Employment opportunities for local community (Person-Days)
Jaghatu, Wardak Road Construction	\$13,908,514 (Ghazni-Hazarajat)	\$2,114,301	1,751	35,715

### Income Generation

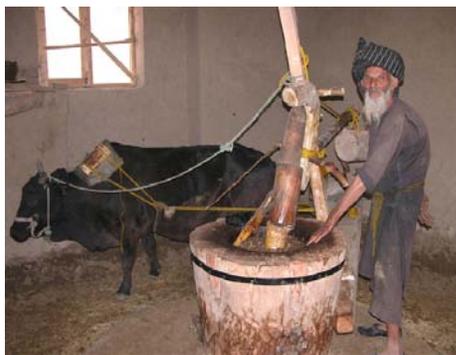
- Training of 860 families and distribution of 8,600 chickens and other chicken-related supplies (Kabul province)
- Training of 140 women in embroidery and distribution of embroidery machines to each of these women (Kabul province)
- Training and distribution of materials/equipment to 40 families for beginning patu-weaving industries (Parwan province)
- Construction of 1 safflower oil press (Kabul province)

## Capacity-Building and Technology Transfer

- Introduction of and training in drip irrigation technology for 56 family gardens and five commercial gardens
- Installation of 11 community-maintained price information boards to allow farmers to access real-time market prices of their commodities
- Development of women's seminar series for junior professional Afghan women—and adoption of the model by other agencies
- Financial management and training in road engineering for local implementing partners.
- Development of best practices and lessons-learned factsheets produced in English and Dari for dissemination to other implementing partners in Afghanistan
- Made provision of the following heavy equipment for partner NGOs:
  - ♦ One large, 81 horsepower, four-wheel drive tractor, with front blade for use in heavy snow and rear plows for breaking particularly hard or rocky ground
  - ♦ One 5,000-liter water tank trailer for the tractor
  - ♦ One large cement mixer, with a two-bag drum capacity
  - ♦ Two heavy walk-behind vibrating compactors: essential to the quality construction of unpaved roads, and extremely hard to find in Kabul.
  - ♦ Two concrete vibrators
  - ♦ Two water pumps.

### Afghan Refugee Facts

- 2.4 million refugees have returned since organized repatriation by UNHCR began in March 2002
- In 2002, 74.3% of returnees did not have farmland to return to
- Returnees: pregnant (3%), mentally disabled (5%), unaccompanied minor and elder (1%), single parent (33%), physically disabled (25%), chronically ill (18%)
- 10,000 refugees returning per week



Activities, clockwise from top left: excavating Ghorband dams, oil press, Khanano canal, patu weaver, family garden, Gulbahar flood protection, building a bridge, girl at a pump well

## Irrigation Construction: Mahigeer, Matak and Charikar Dams

Under the project, the Reconstruction Agency for Afghanistan (RAFA) constructed three water diversion dams on the Ghorband River in Parwan province to feed four canals:

- Mahigeer dam to feed Mahigeer canal
- Matak dam to feed Matak canal and Khwaja canal
- Charikar dam to feed Charikar canal.

Why construct a diversion dam? The dams redirect and slow the flow of rivers to buffer the canals from debris, strong currents and damaging rocks. The result is a maximized amount of water captured by canals and delivered to farmers downstream. The canals irrigate over 27,354 hectares, providing irrigation and household consumption water for over 37,968 households.

### Problem

The rivers in Afghanistan are dangerous and unpredictable. As the temperatures increase during the spring months of April through June, snowmelt races down from the mountains and toward the villages, overflowing rivers and canals, washing out homes, roads and dams, and eroding farmland. Despite five years of record drought, from 1997 through 2002, floods remained an annual occurrence.

Moreover, over 20 years of war has shattered Afghanistan’s ancient irrigation infrastructure. This part of the Shamali area—the Charikar district—was on the front lines every conflict over those 20 years. Fellow villagers in Kabul’s Istalif district, another piece of Shamali, tell stories of how first Russian and then Taliban fighters exploded their canals with dynamite to drive farmers and potential enemies from the area. The resulting poverty, war and lack of water have all put the maintenance of these structures much lower on the community’s list of activities, despite the people’s dependence on irrigation. The way it is, dams are makeshift, built mainly with sandbags and rocks by persistent farmers to protect canals from dangerous, strong seasonal floods that constantly destroy their efforts. Poor materials and patchwork workmanship are the norm.

Three major rivers congregate in the Charikar Plain north of Kabul city: Panjshir in Parwan extends east to west, the Salang runs north to south, and the Ghorband in Parwan.

The responsibility of building and rebuilding diversion dams traditionally falls into the hands of community members, mainly the invested farmers. They perform duties on an ad-hoc basis when dams collapse, when canals clog with debris, or when the rivers change course. Unfortunately, the citizens must leave their farms and work behind—and take subsequent financial losses—to band together and complete the dams. Community members rely on a type of supervisor or manager to alert them to problems, and refer to him as “Mirab,” which means “the water man.” This fellow community member (usually an elder) is the main source of irrigation information pertaining to villages and districts. In some cases, the local ministry of irrigation employs him.

During the months from March through June, even when construction on the Ghorband dams alternated between a rapid pace and complete stoppage, wheat farmers in particular were astonished at the supply of water flowing for irrigation. But with the increased flow of water has also come increased demand, either because of returned refugees now farming the land (with small amounts taken into account for drinking and washing clothes) or because of “unreasonable” siphoning for

personal use. In other words, water management and rights to the canals—a long simmering issue within the Afghan agricultural society—remain.

### **Construction Process**

Chemonics and RAFA developed strong relationships with local ministries to meet the needs of farmers on this project. Through unions made with local shura (leaders) and the Community and Provincial Department of Water and Irrigation, the AQIP team established councils to recruit community labor, educate farmers on the intention of each structure, and listen to their needs.

The project was approved in October 2002 and construction began immediately on two of the three dams: the Mahigeer and Matak. With a crew of skilled and unskilled labor, including masons, engineers, pump technicians, and engineers, the Ghorband project first cleaned the canals of debris and then tackled excavation. To excavate, laborers redirected the river's flow with temporary diversion dams made of sandbags and pumped water 24-hours per day from the river's bottom. Engineers directed laborers to dig anywhere from two to five meters into the riverbeds to give each diversion structure a proper footing. Laborers blasted boulders in the river and alongside it to clear the area. They received a majority of stone from quarries to build the foundation and the gabion walls, intakes and spillways. Local suppliers trucked in the bags of cement from Kabul.

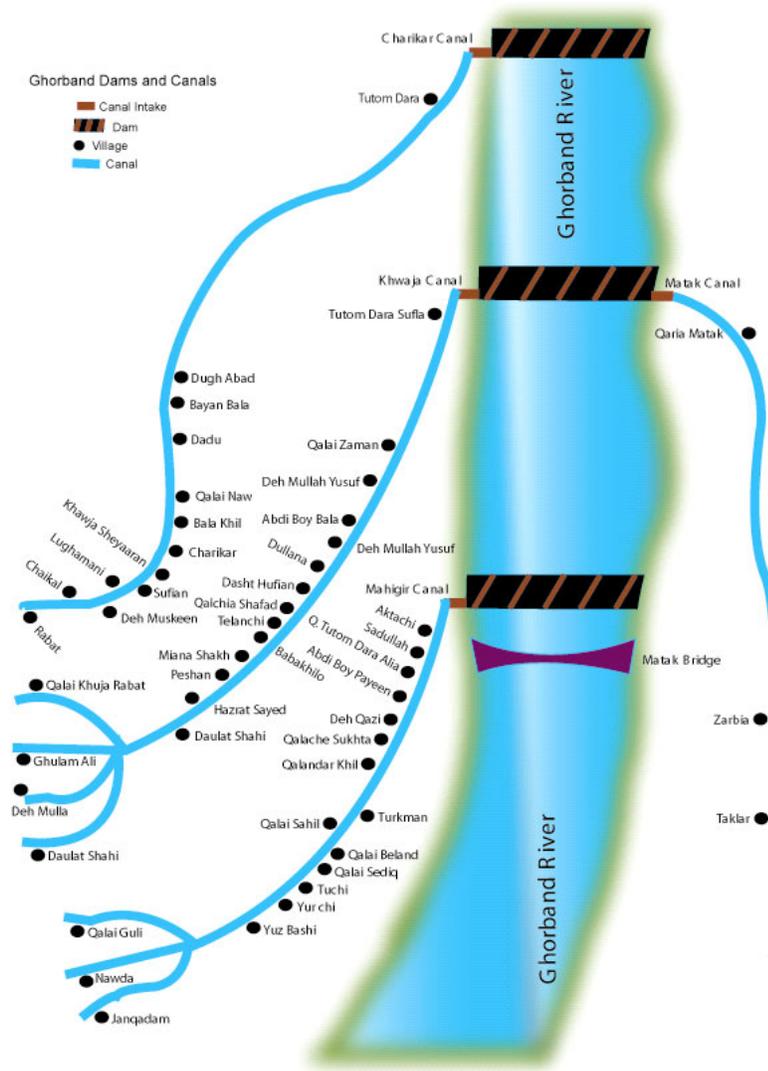
Each dam project provides for the construction/installation of the following:

- Excavation of the river bed for foundations
- Construction of a main diversion wall with stone masonry and reinforced concrete
- Construction of a spillway just off the main diversion wall with stone masonry
- Construction of two gabion retaining walls on each bank of the river, attached to main wall, constructed of stone masonry and reinforced concrete
- Construction of wing walls and cut-off walls that protect the canals constructed of stone masonry and reinforced concrete
- Reconstruction of the canal walls with stone masonry
- Reconstruction of the canal intakes with stone masonry
- Installation of control gates

Two of the dams, over 100 meters long, posed serious engineering difficulties, including:

- The relatively fast flow of the river, combined with periodic flooding
- Large boulders that required blasting
- Water seepage at the construction site, which hampered excavation
- Necessity to excavate more than five meters into the river bed for solid dam foundations
- Limited time, as a critical portion required that RAFA build the dams before the spring floods
- Quickly approaching cold weather threatened to adversely affect construction with concrete.

Despite obstacles, RAFA took advantage of a low water level in the river during winter. They worked seven days a week to complete as much work as possible before the spring flooding began in April. However, flooding and ruptures to the temporary dams caused delays in the work during winter. Again, RAFA worked to get past problems. Although concrete does not set properly in winter cold, RAFA used a chemical additive named Sikament-NN from Pakistan in their concrete mixture to assure proper setting and hardening—and continuing construction. Workers completed 95 percent of the Mahigeer dam before April 2003. That includes excavation and stone masonry for the main wall, and securing it to the retaining wall on each side of the river. Masons and laborers constructed the retaining walls with stone masonry. Retaining walls measure about 1.5 meters wide and 20.5 meters long.



Spring flooding forced RAFA to cease all construction activities on April 20, 2003. Prior to suspending work, RAFA reinforced a temporary water intake for the Mahigeer dam to provide approximately 4,300 hectares of agriculture land with water during the 2003 crop cycle. Despite the floods, the Mahigeer dam was able to withstand the fast-flowing water and the large rocks flowing downstream for the three-month suspension of work.

Construction resumed on July 20, 2003, as soon as water levels dropped. Unfortunately, RAFA could not gather sufficient local labor using the same methods of community recruitment. Therefore, RAFA gathered labor outside the local community to finish the projects. The first task to complete after three months of floods was evident: clean the canals of debris.

After the crew cleaned the canals, RAFA began construction on the third and final structure, the Charikar dam. As all three dams progressed, RAFA encountered

problems with water seepage and large boulders during excavation for the Mahigeer and Charikar dams. To combat the problems, RAFA blasted boulders and pumped water. The water pumps pumped water nearly 24 hours per day during this period. Security staff remained after hours and through the night to monitor the pumps. Excavation continued more than five meters below the riverbed for the Matak and Charikar dams.

In September 2003, construction hit another snag. The last phase of construction required water to be diverted from the canals in order to rebuild canal/retaining walls and install gates. RAFA planned to mitigate the loss of water by executing all canal work simultaneously and quickly. Although the communities downstream previously agreed to the diversion process for the four canals, suddenly they refused. Some communities rely entirely on canal water for drinking and irrigation. Therefore, diverting the water requires close community coordination. Numerous consultations between RAFA, the provincial governor, the Ministry of Irrigation, community members, and leaders produced an agreed upon plan to divert the water in stages.

However, the water diversion plan consumed six weeks instead of three. The construction timeline suffered as a result. Therefore, construction will not finish on October 31, as planned, but must continue through November. With very little construction remaining, AQIP formally handed over the activity to the USAID/RAMP project for completion.

The diversion dam construction and canal cleaning provided more than 23,000 job-days of labor for the community, producing immediate cash so that workers could support their families. In addition, the completed infrastructure provides enough water to irrigate almost 30,000 hectares of land.

### General Results

Through surveys with 37 village clusters, approximately 45 percent of the total village clusters downstream from the dam, we determined that the area irrigated by the three dams far exceeds estimates given by the implementing NGO or the Ministry of Irrigation. The four canals irrigate nearly 30,000 hectares of agricultural land, reaching more than 250,000 people.

<b>Basic Statistics</b>	
Number of Hectares of Irrigated Land Downstream	29,760
Number of Village Clusters Downstream	82
Number of Households Downstream	38,939
Population Downstream	272,485
Number of Worker Days Used for Dam Construction	23,543

### Agriculture Results

The Shamali Plain and Parwan, in particular, is extremely productive agriculturally. Wheat and grapes are the two main crops—and the dam irrigates land producing more than \$44 million of commodities per year. Not much change has occurred in the last year, although more non-high value crops were consumed—suggesting an increasing number of returnees settling back in the region.

<b>All Crops Downstream—Commercialization Figures</b>			
Description	2002	2003	% Increase
Value Produced	\$44,640,797	\$44,404,986	0.5%
Value Sold	\$31,120,793	\$32,256,534	3.6%
Value Consumed	\$13,520,004	\$12,148,452	10.1%

Note: An exchange rate of 49 afs/dollar was used.

As with the rest of Shamali, grapes and wheat are popular—although significant amounts of maize and walnuts are grown too. Yields have increased somewhat in the last year, though somewhat nominally compared with results from other regions.

<b>Downstream: No. of Jeribs Cultivated By Crop</b>				
Crop	2002 Figure	2003 Figure	% Increase in Cultivation	% Increase in Yield/Jerib (2002-2003)
Barley	493.9	425.1	-13.9%	41.5%
Cotton	2,729.3	4,238.9	55.3%	7.0%
Maize	17,392.2	19,351.2	11.3%	3.5%
Millet	547.1	547.1	0%	-22.2%
Rice	3,647.1	3,647.1	0%	n/a
Wheat	49,886.6	64,206.7	28.7%	2.6%
Bean (French)	18.2	18.2	0.0%	0.6%
Bean (Other Veg.)	542.6	542.6	0.0%	5.0%
Broadleaf Must.	25.5	25.5	0.0%	2.4%
Cauliflower	12.8	12.8	0.0%	7.1%
Chili	770.0	1,590.2	106.5%	-65.0%
Cucumber	1,659.8	1,660.7	0.0%	-26.0%
Eggplant	501.9	704.9	40.4%	1.5%
Garlic	5.1	5.1	0.0%	6.3%
Mellon	96.6	96.6	0.0%	7.7%
Watermelon	12.8	12.8	0.0%	4.6%
Okra	1,010.2	981.5	2.8%	7.0%
Onion	3,442.7	4,615.0	34.1%	21.9%
Potato	1,908.0	1,903.3	0.2%	6.4%
Pumpkin	34.8	34.6	0.0%	213.8%
Radish	492.2	492.2	0.0%	548.2%
Tomato	2,833.5	2,837.0	0.1%	7.9%
Zagher	275.6	524.4	90.3%	23.7%
Blackgram	3,598.0	3,598.0	0.0%	5.3%
Chickpea	91.2	91.2	0.0%	2.9%
Cherry	3,647.1	3,647.1	0.0%	0.0%
Grape, Fresh	51,946.9	49,651.9	4.4%	17.6%
Grape, Raisin	168.3	168.3	0.0%	5.0%
Mulberry	1,425.7	1460.4	2.4%	13.5%
Peach	51.0	51.0	0.0%	7.1%
Plum	8.7	8.7	0.0%	-99.0%
Walnut	5,042.1	5,042.1	0.0%	8.2%

Note: 1 jerib equals 0.2 hectares.

## Quick Impact Projects Create Cash for Work

*Three water diversion dams and four rebuilt canals constitute the Shamali Plains' largest irrigation project to date. For Afghans unemployed or near the breaking point, the work did more than provide a reliable source of water.*

Four months passed without a steady job for Agha Mohammed, and the 42-year-old man began to worry severely about his wife and six children. It had been four months without a certain source of food. Four months of idleness, he thought to himself. That thought crushes him still.

"I sent my boys into the village to find work because I could not," he says, and his tinted eyeglasses—covered with thick bulbs of tape at each joint—bow with his head in shame. "Children need school, not work."

"But, aha!" he says, quickly raising his head and pointing a finger into the air for emphasis. "Now they can go to school and I feed my family."

Agha Mohammed found his job by word of mouth in the Charikar village, through friends who knew the man to be a skilled mason—just the man to help work on the single biggest irrigation project in the Shamali Plain region.

Indeed, the three water diversion dams and four canals along the Ghorband River compose a vital area project. They supply water to 82 villages and roughly 30,000 hectares of arable land. Those benefiting downstream number close to 300,000—nearly 39,000 households. The river has never even touched 35 to 40 percent of that total. Until today.



Above, site mason Agha Mohammed, right, and site engineer Hassan. At the top, excavation continues

It is difficult work, labor intensive, requiring strong men who can stop and bend the river's powerful and deep flow to excavate 5 meters into the riverbed for three dam foundations.



Since October 2002, 100 to 200 workers per day, including masons, engineers, night guards, water pump technicians, and general laborers, have participated in this cash-for-work project. The payments—not to mention immediate and sustainable benefits to local farmers—are astounding: \$28,289 and 23,543 labor days so far.

On the worksite, some men swing picks down at the river bed, others slam huge hammers against boulders to create foundation rock, and the rest dig sharp spades into the wet and rocky soil or carry silt and rock from the riverbed on stretchers or in metal pails. Although precautions are required, the project's on-site engineer, 52-year-old Hassan, does not anticipate a problem. "No one has the need to destroy these dams because they are the people's need," he says. "The farmers live here, and the farmers need these dams."

In fact, a brief survey of the site employees indicates that many are area farmers, there to invest time and energy into this sustainable irrigation.

Other quick impact projects have recruited village members in the Logar and Kabul provinces to devote months of free labor in exchange for community hand-pump wells and irrigation diesel-pump wells.

Using nothing but shovels, picks, and buckets attached to simple pulleys, farmers like 28-year-old Tajmalik dug more than 23 meters to prepare for installation of the hand-pump wells.

"I worked with two other men for 45 days," Tajmalik says, leaning against the pump's steel spout. "And my kids drink clean water here. Not dirty water from 20 minutes away."

Whether cash-for-work or work for wells, USAID has continuously met the unique needs of Afghans building for their own futures.

## Irrigation Construction: Khwaja Hassan Dam and Karez Cleaning

Istalif district is immediately north of Kabul, in the fertile Shamali Plain—once known in Afghanistan for its high quality of fruits and vegetables. Once the site of lush vineyards and orchards, Istalif was along the frontlines between the Taliban and the Northern Alliance. During the fighting, most of the original 36,000 inhabitants left and became refugees. After the fall of the Taliban, a growing number of refugees began returning to their former homes—finding little more than a deserted collection of rubble, ruined canals and destroyed farms. The problem was compounded by a five-year drought.

Eighteen months after the fall of the Taliban, the local shura or elder council, in discussions with Chemonics, thanked USAID for the humanitarian help they had recently received, and cited new roads, schools and housing. The shura reflected on the improvements in life for many of the returned refugees, and described hopes for a future Istalif as an agricultural production zone—as it had been in the past. Since the availability of water for both agriculture and household consumption was still a problem, Chemonics pledged to rehabilitate the washed-out Khwaja Hassan canal and clean nearby karezes. The canal and karezes, among other things, helps the farmers downstream to get adequate water—so they could fully use their fields to grow crops such as wheat, grapes, apples, tomatoes, pumpkins and eggplants.

Only an estimated 20% to 40% of irrigated land was available for harvest due to insufficient seed and irrigation water in 2002.

### Construction of the Khwaja Hassan Dam

PRB has maintained a strong presence in the Shamali Plains since December 2001, when their first project with UNHCR involved assisting the first group of repatriated refugees with housing and food supplies. PRB has established its staff and a good name in the area, especially Istalif. Staff members conducted routine surveys and gathered information all over the Shamali to prepare for donor funding after the fall of the Taliban government. One area studied was the location of the Khwaja Hassan dam and canal in Istalif, just off a main road into the village, down a steep ravine and on located just after a bend in the Istalif River.

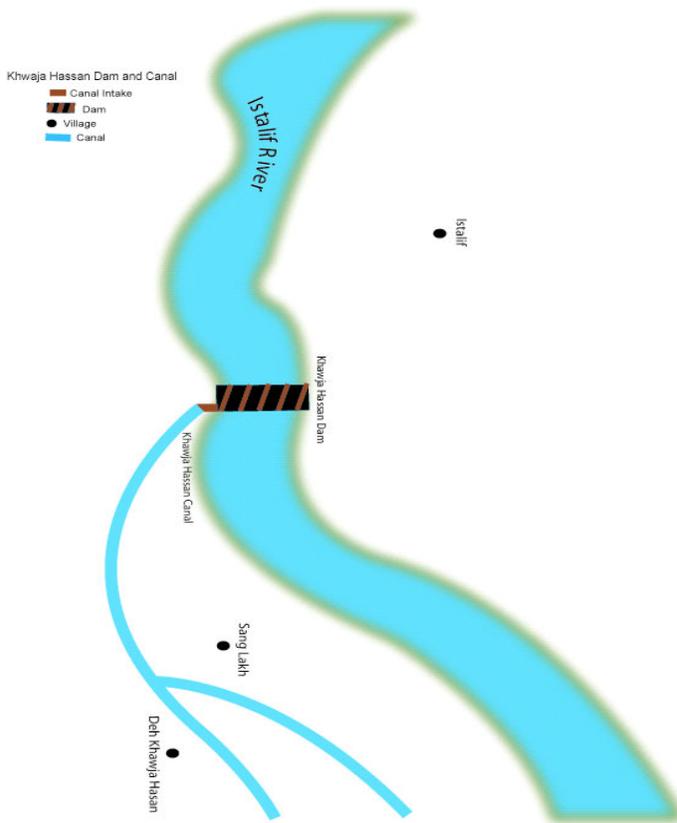
Therefore, when PRB and Chemonics met with local ministries to meet the needs of farmers on this project, the ministry and farmers were well of aware of PRB's intentions and were willing to work with the project. Through unions made with local shura (leaders) and the Community and Provincial Department of Water and Irrigation, the AQIP team established councils to recruit community labor, educate farmers on the intention of each structure, and listen to their needs.

Just after Chemonics approved the project in October 2002, PRB recruited labor from the area villages. However, the NGO could not locate enough skilled crewmembers, like masons, and therefore PRB staff transported some labor from Kabul city each day to meet the needs of the project design. Construction began immediately on dam (October 4, 2002) with a crew of skilled and unskilled labor, including masons, engineers, pump technicians and engineers. To celebrate the groundbreaking, the AQIP team held a ceremony involving the U.S. Ambassador, USAID deputy administrator, and the Afghan Minister for Reconstruction and Rural Development.

Because the canal suffered so much during the past few years, a portion of the crew turned its initial attention toward cleaning the tunnel of debris and reconstructing the canal's foundation. Workers used shovels, buckets, stretchers to transport loads, hammers and picks to clear the foundation for reconstruction. Once cleared and excavated slightly, the masons applied stone masonry to a 25-

meter stretch of the canal, up to the point of the where the canal is then outfitted with an outflow back into the Istalif River. The river's level had fallen well below spring levels, facilitating all work, particularly excavation.

Because the work site is situated in what is essentially a small valley just off the main road, transporting materials and equipment proved difficult for the work crew. PRB hired local residents with mules and donkeys to assist in transporting the site supplies down the steep ravine surrounding the project. PRB encountered few problems with their rapid progress, such as hard surfaces for excavation and freezing temperatures that hindered mixing and pouring concrete.



With winter fast upon the PRB crew, Chemonics took both precautions and innovative measures to assure that construction continued in the following cold months. First, PRB heated water and utilized a calcium chloride additive when mixing cement that allowed the cement to set and harden properly despite the freezing temperatures. Project funds also made cement mixers—a rare occurrence in infrastructure projects in Afghanistan—available to the crew. Then, to protect the stonemason and excavation crews from the cold, Chemonics and PRB constructed what amounts to a “greenhouse” structure around the work areas. Made simply with plastic sheeting, long pieces of wood and nails, the crews were able to place heaters—or steel barrels containing burning wood—inside the structures to control the temperatures.

To excavate, laborers redirected the river's flow with a temporary diversion dam made of sandbags and pumped water into the canal with water pumps, around the main excavation work. Engineers directed laborers to dig two meters into the riverbed to give the diversion structure a proper footing. Laborers blasted boulders in the river, up the river, and alongside it to clear the area. However, PRB engineers observed a naturally occurring opportunity to leave many of the larger boulders upstream in their current stage. By not destroying some the larger boulders, PRB director Engineer Noor Hussain says that the rocks will act as a natural buffer—“a natural gabion”—to slow the floodwaters and protect the dam. Moreover, removing too many rocks before and after the dam can increase its vulnerability by lowering the water level and removing those natural buffers. PRB received a majority of stone from quarries to build the foundation and the gabion walls, intakes and spillways, and used other stone located at the work site. Local suppliers trucked in the bags of cement from Kabul.

The 30-meter Khwaja Hassan water diversion dam, gabion protection walls and reconstruction of the Khwaja Hassan canal, provides for the construction/installation of the following areas and structures:

- Excavation of the river bed for foundations
- Construction of a main diversion wall, 30 meters, constructed of reinforced concrete and stone masonry
- Construction of a spillway just off the main diversion wall, constructed of stone masonry
- Construction of two gabion retaining walls on each bank of the river, attached to main wall, each constructed of reinforced concrete and stone masonry
- Construction of two gabion protection walls, that provide the canal with one wall and protect the canal from floodwaters, constructed of stone masonry
- Reconstruction of the canal foundation with stone masonry, and strengthening the canal walls with stone
- Reconstruction of the canal intake with stone masonry and reinforced concrete.

Work progressed as scheduled. Importantly, the crews continued to appear on a regular basis, reflecting PRB's relationship with the local Istalif community and the local impact of the cash-for-work component to the infrastructure construction. The Khwaja Hassan project completed construction in March 2003, providing 6,191 person days of labor and US \$24,454 in wages to the community. Furthermore, the impact on local irrigation is immeasurable (though results follow) considering that the project was completed before the spring planting season.

A final adjustment to the dam helps to illustrate PRB's consideration for the farmers downstream. While filling the drain culvert at the base of the dam, the local NGO constructed a temporary water intake to channel the river water around the dam and into the irrigation canal. In addition, the spring floods arrived just as planned. The PRB diversion dam survived and, according to Engineer Noor Hussain, even gained strength from the event.

To demonstrate the community's work and officially hand the project over to the local residents, Chemonics and PRB inaugurated the site on May 5, 2003 in a ceremony that featured senior officials from USAID, the United States Department of State, the Afghanistan Ministry of Irrigation, and the Mayor of Istalif. Those attending praised the project for its impact downstream.

### **Results: Khwaja Hassan Dam Construction**

The dam construction was essential for the three villages downstream—they had no other source of water for both irrigation and drinking. In the past, they received only half of what they needed for agriculture. With the canal rehabilitated, they are expecting 80 percent. They are also hoping for better rains this year so that more water can flow through the canals.

<b>Basic Statistics</b>	
Number of Hectares of Irrigated Land Downstream	350
Number of Villages Downstream	3
Number of Households Downstream	1,210
Population Downstream	8,470
Number of Worker Days Used for Dam Construction and Karez Cleaning	8,710

Before PRB's reconstruction of the canal, the canal required 60 people from the three villages to spend 30 days cleaning and a week on rehabilitation and repair. PRB's work has thus saved 2,200 person-days per year, plus the effort of acquiring and transporting the supplies used to repair the canal (old bags, sand, soil, and gravel).

In addition, since the canal's repair, there have been no problems with water rights. The families were able to agree on an acceptable daily and hourly division of irrigation water.

Because the dam was in operation for the 2003 growing season, most—if not all—the increases in yields and production can be attributed to the canal construction. By far the most popular crops were wheat, grapes for raisins and grapes for fresh consumption. All crops experienced an extraordinary increase in yield.

<b>All Crops</b>			
Description	2002	2003	% Increase
Value Produced	\$320,253	\$714,749	123.2%
Value Sold	\$271,018	\$593,480	119.0%
Value Consumed	\$49,235	\$121,269	146.3%
<b>High Value Crops</b>			
Description	2002	2003	% Increase
Value Produced	\$309,282	\$639,740	106.8%
Value Sold	\$271,018	\$593,203	118.9%
Value Consumed	\$38,264	\$46,260	20.9%

<b>No. of Jeribs Cultivated By Crop</b>				
Crop	2002	2003	% Increase in Cultivation	% Increase in Yield/Jerib (2002-2003)
Barley	0	6	n/a	n/a
Wheat	160	830	418.8%	50.0%
Bean	0	5	n/a	n/a
Chili	0	1	n/a	n/a
Cucumber	0	6	n/a	n/a
Eggplant	0	5	n/a	n/a
Onion	0	12	n/a	n/a
Potato	0	1	n/a	n/a
Pumpkin	0	15	n/a	n/a
Tomato	0	15	n/a	n/a
Apricot	10	10	0.0%	140.0%
Grapes (Fresh)	220	220	0.0%	75.0%
Grapes (Raisin)	400	400	0.0%	87.5%
Mulberry	75	75	0.0%	29.8%
Walnut	55	55	0.0%	63.5%

Note: 1 jerib equals 0.2 hectares.

## Karez Cleaning: Introduction

The karez is a peculiarly Central Asian means of irrigation that can be found in Afghanistan, Iran and Xinjiang. An aquifer, this subterranean water is often so far underground that drilling or digging for it, with primitive equipment, is virtually impossible. Karez, known as the “head well”, are located on higher ground, where snowmelt from the mountain collects. Farmers dig long underground tunnels to conduct this water down to the village farmland. A whole series of vertical wells (resembling giant anthills from above) are dug every 20 meters along the path of this tunnel to aid construction and provide access. The wells are fed entirely by gravity, thus eliminating the need for pumps. Furthermore, having the channels underground greatly reduces water loss from evaporation. Digging a karez is skilled and dangerous work and the diggers, known as karez kans in many areas, are respected and highly paid workers. The cost of making and maintaining a karez was traditionally split between a whole village and the karez was communally owned.

PRB selected the karez for rehabilitation through preliminary surveys and conversations with local shura. The preliminary measures identified those karez without proper maintenance, the structures which had fallen into disrepair. In some instances, portions of the karez’s walls had collapsed into the tunnel, blocking or hindering the water’s flow. Other situations found that collections of soil and sand were hindering the water’s flow.

Crop cycles: Wheat is planted in October and November for harvest in July and August of the following year. As the land is harvested, corn is then planted in July for harvest in August and September.

Therefore, PRB employed skilled community members to clean and repair the structures.

## Karez Cleaning: Process

The NGO supplied each karez kan with boots, safety glasses, a torchlight and fuel (sharsham oil), a plastic suit, and a specially made bucket manufactured by skilled carpenters in Kabul and used by karez cleaners all over Afghanistan. The bucket is attached to a large pulley situated just outside the karez’s opening, or vent. Another laborer—operating the pulley—cranks and retrieves the bucket after the karez cleaner gives a few yanks at the rope. Karez tunnels are long and dark. When the karez kan has identified with a torch where repairs are required, the cleaner will often use wooden planks to build supports under the tunnel walls. Mud is used to patch crumbling walls, too.

The grueling, cautious nature of the work requires patience and time, says PRB’s director Noor Hussain. The karez crews are small and specialized and coveted by different villages requiring their services. Yet, equipment such as the pulley and torches are hard to come by for many karez kans, and therefore the structures suffer from neglect and people are cut-off from a clean water supply. The Istalif project was originally scheduled for five karez. However, following the completion of those five karez, the Istalif community petitioned PRB to maintain the service in their community and clean an additional five karez. PRB, working through Chemonics and USAID, obliged the residents.

PRB rehabilitated and cleaned 10 karezes, 2.71 km in length, in the Istalif district of Kabul, a well-known area of the Shamali Plain. The NGO employed local labor over a period of roughly seven months, intermittently.

The karez cleaned and rehabilitated include:

1. Karez Landai
2. Karez Miraya
3. Karez Qul Bagh Kary
4. Karez Qabr-e-Malik 1
5. Karez Qabr-e-Malik 2
6. Karez Malik Khani
7. Karez Noor Salah
8. Karez Noor Sang Karam
9. Karez Qul Chinar
10. Karez Ismaila



The karez pictured here supplies water to a small family farm in Istalif. Only months before this photo in October 2003, the karez ran dry for years. Cleaning the underground aquifers is difficult, dangerous work. A man must fit himself into this 19 by 17 inch opening. The tunnel inside is roomier.

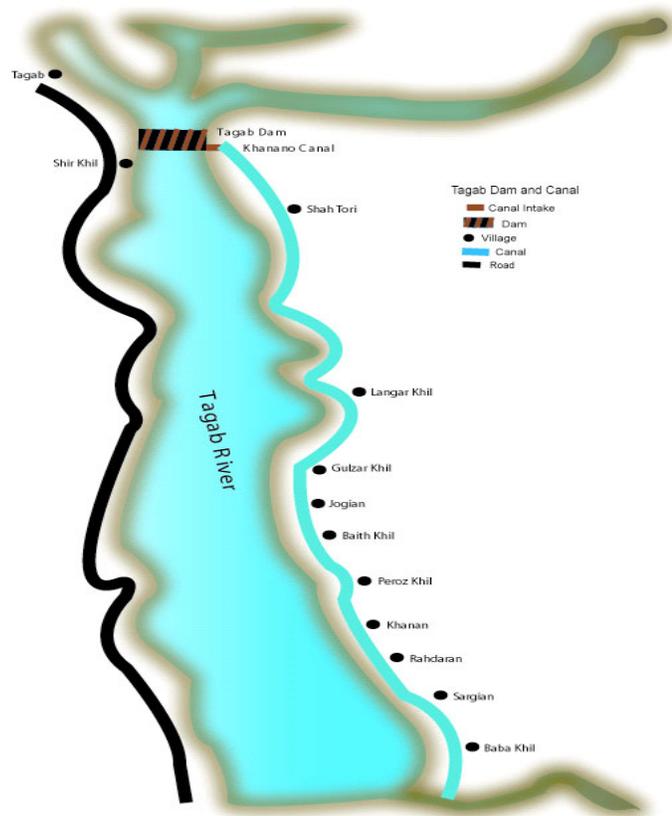
## Irrigation Construction: Tagab Dam

The Tagab area in the Kapisa province was the site of some of the fiercest fighting between the Taliban and Northern Alliance. Many of the irrigation structures were destroyed as a result.

Responding to community requests, Chemonics and the Helping Afghan Farmers Organization constructed the 50-meter Khanano water diversion dam on the Tagab River and cleaned the 7 km adjoining canal.

### Problem

The Taliban and Northern Alliance conflict and the Russian-Afghanistan war were drawn into Tagab because, in part, the area offers a hidden, strategic position. The location is very difficult to access by vehicle. Only one main road leads to Tagab. The way is pitted with rocks, large holes, and narrow stretches barely able to fit one car and washed out portions. Still, produce buyers frequent the area for its rich supply of onions and pomegranates. Alongside the produce, Soviet 120 mm mortars sprout from the ground. Many of the village homes are destroyed or deserted. However, the valley of Tagab is spectacular. The deep red and silver mountains surrounding the valley meet the lush land in an eye-catching juxtaposition. The mountains also give a sense of the awesome floods that wreak havoc in the valley villages each spring. Large boulders lie at the base of the mountains. The land is opened wide where the rushing water has eroded the soil. Some of the flood tracks lead straight to the Tagab River that irrigates the valley.



The conflict, the lack of maintenance, and the destructive floods have all contributed to the irrigation crisis in Tagab. The original intake at the Khanano Village had been destroyed due to lack of maintenance during the flooding seasons. A lack of maintenance also left the adjoining canal blocked with mud and debris.

### Construction Process

Months before the AQIP project commenced, HAFO dispersed a team of surveyors to 11 villages in Afghanistan's Central Region. The NGO's agricultural and geological specialists followed up in Khanano with a feasibility study. With a familiarity for the area and its specific needs, HAFO entered the AQIP project prepared to improve the irrigation situation in the Tagab area. The

activities in Tagab were approved in October 2002 and HAFO immediately located an office building close to the site of the dam. A crew of community labor began cleaning the Khanano canal immediately and construction of the diversion dam at Tagab began shortly thereafter. The NGO purchased cement, tools, stone, equipment, and gabion materials in Kabul and transported all supplies to the work site.

The laborers installed a temporary dam and intake to feed the canal during construction. With the river no longer an issue, they excavated an area equivalent to 2,500 square meters and completed all excavation and digging of foundations in October. Stonemasons laid the foundation and moved on to the gabion protection walls, or retaining walls, in November. A combination of stone masonry and cement mortar composes each wall. To compete with leaks in the temporary dam, the crew used diesel water pumps to dewater the site.

The 50-meter Khanano water diversion dam, gabion protection walls and reconstruction of the Khanano canal, provides for the construction/installation of the following areas and structures:

- Excavation of the river bed for foundations
- Construction of a main diversion wall, 50 meters, constructed of stone masonry and reinforced concrete
- Construction of a spillway just off the main diversion wall, constructed of stone masonry
- Construction of two gabion retaining walls on each bank of the river, attached to main wall, each constructed of stone masonry and reinforced concrete
- Construction of two gabion protection walls that protect the canal from floodwaters, constructed of stone masonry
- Reconstruction of the canal walls with stone masonry and construction of a reinforced concrete culvert
- Reconstruction of the canal intake with stone masonry
- Installation of a control gate.

<p>Only about 12 percent of the country's total land is arable, with 3 percent under forest cover, about 46 percent under permanent pastures, and the rest (39 percent) is mountains.</p>
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The HAFO team completed canal cleaning by December 2002, but further reconstruction and protection work was recommended in February 2003. The AQIP oversight engineer recommended that HAFO construct one culvert to protect the canal from water that flowed down a specific mountain just above the valley. Although HAFO had pointed the intake with cement mortar in November, the AQIP engineer advised these February precautions as key to the structure's sustainability. Masons use pointing to seal joints between rocks and bricks effectively, and for cosmetic reasons. However, a culvert is a protective structure that shields infrastructure from water erosion.

By February 2003, HAFO pronounced the work on the diversion dam finished. However, the AQIP oversight engineer suggested that protection walls be extended by 40 meters and the dam was completed in March 2003.

A flood during the summer damaged the cut-off wall, apron and canal wall. HAFO agreed to the repair work and place extra protective gabions in the river as a precautionary measure. Engineer Sayed Jawed, director of HAFO, indicated that perhaps excavation for the foundation did not go deep enough to provide a strong enough footing. Moreover, the spring and summer floods brought an unusually heavy amount of rocks and debris to the dam, altering the river's course and leaving the structure vulnerable. Modifications and the extra gabions have improved the structure's strength and durability. Also, HAFO Responding to upstream community concerns (many of which were perceived rather than actual) that the dam would raise water levels, the NGO lowered the dam wall in sections.

### General Results

The diversion dam construction and canal cleaning provided more than 10,500 job-days of labor for the community, giving workers from the community an opportunity to earn cash for their families. In addition, the completed infrastructure provides enough water to irrigate approximately 250 hectares of agricultural land.

Due to the mobilization of hostile elements in the Tagab area—compounded by historic water rights issues—there have been threats of sabotage against the dam. Villagers arguing over water rights in the area have reported threats with Kalashnikovs. Before the dam construction, HAFO spoke with a large number of communities and came up with a compromise. But, ultimately this did not solve all of the issues.

Basic Statistics	
Number of Hectares of Irrigated Land Downstream	240
Number of Villages Downstream	12
Number of Households Downstream	370
Population Downstream	2590
Number of Worker Days Used for Dam Construction	10,771

### Results: Agriculture Related

Of the 12 villages that rely most heavily on the canal, the canal has provided an average of 62 percent of the needed water for agricultural production. They reported that they received, on average, only 83 percent of the needed water for agriculture—primarily, the other source of water was shallow wells.

Tagab is a place particularly known for its pomegranates. Figures show a significant increase in yield for pomegranates grown downstream from the dam, similar to those experienced by other fruit trees. Please note though, that some of the increase is due to the increased rainfall in 2003.

Overall, in Tagab, farmers produced more, sold more and consumed more—a veritable success story.

<b>All Crops Downstream—Commercialization Figures</b>			
Description	2002	2003	% Increase
Value Produced	\$113,744	\$263,003	131.2%
Value Sold	\$83,162	\$187,929	126.0%
Value Consumed	\$30,582	\$75,074	145.5%
<b>High Value Crops Downstream—Commercialization Figures</b>			
Description	2002	2003	% Increase
Value Produced	\$90,114	\$193,168	114.4%
Value Sold	\$83,162	\$178,173	114.2%
Value Consumed	\$6,952	\$14,995	115.7%

<b>Downstream: No. of Jeribs Cultivated By Crop</b>				
Crop	2002 Figure	2003 Figure	% Increase in Cultivation	% Increase in Yield/Jerib (2002-2003)
Cotton	0	2	n/a	n/a
Maize	0	115	n/a	n/a
Wheat	322	597	85.4%	19.2%
Bean	8	42	425.0%	29.8%
Chili	0	1	n/a	n/a
Eggplant	0	1	n/a	n/a
Garlic	0	1	n/a	n/a
Green Pea	0	1	n/a	n/a
Okra	0	12	n/a	n/a
Onion	5.5	71	1190.9%	21.8%
Potato	4	36	800.0%	3.8%
Tomato	3	27	900.0%	15.1%
Black Peas	0	16	n/a	n/a
Clover	0	21	n/a	n/a
Apricot	8	8	0.0%	28.1%
Mulberry	38	38	0.0%	27.4%
Plum	44	44	0.0%	28.7%
Pomegranate	185.5	185.5	0.0%	27.1%
Walnut	2	2	0.0%	37.0%

Note: 1 jerib equals 0.2 hectares.

## Nearly 300,000 Receive New Irrigation Source

*Decades of patchwork maintenance, intolerable war, and a lean system of water management left the once rich and fertile Shamali Plain in an irrigation shambles. Sensing the people's desire and willingness to improve, USAID embarked on the region's largest irrigation project to date.*

The collapsed and broken skeletons of washed-out dams lay clearly visible under the rushing waters of the Ghorband River in Parwan's Charikar district. Heaps of stone and sandbags never stood a chance against powerful spring floods that carry boulders the size of small cars for miles. For hundreds of years the responsibility of building and maintaining the dams, as well as clearing the canals of debris, all fell into the laps of area farmers. They performed work on an irregular, ad hoc basis. Farmers would often leave their land—and deep-seated, perhaps violent issues concerning water rights—for weeks at a time to band together to build the new dams or clean the canals.

And without fail, the weak structures proved pointless. "A flood would come and destroy those dams in one minute," says Hassan, the 52-year-old on-site engineer of the Shamali Plain's largest irrigation reconstruction effort.

### 38,939 Households Benefit

Protected by 100 meters of new diversion walls and even more gabion protection walls, the Ghorband project incorporates three water diversion dams that feed nearly 30,000 hectares and 74 kilometers of canals through four intakes. Hundreds of paid area villagers have worked over 16 months in all seasons to accomplish this vital piece of reconstruction. They bent the river with temporary structures, excavated 5 meters below the riverbed, stood in knee-deep water, and built protection walls, intakes and dams with over 1,000 bags of cement.

In hard numbers, the project benefits nearly 300,000 people in over 82 villages, including farmers like Nadir, shown slicing fresh picked tomatoes in the afternoon sun with his son.

### Farmers See Immediate Results

Nadir, farming in the higher elevations of Baghram, credits the dam projects for a significant increase in water supply since spring 2003. In fact, this is the first year Nadir can recall competition among farmers to make a late-season push to bring their crops of wheat, potatoes, eggplants, corn, grapes, and a special kind of Charikar carrot to market. Nadir even

hopes to bury surpluses of produce deep in the ground to last through the winter. Farmers have high wheat yields this season, he says, and many may hire farm labor for the harvest.



Nadir, a farmer in Baghram, slices and dries fresh-picked tomatoes with his son. Irrigation has improved significantly in 2003, even at 6.5 km from the Ghorband dams.

### Meeting the Food Demand of Refugees

Nearly 35 percent of the 2.4 million refugees returning to the Central Region (including Kabul) since early 2002 have migrated to the Shamali lowlands. It is here that the region's three rivers—the Ghorband, Panjshir and Salang—meet to irrigate over 43,000 hectares of land. Another 40 percent of returnees made their way into Kabul city, 12 kilometers south. Jobs, land and surpluses are quickly thinning.

However, with proper irrigation infrastructure, like the Ghorband dams and canals, Parwan farmers could use 120 canals to meet 30 to 50 percent of the province's food needs, according to the World Food Program (and not considering the project's success). In fact, the Ghorband project has increased canal-irrigated land by nearly 40 percent. That impact is immeasurable when you consider that nearly 75 percent of returnees in 2002 did not have farmland to which to return. And when you consider that 2003 wheat production in Parwan increased by 30 percent and corn production by over 11 percent, you realize that reconstructing Afghanistan is more than an abstract strategy—it is reality.

## Irrigation Construction: Gulbahar Flood Protection

In February 2003, Chemonics requested and USAID authorized an increase in PRB's level of effort to construct a series of gabion walls and a dike to protect the Khuram and Khawaja irrigation tunnels in Gulbahar, Parwan. The canal intakes were below a flood wash and the floods would often bring sediment into the canals, effectively blocking them until communities downstream could dig out the sediment. The resulting Gulbahar structures—three large gabion walls measuring a combined 390 meters (120 meters on the plain's right bank, 200 meters on the left bank, and 70 meters at the plain's base to protect the Khuram tunnel)—helped to protect the large canals (providing irrigation to half of the province) as well as employ a large number of workers during their construction.

PRB completed the construction plans that were approved by the Ministry of Irrigation in early March. During the remainder of March, PRB opened an office in Gulbahar, completed mobilization of equipment, and arranged to hire work crews. The actual construction started in early April and by the end of July, all but 5 percent of the work remained. The construction process benefited from a stone quarry business built into the adjacent hillside. Rather than paying for delivery and transportation costs of stone—the main material for the walls—PRB simply consulted with the local quarry on site.

### Top three vocations for returnees in Parwan:

- 11,416 daily wageworkers,
- 5,550 farmers
- 3,679 carpet weavers.

Afghanistan has 1,172,308 unskilled returnees.

As a cash-for-work element, the construction process was very labor intensive, requiring workers to hand-fill wire mesh baskets with rocks. The wire baskets were linked together, bound to one another with wire, to form each structure. One group of workers broke and sorted the stone. Another filled the baskets. Each wall measures 3 meters high, and the width increases over three levels stacked one on top of the other: 3 meters wide for the bottom layer, 2 meters for the middle, and 1 meter at the top. During flood season, between April and June of 2003, workers reported standing in water as deep as 3 feet to construct the walls from 7 a.m. to 4 p.m. each day.

When queried by project staff, some workers reported widespread joblessness in the area before the cash-for-work initiative began in April. They praised the labor-intensive nature of this project, which injected thousands of dollars of wages into the local economy. Some families struggled to feed their children or provide for elderly parents before the Gulbahar project provided them with jobs.

## General Results

The survey of 36 villages scattered over Kapisa province took almost three weeks. Some of the villages were far from the main roads—and were accessible only after an hour of driving over dry mud fields.

After discussions with the Ministry of Irrigation, the Kapisa provincial government and the sampling of villages, the project determined almost 11,000 hectares were being irrigated by the two canals protected by the gabion work. This figure is lower than the 14,000 hectares estimate given by the Ministry of Irrigation, but within range.

Eleven-thousand hectares represents more than half of irrigated land in the Kapisa province, according to FAO's 2002 VAM report, reaching almost 100,000 people. The approximate 1:1

hectare to household ratio doesn't accurately reflect the differences in villages close to main roads, which tend to have a 1:2 hectare to household ratio, and those villages off the main roads that have an approximate 1:1 hectare to household ratio.

<b>Basic Statistics</b>	
Number of Hectares of Irrigated Land Downstream	10,907
Number of Villages Downstream	72
Number of Households Downstream	11,707
Population Downstream	97,014
Number of Worker Days Used for Dam Construction	3,338

### Quick Facts

- 100: Percentage of drinking water received by all villages from the canals.
- 88: Average percentage of water received in the past for agriculture—all from the canals.
- 99: Average percentage of water expected for agriculture because of protection from canals.
- 30: Percentage of villages that mentioned water rights violations.
- 420: Number of average person-days needed to rehabilitate the canal.

### Results: Agriculture Related

Overall, agriculture downstream from the two canals is picking up. Production for all crops increased 38 percent in the last year, and high value crop production increased by 85 percent. Less grain and non-high value crop production decreased, as has commercialization of these non-high value crops, suggesting a shift towards higher value crop production/marketing and the influx of returnees consuming the non-high value production.

Increases in yield were dramatic, a reflection of the greater availability of water. The dramatic increase in grapes and mulberries is puzzling, as one would expect additional cultivation of new plants would offset increases in yield due to more water. Grapes take three years to mature and close to seven years to reach profitable market maturity. Mulberry trees will not bear fruit until they mature, usually 15 years. Proposed explanations for this paradox are:

- The availability of mature plants to farmers
- Expanded ownership of existing plants previously neglected due to lack of water

<b>All Crops Downstream—Commercialization Figures</b>			
Description	2002	2003	% Increase
Value Produced	\$8,920,258	\$12,308,014	38.0%
Value Sold	\$3,530,170	\$6,328,583	79.3%
Value Consumed	\$5,390,088	\$5,979,431	10.9%
<b>High Value Crops Downstream—Commercialization Figures</b>			
Description	2002	2003	% Increase
Value Produced	\$5,303,837	\$9,784,606	84.5%
Value Sold	\$3,150,592	\$6,274,990	99.2%
Value Consumed	\$2,153,245	\$3,509,616	63.0%

Note: An exchange rate of 49 afs/dollar was used.

<b>Downstream: No. of Jeribs Cultivated By Crop</b>				
Crop	2002 Figure	2003 Figure	% Increase in Cultivation	% Increase in Yield/Jerib (2002-2003)
Barley	794	851.1	7.2%	23.7%
Cotton	2220.8	1,299.6	-41.5%	310.0%
Maize	7,599.4	7,206	-5.2%	12.1%
Rice		190.5	n/a	n/a
Wheat	23,828.2	21,203.3	-11.0%	11.8%
Bean (French)	639.6	911.0	42.4%	1.9%
Bean (Other)	102.9	96.8	-5.9%	27.4%
Broadleaf Vegetable	4.1	4.1	0%	n/a
Chili	116.9	116.9	0.0%	18.9%
Eggplant	85.5	93.7	9.6%	1.2%
Onion	927.0	844.9	8.9%	1.3%
Other Leafy Vegetable	125.6	189.4	50.8%	n/a
Potato	20.5	143.3	599.0%	78.6%
Tomato	622.0	701.6	12.8%	15.6%
Blackgram	1,927.2	1,986.6	3.1%	13.7%
Clover	15.8	15.8	0%	5.1%
Mustard Seed	9.7	9.7	0%	n/a
Grapes, Fresh	3,875.3	9,863.4	154.5%	11.1%
Mulberry	53.7	101.4	88.8%	84.4%
Peach	3.9	3.9	0%	143.6%

Note: 1 *jerib* equals 0.2 hectares.

## Results: Cash for Work Beneficiary Profile

The impact assessment process commenced after construction was completed. Many of those who worked on the construction were unavailable. The following information was gathered from interviews with 38 laborers. All laborers were internally displaced or refugees who returned to the area. Many worked as laborers in the previous year.

<b>Employment Information for Previous Year (2002)</b>	
Primary Occupation	Percentage of Respondents
Mason	13%
Laborer	63%
Farmer	18%
Driver	5%

In addition to the money earned from the construction, the laborers were predominantly farmers. A small percentage of the non-farmers also reported trade and tailoring as sources of household income—in addition to shop keeping.

<b>Other Sources of Household Income—In Addition to Cash for Work Activities</b>	
Source	Percentage of Respondents
Farming	61%
Shop keeping	16%
Labor	13%
Livestock	11%
Poultry	11%

Although a small percentage also reported spending part of their earnings on school fees for children, tea and sugar, most used the income for necessities such as food, clothing, medicine and shelter. Particularly interesting is the group who used the income for livestock, to invest in their own long-term economic development.

<b>Usages of Cash for Work Income</b>	
Usage	Percentage of Respondents
Clothing	100%
Food	100%
Medicine	87%
Home Improvements	61%
Livestock	13%

## Flood Protection Increases Crops, Livelihoods

*Floods are expected and anxiously anticipated each spring in Afghanistan. Violent and disastrous flows bring huge boulders, mud, and erosion. A USAID project provides a vulnerable area with protection.*

Floods torment much of Afghanistan because of high mountains, deep snows, and rapidly fluctuating climates. With five years of historical drought (1997-2002), many expected the floods to disappear with the rain. However, the annual spring floods continued with steady snowfall and a dry landscape. Destruction of dams and canals continued, and a wave of washed-out farmlands and livelihoods passed through the country again, without respite.

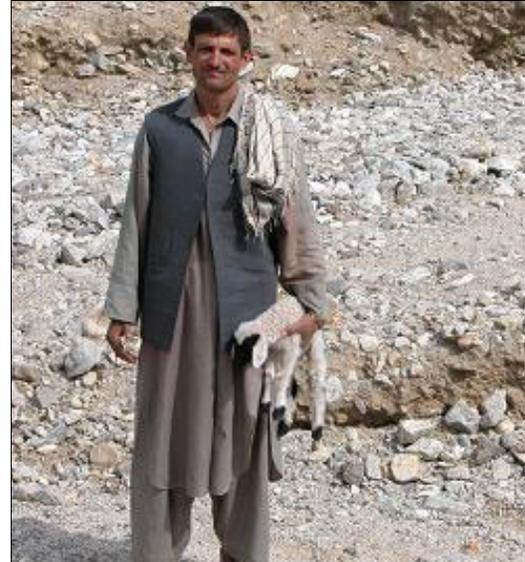
### Not Taking Defeat Lightly

The people living in the floodplain, like residents in the Gulbahar district of the Kapisa province, have always struggled against the floods. Laborers and farmers in Gulbahar worked for years to guard their homes, lands, and canals from the devastating floods that cover and clog everything with silt, sand, rocks, and boulders. The flood scars—deep seams etched several feet into the earth—bring evidence of the snowmelts from April through June. Recovery can take years, says 38-year-old Sharjon, a farmer in the Shakbaskhim village of Gulbahar whose livelihood was twice destroyed by the spring floods.

“I grew wheat and corn here 20 years ago with my father on 10 jeribs of land,” Sharjon says. “Now I have two jeribs and a family. The floods destroyed my land. So I sold some to support my family, and [now] I have just this,” he says, gesturing toward tomato vines and two cows grazing in the sun.

### Community Effort

Seventeen kilometers upstream stand three enormous structures to help defend Afghans like Sharjon from the floods. In a small valley, or wash, between a stone quarry mountain and a village on a hill are 390 meters of gabion walls 3 meters tall and 3 meters wide. Constructed from steel wire cages filled with thousands of pounds of stone, the flood protection walls are an awesome sight. The community built the structures primarily to protect the Gulbahar River just below the sloped flood plain, especially the irrigation tunnels supplying water to over 97,000 villagers downstream. Five concrete dikes and a 20-meter stone masonry wall buffer the two tunnels and three water control gates. The effort



Abdul Basir, who helped build the walls, stands in the flood plain with a lamb.

brings security and manageability to an area often bargaining with chance.

### Community Results

Nevertheless, to get to the true point of success for this project, you have to look no further than the first day of the construction, when over 100 local villagers charged through floodwaters three-feet high to build the protection walls. Before this large-scale project, most, like 20-year-old Abdul Basir, were jobless and hopeless for income.

“My father and I worked here for two months, from 7 a.m. to 4 p.m.,” Abdul says, mentioning that both are currently jobless. “It was a happy time for our family. The whole village had more money then. And we could help the farmers to grow our food.”

Farming downstream received a bolster from the increased irrigation water due to clear and protected canals, as well as the increased rainfall during late 2002 through 2003. In fact, production of crops downstream has increased nearly 40 percent in 2003, while crops sold have risen nearly 80 percent. And with more money from cash-for-work initiatives like the Gulbahar project, villagers have the means to buy food, clothes and medicine in local markets, bringing some hope to the area’s food security issues.

## Road Construction in Jaghatu

Many of Afghanistan's few roads need repair. The small country contains nearly 21,000 km of roads. By comparison, Pakistan—just 150,000 square miles larger—has 247,811 km of roads. The necessity for more, better-quality roads is apparent: Roads create arteries for economic growth, supplying transit lines for goods and services and employment. Roads also increase access to education, humanitarian response, healthcare, and provide for greater security and sharing of knowledge. Most important, roads increase food security.

In December 2001, following the Taliban's ouster, some of Afghanistan's roads were repaired through quick impact, cash-for-work programs—with a primary emphasis on employing returning refugees. While the projects met the objective of employing large numbers of people, many of the repaired roads were hastily constructed and deteriorated rapidly during the rainy season following the five-year drought.

After surveying other work sites and taking into account the subsequent failures associated with the hastily constructed roads, Chemonics decided during the project start-up phase that road rehabilitation is an activity that will not achieve the desired quality standards using only community labor. In order to comply with recognized engineering norms and standards, Chemonics and the implementing NGO partners reached an agreement to combine light equipment with labor. The strategy utilized equipment such as small compactors, water tanks pulled by tractors to moisten the road surface prior to compaction, and a truck to haul select gravel and other materials for the road surface. While employing the maximum number of workers possible, labor is also complemented with the abovementioned light equipment.

Railways: 24.6 km
Highways: 21,000 km
Paved: 2,793 km
Unpaved: 18,207 km
Waterways: 1,200 km

Although the NGO community understood the importance of improving their road rehabilitation efforts, it was difficult for many to envision how they could comply with meeting increased standards without the use of heavy equipment. In order to train the NGOs adequately to construct quality roads, Chemonics formed a partnership with UNOPS and the Ministry of Public Works. The partnership provided road construction training prior to initiating the roadwork by engineers from all three partners.

### Site Selection

Considerable effort was spent identifying a road that met all the conditions desired for road training. The criteria included mountainous, steep grades, flat terrain, and heavy clay soils. After visiting several sites, the UNOPS, Chemonics and the Ministry of Public Works all selected the Surobi-Tagab-Gulbarhar-Jubl-e-Saraj road for rehabilitation and road repair training. After several months of coordinating with UNOPS and preparation for the rehabilitation of the Surobi-Jubl-e-Saraj road, Chemonics had to back out of this activity. Our NGO partners were well into the mobilization phase and had made preliminary arrangements with community leaders for the provision of unskilled labor. Unexpectedly, the Minister of Public Works informed UNOPS that any work on this road must conform to primary road standards. Apparently, and by the definition of "primary road," the Minister wanted to follow-up with paving the road. Neither the UNOPS nor AQIP had the resources to comply with improving a road to meet primary road standards. This cancellation forced the project to select an alternate road.

In March, HAFO and AREA received written permission from the Governor of Wardak and the Ministries of Public Works and Rural Development to rehabilitate the road between Jaghatu and Rashidan in the Wardak Province. The road met much of the original criteria and more:

- Varied terrain suitable for road training
- High economic potential
- Designation as a priority road by the Wardak provincial government

### **Road Training**

The first phase of classroom training commenced from April 26 through May 8, 2003 in Kabul with all four AQIP NGOs, the Central Asian Development Group, the Ministry of Public Works and UNOPS. The lessons focused on design standards and developing the norms and criteria used in the construction phase to assure that completed roads would sustain heavy rains, winter snows and vehicle traffic for a minimum of three years with minimum maintenance. The four-week onsite training, May 11 through June 5, put lessons into practice, where the trainees actually constructed several kilometers of road under the supervision and guidance of Chemonics, UNOPS and Ministry of Public Works engineer trainers.

The training course sought to change the mindset of participating NGOs to better understand sustainable road construction procedures and shift from labor-intensive to labor-based construction practices. To assure the durability of AQIP roads, the course placed emphasizes on quality construction and environmentally sound practices that include:

- Crowning and compaction of the road surface to ensure that rain water drains off the road rather than penetrating the road surface.
- Cleaning and digging drainage ditches to carry water runoff without facilitating erosion of the road or road embankment.
- Installing reinforced cross drainage, with culverts, for water to cross the road rather than flowing down the road.

### **Training Format**

The course offered four structured parts spread over several months:

1. Classroom Training (10 days): Introduction to road engineering, budgeting and planning.
2. Computer and Reporting (1 day): Introduction to Excel and using a template for planning and reporting road construction.
3. Classroom Training (10 days): Trained in topics such as surveying, design standards and norms, incorporating environmental procedures into construction, designs, selection of barrow pits, procurement of materials, crowning and compaction and testing strength of compaction, logistics and operations, planning, and the installation of culverts and other structures.

4. Practical Training, On-Site in Wardak (20 days): The on-site practical training with 24 engineers and 100 laborers consisted of actually constructing several kilometers of road using the labor-based methods described above. The trainees participated in all construction aspects, from surveying the road, digging drainage ditches, and leveling the road surface, followed by crowing and compacting.

### Road Construction

In early April 2003, HAFO and AREA transferred the equipment and road construction tools to Jaghatu, completed the road survey and initiated digging or cleaning the drainage ditches. The road engineering commenced in May and was temporarily suspended during the classroom training periods. Road construction on the original 20 km—10 km for each NGO—began again in June and picked up in July and August. By September and October, crews were working seven days a week from 7 a.m. to 5:30 p.m.

Initially, some parts of the road required excavation to remove large stones that prevented proper compaction. Once completed, the crew spread gravel and leveled the road. The sections completed were then straightened and subjected to watering and compaction with the road compactor. Again, the crews laid another layer of gravel and repeated the watering and compaction step. As these activities progressed, the crews dug drainage ditches on both sides of the road and prepared the area for cross-drainage and culverts.

The NGOs purchased cement in Kabul and some supplies were trucked in through agreements with independent trucking agents. Those supplies included the sand and gravel used to fill the road. AREA, for example, purchased the stone used to construct the stonemasonry culverts from a local quarry. The NGOs constructed culverts at the site offices consisting of stonemasonry. During a site visit with USAID in August, the community requested a bridge linking the road across a floodway. The spring floods prevented travel along that portion of the road, putting local farmers under financial strain and severing the area from linkages to market centers in Ghazni, for example. USAID approved the request and construction began shortly thereafter.



AREA crew digs drainage ditches along the Jaghatu Road.

Since the NGOs made such rapid progress on the road, Chemonics requested that they construct another 15 km of road. The project extension provided a great opportunity for the area residents, since one of the new sections ran perpendicular to the existing road leading toward Ghazni, a major market center. Trucks traveled back and forth on the road between Ghazni and Hazarajat, another major market center. However, during the spring the road became extremely muddy and prevented trucks from passing. Trucks, particularly the small models, would often become stuck in the mud for days. Because many of those trucks carried items for trade—such as onions and potatoes—the trade between Ghazni and Hazarajat suffered, forcing haulers to use other, much less convenient roads. As farmers would lay sack after sack of potatoes and onions on the side of the road, hoping for buyers to come around, their efforts often went unnoticed. They were unable to sell produce to Ghazni during those muddy spring months—a time when prices were higher.

### General Results

AQIP, through the Jaghatu project, has demonstrated that it is feasible to repair rural roads to last for a minimum of three years with only minor maintenance. While the engineering standards for the Jaghatu road are less than the standards used for a primary unpaved road, the AQIP roads are:

- Crowned and compacted to assure that rain water runs off rather than penetrating the surface
- Adequately drained to carry run off water to prevent road and road embankment erosion
- Constructed with reinforced cross drainages for water to cross rather than flow down the road.

<b>Basic Statistics</b>	
Number of village clusters using road	109
Number of households using road	1,751
Population using road	11,791
Length of road (km)	35
Hectares of Irrigated Agricultural Land Linked to Markets (2003)	4340
Number of Worker Days Used for Dam Construction	35,715

### Results: Impact Assessment

Numerous discussions and surveys conducted with communities indicate that travel time has decreased for all modes of travel (for instance bicycle, car, donkey, and foot), but particularly by bicycle and car. Some community members mentioned that shorter commuter times to hospitals could mean the difference between life and death, especially for the elderly and sick.

<b>Average Time Saved to Various Locations, By Mode of Transport</b>			
Destination	All forms of transport	Car	Bicycle
Going to hospital	15.58 min	30.80 min	*
Going to nearest large city	-	36.90 min	-
Going to local bazaar	13.76 min	36.64 min	13.2 min
Going to primary school	8.90 min	*	17.14 min

\*Only one village used this mode of transport for this activity.

<b>Maximum Travel Time Saved to Various Locations</b>	
Going to hospital	60 minutes, by car, for five villages
Going to nearest large city	160 min for the people of Elyas Khil; 140 min for the people of Delawar Khil; 100 min for the people of Adina
Going to local bazaar	60 min, by car, for three villages; 40-50 min for four others
Going to primary school	60 min, by bicycle, for the children of Kodai; 45 min for the children of Mushangay; 30 min in three other villages

### Increased Road Use

All villages agreed that use of the road had increased by about 10 to 15 percent. Many cited increased traders/merchants and rental cars, which indirectly connotes greater economic opportunities for the local communities and those from other communities using the road.

Reasons for Increased Road Usage, Community Responses	
Reasons	Percentage of Respondents
Increased community usage	100%
Increased traders and merchants	65%
Increased number of "rental cars"	62%
Increased number of travelers from Hazarajat	46%

"Rental cars," in this case, refers to entrepreneurs from Kabul or Ghazni who drive out to remote villages and rent their vehicles to local farmers and merchants.

### Results: Agriculture Related

Throughout discussions with the people of Jaghatu, there was one main complaint heard over and again: irrigation. Production and marketing of agricultural commodities has fallen sharply in the last year due to continued problems with irrigation. The figures below reflect the 109 village clusters that directly benefit from the road construction.

All Crops			
Description	2002	2003	% Increase
Value Produced	\$4,208,686	\$2,114,301	-49.8%
Value Sold	\$2,655,570	\$1,255,646	-52.7%
Value Consumed	\$1,553,116	\$858,655	-44.7%
High Value Crops			
Description	2002	2003	% Increase
Value Produced	\$3,303,791	\$1,344,746	-59.3%
Value Sold	\$2,655,570	\$1,238,462	-53.4%
Value Consumed	\$648,221	\$106,283	-83.6%

Exchange rate of 49 afs/dollar

Of particular concern is the dramatic increase in poppy cultivation, which grew by 36 times in the past year. The poppy cultivation comes together with increased security concerns for implementing agencies in Jaghatu and in Wardak.

No. of Jeribs Cultivated By Crop				
Crop	2002 Figure	2003 Figure	% Increase in Cultivation	% Increase in Yield/Jerib (2002-2003)
Wheat	2674	2140	-20.0%	5.4%
Other Leafy Vegetables	108	80	-25.9%	16.7%
Potato	1310	670	-48.9%	-6.3%
Pumpkin	100	150	50.0%	-100.0%
Tomato	0	5	n/a	n/a
Zagher	0	15	n/a	n/a
Poppy	10	376	3600.0%	n/a

<b>No. of Jeribs Cultivated By Crop</b>				
Crop	2002 Figure	2003 Figure	% Increase in Cultivation	% Increase in Yield/Jerib (2002-2003)
Alfalfa	195	179	-8.2%	-0.8%
Pigeonpea	65	58	-10.8%	n/a
Apple	551	424	-23.0%	-28.8%
Apricot	84	58	-31.0%	-39/8%
Plum	43	23	-46.5%	-76.0%
Pomegranate	45	45	0.0%	n/a
Timber	668	513	-23.2%	n/a

### Results: Trade

In discussions with the village elder councils or shuras, surveyors determined that the total trade on the road between Ghazni and Hazarajat was approximately \$13,908,541. Major Hazarajat to Ghazni products include timber and throw rugs. From Ghazni to Hazarajat, the products include primarily flour, oil and agriculture inputs.

<b>Value of Commodities Traded, before Road Construction (Data from discussions with community)</b>							
Direction	Type of Truck	% Used	Goods	% of Trucks	No. of Trucks <sup>a</sup> (yearly)	Value/ Truck (\$) <sup>a</sup>	Total Value (\$)
Hazarajat → Ghazni	Large	70	Potatoes	40	136.8	9,775.00	1,337,220
			Timber	50	171	25,744.00	4,402,224
			Throw Rugs	1	3.42	349,665.60	1,195,856
			<i>Kerout</i>	9	30.78	14,401.40	443,275
	Small	30	Potatoes	50	73.5	5,175.00	380,362
			Timber	20	29.4	1,287.20	37,844
			Throw Rugs	10	14.7	233,106.40	3,426,664
			<i>Kerout</i>	20	29.4	6,092.90	179,131
Ghazni → Hazarajat	Large	60	Flour	71	208.3	3,489.70	726,905
			Oil	8	23.44	12,243.60	286,990
			Ag. Inputs	20	58.6	4,453.20	260,958
	Small	40	Flour	54	105.84	1,938.00	205,118
			Oil	6	11.76	7,142.00	831,990
			Ag. Inputs	40	78.14	2,474.20	193,977
Total Estimated Value of Hazarajat-Ghazni Trade Along Road							13,908,514

a. Please see section on derivation methodology, p.125.

If the rehabilitation of the road has increased its use by 10 to 15 percent (as estimated by the households situated along the road), the annual value of trade between Hazarajat and Ghazni may have increased by over \$1 million as a result of AQIP's work.

### Results: Cash for Work

In surveys with 123 laborers from both AREA and HAFO, all laborers described themselves as being the primary earner in their household (earning more than 75 percent of the household income). One third derived more than half of their household income from the project while they were constructing the road.

On average, the men worked 48 days with the project and had approximately 13 years of experience prior to working on the road. The total number of person days of labor provided by the project was 35,715.

Most households were also involved in agricultural activities, which helped supplement the income from working on the road construction.

<b>Other Sources of Household Income—In Addition to Cash for Work Activities</b>	
Source	Percentage of Respondents
Farming	29%
Livestock	16%
Poultry	11%
Laboring	15%
Tailoring	21%

## USAID Provides Sustainable Roads

*Quality road construction is difficult to find in Afghanistan. Floods, lack of training, equipment and maintenance take their toll. USAID is training local staff in quality construction, with 20 km of road as the classroom.*

Along the road in Jaghatu, a group of farmhands digs for potatoes with hoes and shovels. They pile the potatoes atop the brown, turned earth, or load them into 50-pound netted bags and display the sacks beside the road to attract produce buyers from as far as Pakistan. Just about every 20 minutes, one of the dazzling, painted haulers comes jangling up the road slowly to inspect the goods. And each day during harvest, from morning until evening, this traffic continues.

“It is the road that brings the buyers and gives these men work. They did not come before because you could not use the roads with a large

truck. It could tip over.” says 40-year-old Sherenjan, the sharecropper who owns the potato patch

Recent floods have put deep scars in the land along the road. Large stones and huge gashes two or three feet deep run from the nearby hills through the farmland, tracing the flood’s path. Development experts cite war, erosion and lack of quality workmanship as reasons for Afghanistan’s poor roads.

USAID’s implementing partners took extraordinary measures to train local NGO staff in the basics of quality secondary road construction. The six-week program, held with NGOs, the Central Asian Development Group, the Ministry of Public Works and UNOPS, provided classroom and on-site lessons. Afghan staff learned to crown and compact roads to allow for proper drainage, to dig side ditches and use culverts to capture the runoff, and received training to use small equipment, such as compactors, that reduce traditional labor-intensive work. Experienced engineers shared design standards, lessons in logistics and how to select choice road materials.

Here along this smooth section of street, professionalism and education seem to have won out over the old standard. Crowned and compacted, fitted with drainage ditches and stone and cement culverts, this modern stretch of road is a match for floods that

constantly threaten the way of life for these villagers. The road also opens pathways to business and travel.

“Really, the road increases trade between the villages,” says Abdul Aquil, 30, from the driver’s seat of a tractor loaded with corn, wheat and hay.



Abdul Aquil, at the wheel of his tractor, brings crops to market on the Jaghatu to Rashidan road.

The drive by tractor from Rabet to Matkhuli used to eat up almost one and a half hours, says Abdul. But that same trip takes only 30 minutes today. Consider that the road carries an estimated \$14 million in trade per year, and suddenly an extra 125 minutes to the nearest large city seems like a windfall. Taxi services to Ghazni, a major market center only 45 minutes southwest, have even

lowered fares because of improved road conditions. For people like Sarid Mohammed, who has medical problems associated with gallstones, greater access to clinics and hospitals in Ghazni is an invaluable result of road construction.

“Six months ago I had bad pains here,” Sarid says, holding his gut with one hand and a sledgehammer with the other. “But only recently could I drive to Ghazni for medicine because the pain of traveling these roads was too much.”

Despite the pain, Sarid works as a laborer on the road project. It is not a choice, he says, but a necessity to care for his wife and her family.

“No children?” asks 46-year-old Said Abdulhadi, a passing pedestrian.

“No. Just my wife and me,” says Sarid, smiling broadly.

Said, on the other hand, has six daughters and seven sons. He explains how the road affects his children on different levels: school, employment and safety.

“When my two sons were home for holiday from school,” says Said, “they came to work here on the road. So my family makes money. And my little children [travel] to school much more easily, without having to walk in the fields near [land] mines.”

## Irrigation Construction: Shallow Wells

Without a continuous or reliable source of water, especially during summer months, these shallow wells help to ensure a harvest and revive agricultural land back into production for farmers on the edge of complete loss. Five years of drought devastated the water table, making obsolete the 15 to 20 meters wells most commonly found in the country. Villagers reported that well water levels had dropped five to 10 meters before rains and snow increased in late 2002 through 2003, snapping the drought. Therefore, the AREA projects directed community members to excavate their wells 20 to 30 meters to reach a stable supply of water.

### Activity Report

Working with local shura and through relationships established within the communities, AREA identified those farmers most in need of other options with regard to irrigation. Some of the farmers chosen reported that canals could remain completely empty for months at a time.

Moreover, even when canals do contain water, there is such competition up and downstream to flood the farmland that many often go without or receive inadequate amounts for their crops. The AQIP project set about to increase and stabilize the water supply and therefore increase the availability of food by providing needed water to mobilize available labor and arable land resources to quickly increase production of food crops.

Percentage of population with drinking water coverage (not necessarily "safe" or "adequate"):

- Overall: 13%
- Urban: 19%
- Rural: 11%

The farmers who chose to participate in the project dedicated their own time and resources to excavate the land—actually to dig the land by hand—to prepare for their shallow wells. Because the shallow wells were to benefit small groups of farmers closely linked by land, that network proved adequate to contribute the manual labor necessary to excavate and construct the wells. Working in shifts during spare time, the farmers used shovels, picks and buckets attached to rope and stick winches to excavate the land. The well cavity is shaped as if an open cylinder thrust about 20 meters into the ground. A spiral-shaped stairwell is also excavated alongside the well cavity. The farmers dig stairs into the earth to facilitate traveling up and down, and to prepare the site for the actual steel-reinforced concrete steps to come later.

On average, excavation required about 40 to 60 days of intermittent labor. Excavation ends, according to Engineer Khiyal Shah of AREA, when about five meters of water fills the bottom of the well cavity. Then AREA engineers put their designs into effect, helping to stabilize the site and managing the framing, construction and reinforcement operations carried out by the local farmers. The AREA engineers also arranged for shipments of bricks, wooden planks, nails, cement, and steel bar. These supplies were distributed by the NGO as part of the agreement.

AREA staff and the local farmers then lay bricks around cylindrical well cavity and pour and reinforce the concrete stairs. The structure is completed with a steel-reinforced concrete top component, in essence a raised roof, with a locked door to protect the diesel pumps.

Farmers collectively purchase the pumps, often two or three, along with the diesel fuel when needed. They are responsible for the structure's maintenance, as well as maintenance of their pumps. AREA helps outfit each well with the pumps, providing a fiber-based hose (similar to firefighter hoses) to carry the water from well to canal.

The farmers' contribution to the AREA project is nothing short of an investment in the future of their businesses. They contribute time, effort and money to secure these structures, and then AREA hands each well completely to the community. Now that the transferal was made, the farmers own the structures outright and have greater control over future crop yields, providing for their families, and contributing to the overall food security of their respective communities.

### General Results

From surveys with communities using each of the eight wells, we determined that the wells are irrigating 376 hectares for roughly twice the number of households.

<b>Basic Statistics</b>	
Number of Hectares of Land Irrigated	376
Number of Villages Affected	7
Number of Households Downstream	681
Population Downstream	5,367
% of Beneficiaries as Returnees	<5%

### Results: Agriculture Related

Since the shallow wells were not completed in time for the 2003 growing season, the following data are presented only to give a sense of the community affected by the irrigation—what changes have occurred in the last year in terms of agriculture. Although cultivation and yields have increased, the value of commodities produced has dropped due to lower reported 2003 prices in commodities such as tomatoes.

<b>All Crops</b>			
Description	2002	2003	% Increase
Value Produced	\$442,745	\$382,189	-13.7%
Value Sold	\$350,667	\$260,238	-2.6%
Value Consumed	\$92,078	\$121,195	31.6%
<b>High Value Crops</b>			
Description	2002	2003	% Increase
Value Produced	\$361,889	\$269,072	-25.7%
Value Sold	\$346,704	\$254,698	-26.5%
Value Consumed	\$15,185	\$14,374	-5.3%

<b>No. of Jeribs Cultivated By Crop</b>				
<b>Crop</b>	<b>2002 Figure</b>	<b>2003 Figure</b>	<b>% Increase in Cultivation</b>	<b>% Increase in Yield/Jerib (2002-2003)</b>
Barley	23	29	26.1%	16.4%
Maize	215	329	53.0%	59.8%
Wheat	1073	1210	12.8%	6.0%
Bean	5	8	60.0%	5.8%
Chili	2.5	4	60.0%	-57.0%
Eggplant	10.5	13.0	23.8%	16.6%
Watermelon	5	8	6.0%	63.3%
Okra	5	7	40.0%	466.5%
Onion	300	322	7.3%	-15.7%
Potato	196	214	9.2%	-12.0%
Tomato	83.5	60.5	27.6%	1.0%
Apple	36	15	58.3%	96.4%
Apricot	8	8	0.0%	106.1%

## Shallow Wells Give Farmers Another Option

*Rebuilding canals, dams and karez help a majority of farmers in Afghanistan, but there are many who remain on the outside. Lack of access to canals and karez force some farmers to rely on diesel pumps and wells to irrigate crops. USAID is assuring these farmers an opportunity.*

In a landlocked country where only 12 percent of the land is arable, the question is not if you will irrigate your land, but *how*. Choose from three options: canals fed by river and rain, a natural spring, or the ancient underground aquifer known as karez. Only 20 to 40 percent of canal-irrigated land was available for harvest in 2002 due to insufficient seed and water for irrigation. That percentage drops further, up to 30 percent, for land irrigated by spring or karez.



The original well

harvest by procuring backup plans should irrigation canals run dry—or in the absence of irrigation canals altogether. One such innovation utilizes shallow wells and diesel pumps to fill dry canals and furrows with water forced up from 20 to 30 meters below ground.

### Building a Modern Structure



A newly constructed shallow well.

The wells themselves are covered cylindrical brick houses enclosed around a staircase that spirals into the cold earth. Flexible hoses similar to those used by firefighters in the United States connect diesel pumps that suction 500 liters of water per minute to the empty canals above. The housing structure not only protects the valuable pumps—a collective investment made by the farmers using the well—and helps prevent accidents, but also

It can take tremendous courage to farm with such narrow odds, but Afghans certainly have demonstrated their nerve. Some have even gone to great lengths to ensure that their crops get to

assures the water a dark, cold pit free from mosquitoes and other disease-carrying insects that thrive in warm, standing water.

In fact, just 30 meters from a shallow well in Kabul's Charasiab district is the old well. The contrast from old to new is striking. One is a deep, dark, dangerous pit full of mud and mosquitoes; the other, a small, safer house constructed of wood and concrete brimming with clean, clear water.

USAID and implementing partners have built eight shallow wells for diesel pumps in the Kabul and Logar provinces. This project in Logar targeted five farmers with little canal access.

For only two months each year their canal is full of water from the Pulealam River, says 45-year-old Mohammed Shah, one of the farmers. That's 10 months without water, including the summer. But the farmers, with USAID, have a plan.

### Investing In Their Own Futures

Combining their efforts and resources, the farmers excavated and built the structure with engineering guidance from the local NGO partner. They have all agreed to share in the startup costs (including the pumps), to purchase diesel for the pumps when necessary, to effectively manage an irrigation schedule that gives each partner a fair share of time and water, and to pitch in on repair costs when the pumps require maintenance.

Mohammed turns his onions in the soil with a shovel and talks with anticipation about the 2004 planting season.

"Next year I want to sell my onions to the trucks," he says, referring to the produce buyers who frequent this area rich with onions, potatoes and corn. "This year was good, but next year we can all sell to the trucks."



Mohammed Shah pauses to chat while harvesting onions.

## Income Generation: Poultry

When many refugees returned to their communities in the Shamali Plain, they found that very little had remained of their homes, their orchards, vineyards, and livestock. In consultation with the local shura or elder council, Chemonics and Partners in Revitalization and Building (PRB) designed a poultry distribution activity. The activity had several goals:

- Empowerment of women through involvement in poultry-raising—activities that are culturally sensitive and remain within the family compound.
- Income generation opportunities, through the sale of eggs, by families whose many assets were lost or used up.
- Training in poultry raising to allow for expansion of activities by individual families.

In the end, the project provided over 8,600 vaccinated chickens to over 860 families in Istalif, Shakar Dara and Kalakan. In addition to the chickens, each of the families received concentrated feed for up to three months when they completed the poultry training courses.

### Activity Report

The poultry income generation project began in earnest just after AQIP finalized the subcontractor agreement with PRB, on October 2, 2002. Subsequent to the project's launch, PRB outreach members met with community members and local shura in Istalif, the first of three districts to participate in the activity. More than an attempt to "choose" beneficiaries, PRB worked to build a strong relationship with families, especially vulnerable women and children who would receive major benefits from this activity. Female PRB staff established initial contact with families and spoke of the program's benefits to the women. At that point, local shura, the local ministry of agriculture and PRB identified the families most in need of the activity, as well as those with knowledge of raising poultry or with a desire to learn.

<p>Livestock in Afghanistan: 3.7 million cattle 8.8 million sheep 7.3 million goats 175,000 camels</p>
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Once PRB identified the 400 families and individual members in Istalif, the NGO chose an easily identifiable location in the villages to distribute the chickens and supplies. Places like schools, government offices and mosques also served as gathering spaces for the training that would soon follow. PRB asked families first to demonstrate their willingness by building chicken pens, or coops, with materials distributed by PRB. Each family received the following: 35 grams of nails, 2 square meters of wire mesh, 14 kilograms of straw, 4 square meters of plastic sheeting, 14 kilograms of lime to whitewash the structure, 2 square meters of matting, one 4-meter wooden rafter, 1,000 bricks, one small window, one small door, one trough, and one feeder.

Families in Istalif completed construction of the chicken pens in November 2002. Cold weather approached with the winter months, and therefore PRB and Chemonics decided to distribute three-month-old chickens rather than more vulnerable two-month-old birds. The NGO partner completed poultry distribution in two phases. Participants received 10 chickens each—one rooster and nine hens. Altogether, 2,000 vaccinated, Red Holland chickens were distributed on Dec. 26, 2002, and the next batch of 2,000 chickens followed on Jan. 2, 2003. In addition to 4,000 birds, families received "primary medicine" to treat parasites and 96 kilograms of feed, which lasted just over three months. PRB provided the feed, part of a unique input component to the poultry program, contingent with completion of a training program that demonstrated handling techniques, advocated proper hygiene, and gave advice on disease and cold weather. A six-month monitoring period began thereafter. PRB-staff veterinarians visited participating families to administer care,

medicine and advice to the families, targeting women whenever possible. Although audiences for training sessions contained a majority of men, visits to individual families demonstrated that indeed women and children—as is the case with drip irrigation—do the bulk of caring for the chickens, collecting and selling the eggs to the community.

The Istalif activity met so much success that PRB and Chemonics expanded the project to two other districts—Shakar Dara, which received 4,000 chickens, and Kalakan, which received 600 chickens. All operations described above remained the same with the additional 460 families and 4,600 chickens. In January through February 2003, PRB launched another campaign to establish community relationships in Shakar Dara and Kalakan, thereby identifying their activity recipients. Those identified constructed chicken pens from February through March, preparing for the poultry distribution in early May. Because the weather warmed in the spring months, that freed PRB to distribute two-month old chickens to the activity participants (4,600 in all).

### **Impact Assessment: Commercialization of Eggs**

Altogether, PRB and Chemonics distributed 8,600 chickens to 860 families in three different districts. From surveys with almost 200 of the beneficiaries, we determined that most of the beneficiaries were farmers who derived their primary income from farming and/or livestock.

<b>Other Sources of Income</b>	
Source	Percentage of Respondents
Farming	89.8%
Livestock	85.7%
Labor	4.1%
Clerk	2.6%
Teacher	2.1%
Mason	2.1%
Carpenter	1.0%
Butcher	0.5%

Each family produced an average of 6.1 eggs a day per the 10 chickens distributed. Although the majority of beneficiaries sold as many eggs as they consumed, the average monthly income from egg sales totaled only \$5.89—enough for incidentals but not enough as a major source of secondary income.

<b>Egg Production and Usage</b>	
Usage of Eggs Produced	Percentage of Respondents
Consumption of all eggs	4.1%
Greater consumption than sale of eggs	6.1%
Equal consumption and sale of eggs	77.0%
Greater sale than consumption of eggs	12.8%

## The Shamali Plain: A Snapshot of Integrated Impact

*To support the war on terrorism and to keep with America's tradition of assisting those in need, USAID is working to build a safe, stable society that meets the needs of its people and eliminates an environment that breeds terrorism. Following is a glimpse into the Agency's impact in the Shamali Plain of Afghanistan.*



Left, a 14-year-old boy pumps water from a nearby well into his family's small garden. On the right, one of many abandoned and destroyed Soviet tanks that litter the Shamali Plains. This area is also a live minefield

The Shamali Plain of Afghanistan is rich with a tradition of farming excellence, steeped deep in history that carries back to generations of men and women working in harmony with the land and water and soil to feed and be fed. The canals, dams and karez that supply the farmers are ancient, some dating back hundreds of years. So, the disrepair and dilapidation of these structures can easily get confused with their sheer age.

However, the story is much grimmer than the advance of time alone.

Once considered the breadbasket of Afghanistan for its bountiful harvests of wheat, the Shamali suffered badly under the combined havoc of a five-year drought and over 20 years of continuous war. During the drought, the earth opened with gaping cracks thirsty for a drink of



Istalif village, 12 km north of Kabul city, is at the heart of the Shamali Plain area. The Shamali is commonly called Afghanistan's "breadbasket."

water, crushing the hopes of many farmers to support a family or make a living. The land grew more dry and parched day by day, turning into a tinderbox against a backdrop of civil war. As the Northern Alliance battled to repel the extremist Taliban regime from advancing toward the capital of Kabul to the south, the Shamali once again served as the frontline for another conflict. From 1979 to 1988, the Soviet Union's Red Army and Afghanistan's mujahideen fighters splintered the Shamali countryside with heavy combat, although devastation from the artillery rested mainly with the Red Army. Even today, 15 years after the Soviets' defeat, the Red Army's vehicles and ordinances still blot the land. Husks of tanks, unexploded shells and landmines are a constant reminder that Afghanistan is both fragile and resilient. In 2001 alone, HALO removed some 200,000 mines and shells, enabling hundreds of thousands of refugees who fled the country during the war to return home. According to Afghan officials, some 200 square kilometers of the country was cleared, and over 100 square km of former battlefields remain to be cleared. In Shamali, the red and white paint marking the mined areas is sometimes just a step away from where children play and men plant their crops.

During the mid to late 1990s, the consuming fires of civil war spread to meet this area once revered by Italian wineries for its succulent grapes. And the fires spread further and grew more tempestuous when the Taliban government seized control from 1996 to October

2001. Armies of Taliban fighters, groups of 30 or 40 at a time, dragged hundreds of thousands of Afghans from their homes in the Shamali region, tossing men, women and children into the dusty roads to watch their houses and crops burn to the ground. They exploded canals, dams and karez with dynamite; sowed farmlands with lime; and slashed and burned grape trees, standing crooked and bursting with fruit, all destroyed.

“Go from here and don’t come back,’ they shouted at us as we walked away,” says 13-year-old Rahulla. “And then they burned our house.”

Rahulla recalled his family’s eviction from their home in 1997 in striking detail. And he remembers the lines of people who walked slowly, emotionally and physically broken-down, from Istalif and the surrounding villages along the road to Kabul. Some carried jugs of water



Rahulla’s father rebuilds the family home in Istalif.

and carpets. Some led goats and sheep. Some were blind with tears of rage, stumbling along the road until they fell with exhaustion.

Rahulla’s family, like tens of thousands of other Shamali residents who decided to remain in country, moved to Kabul to find work. Although Rahulla’s father was a respected mason in Istalif, he was fortunate to have salvaged a wheelbarrow from their burning home. That wheelbarrow became his family’s livelihood during Taliban rule for four years, during which time he carried bricks, produce, and slaughtered animals for miles around the city each day. Rahulla and his younger brother—at the time the boys were seven and five, respectively—worked as apprentices in the carpet weaving business, but received no pay. School was an afterthought, although both children were able to read.

Many were able to escape to Pakistan and Iran to find work and gain additional skills, always planning a return when conditions and safety were more stable—and when the Taliban finally were beaten from power. Over the past 20 years, Pakistan and Iran have provided a home for roughly 6 million Afghan refugees.

“I tried to go to Kabul and get work,” says Jabar, a 30-year-old father of four who returned to Istalif in late 2002. “But there was nothing. So I came back (to Istalif) to fight against the Taliban for two or three months, and then I fled to Pakistan with family for two and a half years.”

Jabar is just one in an army of refugees to converge on his homeland. Since UNHCR began an organized program of repatriation in March 2002, over 2.4 million refugees have returned to Afghanistan at a rate of roughly 10,000 per day, with Kabul city and the Shamali region receiving over 45 percent of the influx.

Today, a sign waits at the mouth of a road leading to Istalif, the hardest hit of all Shamali villages. The green and white sign fights for position among 17 others advertising the work of local NGOs and foreign aid agencies, but its message is so stark to immediately draw attention: “Wellcome to burnt territory.”

Yet, close by this terrifying sign, a sign that marks the past and history, is another sign that looks ahead, inviting you to witness a brand new history in the making. It’s a symbol that is becoming more common in areas alive with rebirth and reconstruction: It is the Afghan and American flags united under one symbol. And where there is that symbol, the handshake of USAID is not far away.

### **Istalif Income Generation, Poultry Production**

Jabar’s home is a virtual microcosm of USAID’s effect on the people of Istalif in the Shamali Plain. After washing his hands of a dried mud-mortar mix—he was rebuilding his home, destroyed by Taliban fighters—Jabar walked at an easy pace down to a friend’s home where red, yellow, gold and brown chickens hopped through flower beds

and around tall sunflower stalks. The small boy chasing the birds laughed all the way to the chicken pens. Jabar and the boy’s father then gathered the birds into the pens. The boy, 12-year-old Atiq, is a natural at caring for chickens, Jabar says. And not too bad in school, either, adds Atiq’s father.

Back in March 2003, USAID’s implementing partner delivered 10 inoculated chickens, one

rooster and nine hens. Already that number has blossomed into 22 birds for Atiq's family.

At the other end of that spectrum is Jabar's situation: 10 chickens delivered and eight surviving. Cold weather in March and ill hygiene most likely contributed to some chickens contracting diseases such as blindness, or maladies associated with parasites, say local partners. According to partner extension agents and families, all available families received weekly visits and guidance from veterinarians.

The partners also delivered feed, a feeding trough and materials to build the pens, such as wood, plastic, chicken wire and nails, and provided families with training sessions explaining the important points of caring for chickens, like proper feeding and hygiene.

Atiq's mother and the boy have grown to love the chickens, he says, not only for their wily ways—as I talk with Atiq, one of the chickens under his armpit flaps free and a rush ensues where the family is chasing the bird, laughing—but also for the money and food the chickens provide the growing family.

When the chickens produce only 20 or so eggs in a week, the family may opt to eat most of those rather than sell them to the community. But when the number of eggs reaches upwards of 60 or so in a week, as it often does now with more chickens, the family can sell the eggs to neighbors and provide others with an additional source of food. This particular project distributed 8,600 inoculated chickens to 860 families in three districts. Results are not striking, but steady and consistent: Each family receives, on average, an additional \$5.89 per month by the sale of eggs. All families consume some eggs. The neediest eat all the eggs.

Most families participating in the program choose to eat their eggs. The methods by partners and local shura for choosing participants relied heavily on the family's need and food shortages. Therefore, the program serves a crucial role in food security.

Atiq's father sells one dozen eggs for 36 Afghani (about 72 cents), and five dozen per week can bring in 180 Afghani (about \$3.60). All this money is additional family income used to buy clothes and school supplies—like pens, pencils and pads—for Atiq, Jabar says. Atiq becomes wide-eyed at the mention of school.

The intention of Atiq's father is to send his son to school during the day, rather than put him to work on the farm as he spent his own youth. And so far, Dad has kept that promise. Since returning to Istalif from Pakistan two years ago to rebuild the farm destroyed by Taliban fighters, Atiq has lent his father a hand doing odd chores on their farm, like caring for the 22 chickens

three to four hours per day.

"I like the chickens," Atiq says. "They're fun. But I don't like to clean the cages."

#### **Water Diversion Dam**

Jabar's way of life, his means to support his four children and wife, was taken little by little until a fire wiped out any hope of survival in his village. So he left, as did nearly one



Atiq with some of the chickens that help his family pay for school.

million other internally displaced refugees of Afghanistan, to roam the countryside, or to spend weeks in Kabul squatting and looking for work, or sometimes fleeing to Pakistan to escape the government's long arm.

Now the family is back in Istalif village, preparing to attend a relative's wedding just down the road. Although the wedding begins in just three hours, Jabar remains busy mixing mud to create a mortar for rebuilding his home. His younger brother, engaged only two weeks before, takes a break from helping Jabar to tune a battery-operated radio. He finds the Kabul radio station playing American pop music. Wiping sweat from his brow with a black and white checkered scarf, Jabar then explains how income generation and infrastructure projects with USAID implementing partners have provided him and his family with a brand new start: a new oilseed press, chickens and the

reconstructed 30-meter Khwaja Hassan water diversion dam.

The structure delivers fresh water to Jabar's family of 11, to his livestock, and to the crops of corn, tomatoes, eggplants, carrots, and sunflowers he grows there. His grape vines are just beginning to show some initial promise, but that will take patience and time, he says. Grapes can grow for seven to 10 years before the fruit is ready for market. And with the water diversion dam delivering sustainable and dependable irrigation, Jabar is confident that he will have juicy grapes before his sons can go off to college.

Some of his confidence in the Khwaja Hassan structure comes from knowing that his labor, his sweat helped construct the dam, gabion walls and canal, he says. The rest of that assurance rests in his fellow villagers, those with whom he worked beside, all of whom share both self and common interests in the structure's success. Between the local dam reconstruction and karez cleaning projects, the amount of worker days produced exceeds the area population: 8,710 workers days compared to 8,470 people living within reach of the Khwaja Hassan canal. In essence, the dam's success is the success of the village.

Excited with our conversation, Jabar leads a tour along a skinny path, then slips and jogs down a steep, rocky hill to the Khwaja Hassan canal. He points to an 11-foot high boulder resting about 75-yards upstream and explains how massive floods in early spring of 2003 brought many such nuisances to the river, often wreaking havoc on the irrigation canal flowing from the river.

Overall, clogged canals seem to be the primary reason for reduced water flow to the villages, besides the fact that water is sometimes in short supply. But since the local NGO partner completed the dam, gabion walls and 30 meters of canal, irrigation has remained constantly dependable. The value of crops produced in 2003 jumped nearly 123 percent from 2002. Wheat production provides the most striking improvement, leaping over 400 percent for 2003. For the five villages (8,470 people) receiving water from the Khwaja Hassan canal, 350 hectares of arable land is nothing to take lightly.

Jabar jumps up on the canal wall and looks into the running water, making a sweeping motion with his right hand.

"It goes right up to my home from here," he says. "We have water for everything we need

now because the canal is free. There is no mud or rocks always blocking the water. We all help to clean the canal when we can."

He is intent on demonstrating the canal's purpose, and directs the car until it reaches a stream along the road to his house. There at a spot only a few yards from his house, the water resurfaces in a clean stream. He bends down to wash his hands, still caked with the mud-mortar mix he was applying to his rebuilt home more than one hour before.

"It is cold," he says. "Come here. Put your hands here."

### **Income Generation, Oil Seed Press**

Sharsham oil was a competitive product in Istalif. Farmers grew the flowers and removed the seeds by the kilogram to make the rich oil used for cooking and cosmetic purposes. Istalif residents sold their sharsham oil within the community and even to Kabul and parts of western Pakistan. But the Taliban fighters put an end to that business for most area farmers.

What was once a thriving piece of the economy and a traditional vocation in this area Afghans call the breadbasket, was reduced to slivers of wood and a smoldering



Jabar scoops a handful of sharsham seeds into the oil seed press.

heap—smashed and burned by Taliban fighters hoping to get even with an area mainly supporting the rival Northern Alliance.

Jabar's press was one of those destroyed. A house fire set by the Taliban forced his family to live as refugees for close to five years in Pakistan and Kabul. Jabar and his family worked as coat makers in Pakistan, learning new skills but struggling to adjust.

They still make coats during the colder winter months to sell in the Kabul markets, but today there are other opportunities afforded by USAID income generation projects.

For one, there is a brand new oil seed press in the middle of a storage room that Jabar built specifically for the press. Every part of the press is strong—perhaps carved from one block of

wood—especially the large bucket where seeds are ground and oil runs from the top down to a spigot, where the oil then drips slowly into a collection can. The press is an improved version of the traditional presses that once spotted the area, Jabar says.

Seventy-year-old Rahmat agrees. Rahmat, a neighbor of Jabar's familiar with the intricacies of the press, says that having the press back in the village makes it feel like home again.

"We know the oil press in Istalif," he says, pointing proudly at his thin chest. "We have always used these presses. I used to own some myself, so I like the work."

"He is an expert," Jabar says.

Rahmat clucks his tongue at the cow and orders the animal to stop in its circular path. The local NGO partner also provided Jabar with a cow to help grind the seeds into oil.

Rahmat wants to talk about the purity of the oil, so he puts an oily hand in the mixture of straw and seed that fills the press's open cavity and explains how he and Jabar used a method of trial and error to get the maximum amount of clean oil from the safflower seed.

"Straw works the best," says the old man. "It filters out the shells the best. And we can feed the leftovers to the cow. It's good for him."



Rahmat dips an oily hand into the straw and seed mix while directing the cow around the press.

The old man tends to the press and helps care for the cow that grinds the round little seeds into the sought-after oil. As a paid employee—paid in either harvested vegetables, seed or money—Rahmat is a community member directly benefiting from Jabar's good fortune. In fact, many benefit from the family's good fortune. Besides consuming or selling the oil to other villagers or residents in Kabul or Ghazni, there is also the skilled carpenter who designed and built the press.

Jabar says the carpenter has his hands full lately with requests, now that pressing oil is once again a legitimate livelihood. And there is Jabar's brother, a mason in Kabul, to whom Jabar gives some of the oil either to consume or sell to better support his own family.

The farmers who sell Jabar the safflower seed also benefit. Although

sharsham used to grow right here in Istalif, large suppliers were cut down by the Taliban's scythe. Buyers like Jabar must now search in market centers like Kabul or Ghazni to buy seed and sell the oil.

But it is a small price to pay for making a living on his own terms, he says.

Instilled with a new entrepreneurial spirit, Jabar is searching for a cheaper, more efficient way to market the product.

"I am new at this," he says. "I will get better."

## Income Generation: Embroidery

Initially, PRB selected 40 families in Istalif to participate in the embroidery activity. Again, PRB's relationship with the Istalif community proved vital to promoting this income-generating activity. The project focused on providing income, training and knowledge about the marketplace to women. Because women often produce clothes for their own families and retain the traditional skills sets required to sew and embroider, PRB staff worked closely with the area to promote the activity to women. Embroidery classes emphasized teaching participants to create marketable products, particularly in the designs and patterns most desired. To provide each family with a start, the NGOs distributed embroidery rings, cloth and yarn. Additional cloth and yarn were distributed during the rest of the three-month training course.



Some families prepared 400 to 500 garments at a time to attract buyers from Ghazni and Kabul city. Participants put the sewing machines wherever the home offered space. And because the program eventually made so many machines available to so many, groups of women would haul their machines outside to work in the company of friends and neighbors. Buyers began to frequent the area and, in time, many had established market connections with the help of men in their families.



Women receive yarn as embroidery project commences.

While the demand existed for hand-woven embroidery, wall hangings and tablecloths, the profit margin was extremely low, approximately \$3.00 for 60 hours of work. Local merchants advised PRB that machine embroidery is more consistent and more easily gains market acceptance. In addition to normal embroidery work, Indian merchants privy to the new embroidery resources in Istalif brought silk saris to Afghanistan for high-quality embroidery or trim. After the garment is trimmed, it is returned under a drawback system to India. In order to produce the fine needlework required by local merchants and the Indian market, PRB requested and the project approved the purchase of embroidery machines for the activity. Although the India connection was never fully explored in the activity, it nevertheless remains a potential target for larger scale opportunities in commercialization.

Originally, PRB recommended an alternative-income generating activity for 40 selected families in Kalakan. However, the selected families rejected this poultry production program, claiming that chickens less competitive and requesting to participate in the embroidery activity. When other villagers heard that PRB intended to provide embroidery machines, interest increased for the activity. Ultimately, 100 additional families in Kalakan joined the embroidery activity, bringing the total number of participants to 140.

## Impact Assessment: Beneficiary Profile

Occupational Profile of Households in Embroidery Activity			
Occupation	Primary Occupation	Secondary Occupation	Other Economic Activity
Farming	67%	13%	11%
Labor	15%	25%	3%
Shop-keeping	8%	7%	7%
Carpet-making	5%	2%	2%
Government Work	3%	3%	-
Driving	2%	2%	-
Other*	-	-	8%*

\*Includes Gardening/Horticulture, Butchering, Clerking, and Tile Work

### Impact Assessment: Commercialization of Embroidery

In 2002-2003: All households agreed that the embroidery work now generated 30 to 40 percent of household income. This raised embroidery to the status of a secondary occupation (equaling or exceeding the income generated by the previously stated secondary occupation) in 51 households (84 percent).

Monthly Sales and Income: Over a surveyed 40-day period, the 61 households sold an average of 5.25 embroidered products, at prices ranging from Afs 430 to Afs 480 apiece.

When accounting for the costs of thread and cloth, each household earned an average of Afs 748 over those 40 days. The total income generated was Afs 45,634.

Afghanistan's GDP per capita is \$700.

Top three vocations for returnees:

- daily waged worker, 223,853
- farmer, 78,426;
- carpet weaver, 63,367

Production and Sale: Women do the embroidery work in 100 percent of cases. (In one household, men initially did embroidery work, but handed it over to women by 2003.) All households sell their products to local traders, who then sell the embroidery in Kabul.

Thus far, earners spent profits on family consumption in 100 percent of the households.

### Income Generation: Patu Weaving

Deh Meskin, Parwan, nearly lost its sense of livelihood and tradition due to the long conflicts that have enveloped Afghanistan for more than 20 years. The district is one of many renowned as weavers of the patu, the traditional Afghan wool shawl worn by men for warmth against cold weather. Patu range in size, shape and patterns, but an average garment measures nearly 2 meters long and 1.5 meters wide. Men unfurl the shawl and wrap the garment around the upper body, sometimes completely covering their heads and faces against sharp winds and biting cold.



70-year-old Aliachmad behind his patu loom

Patu weaving in Deh Meskin is representative of the practice throughout Afghanistan. It is a cottage industry where villagers—men, women and children—weave garments at home on traditional looms and sell them in local commercial markets themselves or through buyers who visit multiple villages. Families often weave together during the winter months or through periods of inactivity during the farming seasons. Elders who are too old to work the farms often settle into a productive life behind the patu loom. Families pass the skills from generation to generation, along with knowledge about how to sell the garments in the market. Moreover, there is a collection of specialized craftsmen, often carpenters by trade, who build age-old looms and craft the miniature canoe-shaped thread holders.

However, prolonged conflict and food insecurity issues have forced many of these tradesmen and artisans to migrate or assume refugee status abroad, breaking the chain of the patu tradition from village to village. Some were also killed in wars or died from food and health vulnerabilities. The looms, once considered a family's prize possession, were smashed, burned and looted during the past 20 years, decimating the patu industry in Deh Meskin. Many of the returning refugees in Deh Meskin were eager to revitalize the thriving patu weaving industry they remembered from childhood. Most had the skills and understood the marketing structure, but lacked the financial resources to purchase the looms and the wool yarn.

PRB developed this particular income generation activity to help some of the returnees get back on their feet—and revive the spirit of tradition in the district. The local NGO chose 40 families in Deh Meskin to participate in the patu weaving activity. They distributed looms (manufactured in Pakistan), spools of starter yarn (brown, green and purple), and offered a refresher course for those who had given up on the pastime and career. On the other hand, Deh Meskin enjoys a large collection of patu professionals, people who have harbored thoughts of returning to the loom if only they could overcome current misfortunes.



Family unfurls one of 30 patus they have weaved since harvesting their crops.

To complete the project's status as income generating, PRB staff also helped weavers establish links with traders once a sufficient amount of patus were prepared for the market. The price for one patu begins close to Af. 300 (about \$6.25) in the Kabul markets and rises based on material, quality workmanship, design, and size.

### **Impact Assessment: Beneficiary Profile**

According to surveys with almost half of the beneficiaries, a significant number of beneficiaries derive some type of income from farming and manual labor is a close second. Average household size was 8.17, usually with one primary breadwinner supporting more than seven family members.

<b>Occupational Profile of Households in Patu Weaving Activity</b>			
Occupation	Primary Occupation	Secondary Occupation	Other Economic Activity
Farming	33%	6%	39%
Labor	17%	28%	22%
Carpet-making	17%	6%	6%
Shopkeeping	11%	-	6%
Tailoring	-	11%	-
Other	-	-	78%*

\*Includes Gardening, Livestock, Clerking, Masonry, Teaching, Trade, an oil press, and weaving handkerchiefs

### **Impact Assessment: Patu Commercialization**

The households estimate that patu weaving now generates 57 percent of their income on average. This raises patu weaving to the status of primary occupation (equaling or exceeding the income generated by the previously stated primary occupation) in 16 households (89 percent).

Both men and women work on patu weaving in all households surveyed. It takes approximately 48 hours of labor to produce one patu.

## Traditional Weaving Generates Income for Many

*USAID called for a variety of income generating activities within its quick impact projects. The programs remained true to the traditions and practices of each village, and provided many with the chance to do things they thought were gone forever.*

"I stayed in bed," says Aliachmad, the old man resting comfortably behind a loom, his body sitting upright in a three-foot deep pit in the ground. "What else could I do? I would not leave. So I left the fighting to my son and prayed."

Aliachmad is narrating a brief version of his autobiography—the part about living under the Taliban's rule—while demonstrating his skills as a weaver of the patu, or the shawl that Afghan men wrap around their bodies for warmth.

They are one in the same—his life story and his artistry as a weaver—because they have coexisted since the old man can remember. He pulls the loom's comb tight against the developing shawl and slides spools of wool yarn back and forth like a juggler, hardly glancing down, never breaking the story.

The patu weavers are dying out these days, he explains. Over 20 years of war killed so many skilled men and women. Carpenters who built the looms and tools could not pass those skills to their children or apprentices, and Aliachmad's own equipment, save the new loom, is over 30 years old. He is not even sure of his own age, though he places it somewhere over 70.

"If I weave a patu for the market, I will do it all in one day," he says. "But if I make a patu for the village, for wedding or celebration, then two days. It is a beautiful gift for the wedding."

A man comes from Kabul every month to buy Aliachmad's patus. He sells the shawls in the market and delivers supplies like the yarn spinning from spools attached to tree branches. Business is brisk, especially with winter approaching.

This income-generating program under USAID provided Aliachmad with the tools—yarn and a refurbished loom—to reestablish his reputation in

the village as the patu expert. Weavers like Aliachmad have a lifetime's worth of skill, but lack materials and start-up cash. USAID's local implementing partners made that material available to 40 families. Another 140 families received embroidering equipment such as wool and sewing machines. For the 40 patu families, weaving accounts for nearly half of their income, and embroidery 30 to 40 percent.

As his hands work quickly over the wool threads, a smile broadens across his weathered face.

"They know what I do here, because I always weave the patu," he says of the other villagers. "Ask if I am good."

Down the road is Qandagha, a younger man who attests to Aliachmad's status. Qandagha is 32, the father of seven children, and his entire family weaves the patu during the winter. The artistic tradition is weaved into the very fabric of his family: Qandagha was taught by his father, who was taught by his father. But over the past seven years, the family was forced to move to Kabul to find work while the Taliban and Northern Alliance battled in Qandagha's backyard. Without the means to purchase the patu materials, such as yarn and a loom, the family's traditions took a back seat to immediate concerns, such as food and shelter. Now the patu weaving satisfies traditional roles while supporting an entire family of 10.

Qandagha unfolds a patu outside of his rebuilt home, and his younger brother helps him unfurl the fabric to demonstrate their handiwork. This shawl is heading for the shops in Kabul, and with 29 more stored and ready for purchase, Qandagha is suddenly looking forward to the winter "off season." He has sons, he says, and it is time to teach the kids how to weave the patu.



Seated behind his loom in a shallow hole carved into a chair, Aliachmad tells how the patu has a strong place in the area's history.

## Price Information Boards

Unlike many developing countries where local governments broadcast daily crop prices via radio, Afghanistan does not have a price information system. The lack of such a system seriously restricts a farmer's decision-making capability prior to, or during, harvest. During the data collection for the Participatory Rural Assessment, it was apparent that farmers sold their produce to middlemen or took their produce to the nearest market without prior knowledge about the market value of their produce. This is especially true for the sale of horticulture products. In order to improve access to information, Chemonics erected price information boards within the AQIP geographic area for farmers to record prices they observed in the relevant markets. Farmers are not paid to maintain the price boards, and Chemonics' approach is to convince the farmers that this is a community benefit and maintenance of the commodity price board is a community responsibility.



The price information boards are located near the village, generally at well-traveled intersections or bazaars. Efforts were made to install the signs near a shop or stall, so the shopkeeper can watch for petty vandalism. Producers and traders ultimately benefit from the boards. Farmers benefit by seeing current prices for the various markets where they sell their produce. If a farmer knows that a neighboring market offers a higher price than the village market, considering transportation costs, he will be more inclined to sell to the neighboring market. The price boards provide the information farmers need to make these decisions. Community representatives have received training and now fully responsible for training and informing the villagers in the use and maintenance of the price boards.

The boards were installed May and June of 2003 and although only one growing season has passed, they are already becoming quite popular.

Location of Price Information Boards			
Province	District	Place of Board	Maintenance
Kabul	Charasiab	Agriculture Cooperative	AREA
Kabul	Bagrami	Agriculture Cooperative	AREA
Logar	Mohd Agha	Near Local Shop	community
Wardak	Miadan	Near School	community
Kabul	Istalif	Agriculture Cooperative	AREA
Kabul	Istalif	Local Bazaar	community
Kabul	Paghman	Agriculture Cooperative	AREA
Wardak	Jaghathu	Local Bazaar	HAFO
Wardak	Jaghathu	Agriculture Cooperative	HAFO
Parwan	Matak	Local Bazaar	RAFA
Parwan	Gulbahar	Local Bazaar	PRB

### Impact Assessment: Beneficiary Profile

From surveys conducted at all the price information board sites, we determined that a total of 36 villages with a total population of 9,521 households were directly benefiting from the 10 boards.

Before the price information board, farmers reportedly traveled to local/secondary markets to gather price information or relied on word of mouth. Traveling to local/secondary markets happened when the farmers visited relatives or bought agricultural inputs, but these trips were inconsistent. Often, they sold their goods without knowing their true market value—relying on prices quoted by visiting traders or shopkeepers.



Two farmers in Jaghatu transport wheat and hay to bazaars in nearby villages.

How Beneficiaries Got Price Information Before the PIB	
Methods	Percentage
From local markets	94%
From the nearest large city (Kabul or Ghazni)	94%
From members of the local community	83%

According to surveys, many of the farmers sold some of their produce in the village. However, although not apparent from the following chart, most produce volume was sold through traders. Farmers also cooperated, rented trucks and sold their goods in secondary and primary markets such as Ghazni, Kabul and Kandahar. The figures are misleading because some of the goods sold in Ghazni, Kabul and Kandahar are sold through traders—and the percentage of villagers using traders should in fact be higher than appears.

Where Villagers Sell Their Produce	
Location	Percentage of Respondents
In the village	89%
Shopkeepers	69%
Ghazni	50%
Traders (Domestic and Pakistani)	44%
Kabul	22%
Kandahar	11%

### Impact Assessment: Price Information Board (PIB) Usage and Maintenance

Overall, farmers used the price information boards. An average 40 percent of the villagers use the boards, and they're updated at least once a week. Villages far from major markets had greater use for the boards and consequently used the boards more often. Generally, a shura or elder council member maintained the board—a community service provided free of charge that helped to convince the communities of the service's usefulness. Half of the respondents mentioned that farmers had improved market information. About one-fifth mentioned a savings in time in terms of gathering price information.

The results correspond to just one growing season. However, the usage and interest shown demonstrate that farmers need market information. We expect the boards installed under this project to gain in popularity, as more people understand their function and utility.

<b>Frequency that PIBs were Updated</b>	
Frequency	Percentage
Every two weeks	11%
Weekly	31%
Twice a week	33%
2-3 times a week	25%

Overwhelmingly, shura members maintained the price boards, although they often collaborated with villagers in the maintenance.

<b>Maintenance Responsibilities</b>	
Lead	Percentage of respondents
Shura Members	81%
Various farmers/villagers	19%
Coop Members/villagers	17%

Generally, those who used the boards also maintained the boards.

<b>PIB Usage Patterns</b>	
Average percentage of villagers who contribute prices to the PIB	40%
Average percentage of villagers who use the PIB	44%

Half of the respondents reported that farmers could sell their goods themselves (and not through traders), presumably because they could negotiate better prices for their goods.

<b>Benefits of the PIBs, According to Beneficiaries</b>	
Comment	Percentage of Respondents
Now farmers can sell their produce themselves	50%
Easier access to prices for farmers and traders	50%
Saves time	17%

## Drip Irrigation

While Afghanistan has a well developed and sophisticated network of irrigation canals, many farmers still have to rely on wells to obtain water for irrigation. With the prolonged drought the water table has dropped drastically, and more economical solutions for water utilization are needed. Additionally, some of the long-term problems associated with feral irrigation are the excessive use of water, the build up of salts in soils, and potential conflicts with neighbors for hoarding water. World wide farmers are turning to more environmentally friendly drip irrigation for the cultivation of higher value crops.

During the course of the project, it became apparent that many farmers no longer have access to irrigation water due to the prolonged drought. Large segments of the country that used to be served by irrigation canals no longer receive an adequate supply of water to assure a crop, or for farmers to maintain their families. More and more farmers are being forced to use diesel pumps to obtain ground water as their source of irrigation. Adding the cost of pumping water to production is costly and not affordable by every farmer. With the water table continuing to drop the cost of fuel for pumping water increases. The increased production costs results in the farmers becoming less competitive in a market-structured economy.

In order to demonstrate the applicability of drip irrigation in Afghanistan, AQIP promoted the use of drip irrigation as a water saving device. The activity had two components:

### Family Gardens: Introduction

Fifty-six families were selected by the local NGO partners to participate in the kitchen garden drip irrigation systems activity. The families selected were asked to meet one specific piece of criteria: no access to an irrigation canal. However, some participants misled the project.

Each garden was equipped with six to eight 15-meter drip tapes to service the plot. On average, each kitchen garden measured about 120 square meters. As a result, gardens of this size enabled the participating families to sell a portion of their production and consume the surplus. The ability to commercialize production constituted a shift from the normal kitchen garden concept where families produce primarily for household consumption and sell only if there is surplus. Moreover, the selection of seeds demonstrates a selection of vitamin-rich crops that meet the increased demand for nutritional value in the country. Because the local NGO partners directed much of the kitchen garden activities toward women, Chemonics and the NGOs also expected these women to benefit from the vitamin content of eggplant, squash, melons, tomatoes, and sweet and hot peppers to combat pregnancy-related maladies.

### Commercial Gardens: Introduction

The commercial drip irrigation project blossomed from a plan to provide five commercial sites with drip equipment into a full-fledged investment by the farmers and families chosen to participate. More than just about the distribution of training, supplies like fertilizers and sulfuric acid, and guidance, the farmers took an active interest to promote and improve their livelihoods. The AREA NGO, responsible for implementing all five commercial projects, selected participants based on willingness, the unique plight of their farms or orchards, and an ability to invest in their futures.

Many of the farmers had dug large, deep wells from where they pumped water into the furrows of their land. The method is old and trusted—flood the land and the crops must grow. However,

flooding land presents problems such as weed growth, use of herbicides and pesticides, and extra labor to remove weeds. Flooding also takes a quick toll on the deep wells that suck water from the underground tables at an amazing rate in Afghanistan.

While some farmers participating in the commercial project decided to use the 200 liter steel blue tanks provided to the program through AREA, others went their own way entirely—constructing massive holding tanks, purchasing larger drums, and outfitting the garden or farm with pumps to fill these larger containers.

### **Project Design: Family Gardens**

In order to demonstrate the advantages of drip irrigation, all four NGO partners were involved to bring drip irrigation to at least 14 different families in 14 different areas. Here is where each NGO set-up their respective introduction to drip irrigation, by district and province:

- HAFO: Maidan Shahr, Wardak
- AREA: Charasiab, Kabul
- RAFA: Qa-e-Lefatu, Kabul
- PRB: Deh-Dana (section of outer Kabul city), Kabul (10 families) and Qal'eh-Lughman, Kabul (4 families)

Four of the five separate districts are located in Kabul—the decision was deliberate by the AQIP team so that they could administer strong oversight to the new technology. Moreover, keeping the projects close to Kabul city also facilitated in exhibiting project results to visiting officials or other donors who may have wanted a model for future drip projects.

Initially, the NGO partners were skeptical of the drip irrigation system and doubted that it would produce positive results. In interviews, all four NGOs indicated that although they had their doubts about the technology, they seriously doubted whether the villagers selected would maintain any confidence in the system at all. Yet, the NGO partners began conducting interviews to choose their beneficiaries in February 2003—two months ahead of the April 15 contract amendment. Again, NGO partners utilized relationships with shura and the ministry of irrigation in each area to help make the most informed decisions.

**2002:** Own crop production contributed between 30% to 50% of the food needs of people in the canal-irrigated area, and anywhere between 0% to 30% in the spring- and karez-irrigated farmlands.

AQIP prepared for the activity's implementation by arranging for a technical expert to spend three months in Afghanistan training NGO extension agents, families receiving the drip systems, and conducting training workshops for interested donors. Roberto Barrios, the expert, began work on the AQIP project in March. During his time in Afghanistan, Mr. Barrios trained NGO staff on how to troubleshoot initial nagging problems—like leaks, clogs and ill—fitting pipes. He also distributed certified quality seed and fertilizers for each family. With help from the project team, Mr. Barrios purchased troubleshooting gear for each extension agent, including screws, glue, twine, elastics, shut-off valves, and one-inch pipe and fittings.

Roberto and NGO staff built half of the units as training, and the other half were built entirely by the NGOs. Part of the system's reliability is the uniformity of its main ingredients:

- A 200 liter blue steel drum to hold the water
- Scaffolding or a water tower, 2.2 to 2.5 meters high, and a wooden platform for the tank
- 120 square meters of drip hose
- A filter and PVC pipe
- Shut-off valve

Before actual planting, families were asked to germinate their seeds and run the drip system for three straight days to establish a well-formed water pocket around the dripper holes. The water pocket determined where to plant the germinated seed for maximum growth potential. After planting, the NGO extension agent—a member of the immediate community where the systems operated—was given a bicycle by the NGOs to make daily visits to each family. He encouraged families to use the system, even when many were tempted to dump buckets of water into their gardens or flood the parcel. Developing a schedule—how many days per week to fill the water tank—was very important to the garden’s initial success.

Each person involved in the kitchen garden drip project had a duty to perform. In fact, each NGO signed Memoranda of Understanding with the project, which detailed the roles and responsibilities of each organization vis-à-vis the activity. The following is an abridged version of the memo:

#### *Chemonics’ Responsibilities*

- Purchase and ship the drip irrigation supplies and materials to Afghanistan.
- Assist in financing the installation of a small water tank and tower adequate to irrigate the family garden.
- Provide on-the-job type training to the NGO staff and community recipients pertaining to the installation, use and maintenance of drip irrigation systems.
- Chemonics will provide to each NGO partner a set of basic tools required to install the drip irrigation systems.
- Assure that the NGO staff is fully prepared to install drip irrigation systems for, subsequent AQIP beneficiaries without the need of constant oversight.
- Review, monitor and troubleshoot the drip irrigation systems installed by the NGO field staff.
- Chemonics will provide guidance to the NGO and farmers in selecting appropriate high value crops, appropriate for drip irrigation.

#### *NGO Partners’ Responsibilities*

- Work with the Shuras to select needy families that will be disciplined to plant family gardens and maintain the drip irrigation systems.
- Participate in Chemonics sponsored training, pertaining to the installation, use and maintenance of drip irrigation systems.

- Designate field staff to work with the Chemonics Drip Irrigation Specialist, for the installation of the initial drip irrigation systems. After receiving training from the Drip Irrigation technician, the NGO field staff will be responsible to assist recipient families install their drip systems.
- Provide guidance to recipient families pertaining to which type of vegetables usually bring higher prices in the market, and have high nutritional value such as vitamin A. Assist in obtaining high quality vegetable seeds.
- n a limited basis, assist families to plant very high value crops such as strawberries and flowers, which used to be cultivated in Afghanistan before the war.

#### *Recipient Farmers' Responsibilities*

- Must have access to a reliable source of water, which can be used to fill at least a 200 liter, water tank to adequately irrigate the family garden.
- Provide the unskilled labor to install the water tank and tower, and the installation of the drip irrigation system.
- Plant the vegetables as indicated by the Chemonics technician and the NGO field representative.
- Incorporate organic fertilizers into the garden, as instructed by the NGO field representative.

#### **Project Design: Commercial Gardens**

Finance all other production costs not specifically identified as a contribution of Chemonics or the implementing partner.

AREA selected a variety of commercial agriculture sites for this specific component of the drip irrigation program. The five sites measure nearly 16 hectares combined. During the interview process, AREA established a basic determinant for the commercial farmers who would take part: that the farmers selected cultivate crops with the intent to market most of the harvest, rather than producing primarily for on-farm consumption. The specifications below indicate the location of the commercial drip irrigation project, the size of the garden or orchard, all crops and types of trees grown, the number of trees (if applicable), and the number of families benefiting from the technology.

<b>Commercial Gardens</b>				
Location	Land Area	Crops	Water Tank Size	No. of Beneficiaries
Bagrami	4 hectares	Vegetables	2000 liters	6 families
Charasiab	2.5 ha	Vegetables and Apricots (250 trees)	2000 l	5 families
Paghman	2.2 ha	Apples and Apricots (2,410 trees)	5,600 l	6 families
Paghman	5.0 ha	Apples and Apricots (6,584 trees)	56,000 l	1 family
Shakar Dara	2.0 ha	Grapes, Apples and Apricots (2,457 trees)	2x 1,710 l	4 families

The commercial farmers assumed a greater responsibility with the project than did the family gardeners. Because their collective livelihoods were staked in the new technology, the farmers and growers recognized both an investment and risk with the drip systems. As stated above, these five farmers invested their own time and money by digging deeper wells, buying diesel pumps, expanding on the drip project through planning and new practices, and investing in larger water tanks through materials and time spent on the construction.

The AREA NGO also recognized the level investment offered by these farmers, and offered the services of its engineers to help farmers expand their operations. For example, the farmer from Paghman II who constructed a 56,000-liter concrete vat received assistance and guidance from AREA staff, though the farmer purchased all supplies himself. The Bagرامي and Charasiab gardens were provided with seed through the NGO, indicated as tomatoes, eggplant, pepper, pumpkin, and cucumbers. And each commercial garden received a supply of fertilizers, including urea, diamonium phosphate (DAP) and a potassium-based compound.

The larger capacity farms and orchards called for larger capacity systems. Therefore, instead of the usual 120 meters of drip tape distributed for the kitchen garden, the commercial gardens used a variety of rubber hoses and PVC pipes to meet larger demand. The Paghman II orchard, for example, has replaced the need to pump water from the well into the irrigation furrows by pumping the water directly into the holding tank. The farmer uses two diesel pumps to send water from his shallow well to the large concrete holding tank that sits on a hill well above the orchard. From that position, gravity takes over when the farmer turns the release valve. When released, gravity then draws the water to 12 sections of the orchard through thick rubber hoses. Drippers—inserted by hand at the correct locations by farmer, NGO extension agent and Chemonics technical specialist—are placed near each tree’s trunk, and drip at a rate of one gallon per hour. The farmer and his sons re-dug and reinforced an old well in the orchard to provide the holding tank with a stable water supply. The system is extremely efficient compared to the former flooding practice.

The NGOs signed a Memoranda of Understanding that outlines the roles and responsibilities of each organization vis-à-vis the commercial garden component. They include:

#### *Chemonics’ Responsibilities*

- Chemonics will purchase and facilitate the distribution and installation of the drip irrigation supplies through selected NGOs. Chemonics will also assist in financing the installation of an elevated water tank, adequate to irrigate one hectare of crops per day.
- Chemonics will provide ongoing drip irrigation training for the NGO Implementing Partners staff that will consist of conventional classes, review of drip systems, calculating water requirements and field demonstrations.
- Negotiate an enter into an agreement with the International Fertilizer Development Corporation (IFDC) to conduct soil analysis and provide fertilizer for the garden sites.
- Chemonics will provide to each implementing unit a set of basic tools required for the installation of drip irrigations systems.

- Make an effort to provide quality vegetable seed to the participating farmers.

#### *NGO Partners' Responsibilities*

- Identify several farmers which qualify for drip irrigation systems, and then coordinate with Chemonics for the final selection
- Designate staff to be trained by Chemonics for the installation and maintenance of drip irrigation systems. After receiving training, work with recipient farmers to install and maintain drip irrigation systems on their farms.
- Coordinate with the International Fertilizer Development Corporation (IFDC) for it to conduct soil analysis and distribute fertilizer for the commercial drip irrigation gardens.

#### *Recipient Farmers' Responsibilities*

- Have access to a reliable source of water, and the pumping mechanism to fill the water reservoir on a daily basis.
- The farmers will finance the agriculture inputs, land preparation, seeds, chemicals, and fertilizer not provided by IFDC or Chemonics. All other production costs are the responsibility of the recipient.
- The farmer will provide the labor required to install the water tank and tower, the drip irrigation system including the laying of the drip tape and polyurethane tubing. The farmer is also responsible for system maintenance.

### **Project Activities**

In March 2003, Chemonics recruited a knowledgeable drip irrigation specialist to come out to Afghanistan to work with the local NGOs and the beneficiary community. All 56 family systems and five commercial systems were up and running as soon as the weather permitted. On the other hand, some of the beneficiaries were poorly selected because they had access to canal water. These participants had no incentive to use the drip irrigation systems, especially when the system did not function according to plan. For example, the project experienced issues locating PVC pipes and fittings that conformed to international standards and did not leak (please see factsheet on drip irrigation lessons-learned). The installation issues were overcome through months of refining the troubleshooting approaches, and some solutions included heating pipes to create malleability to join oversized fittings and a combination of glue and nylon ribbon to mitigate leaking fittings. Moreover, the AQIP staff contacted and worked alongside the International Fertilizer Development Corporation (IFDC) to provide the project with reputable soil analyses for each site. IFDC then distributed fertilizers to the beneficiaries based on those findings.

### **Results: Family Gardens**

One original emphasis of this activity was the transition from consumption of family garden production to its subsequent commercialization. However, participants sold only 6 percent of their production. In addition, introducing drip irrigation proved difficult—more so than planned—due to the following reasons:

- Mis-selection of families who had other means of irrigation water.
- Wariness of the new technology and its effectiveness.

- Lack of manpower/unwillingness to fill the drip irrigation tank if no water pump existed.

Over 35 percent of the families relied solely on drip irrigation and 31 percent combined canal irrigation with drip irrigation—much of the rest used their original form of irrigation and did not use drip irrigation at all. Of the families using drip irrigation, however, most remained enthusiastic about the system and many mentioned that other farmers inquired about the system.

<b>Type of Irrigation Used in Family Gardens</b>	
Irrigation Means	Percentage of Respondents
Drip Irrigation	36.4%
Drip Irrigation/Canal	31.1%
None	9.6%
Canal	8.6%
Water pump/Feral Irrigation	6.7%
Water pump/Canal	3.8%
Not Specified	1.9%
Canal/Well	1.0%
Drip Irrigation/Well	1.0%

### **Results: Commercial Gardens**

The family gardens experience was governed by the participants' involvement and initial enthusiasm for drip irrigation. Although commencing slowly, all owners expressed satisfaction with the system in the end, and some requested more extension services and training. Two of the five gardens sell their production on a retail basis in Kabul and local markets. Two more sell to traders. And the one remaining sells wholesale to shopkeepers.

Many of the gardens experienced increases in production and income. However, there were some other conditions that contributed to the changes in production and income—either positively or negatively:

- One garden suffered from frost.
- Two gardens had extraordinarily low production in the previous year (2002) due to the drought. As a result, much of the production was consumed rather than marketed.
- One of the gardens contained a 6,584 tree nursery. Some of the trees will be mature next year and produce fruit for commercialization.



The 20-year-old son of Hagiabduul Habib, owner of the 10,000 tree Paghman nursery using drip irrigation, loads crates of apples headed for the bazaar. After years of drought, the family experienced tremendous success in 2003. Their income rose by \$15,629. The apricot crop increased by 16,880 kg.

<b>Change in crops and income due to drip irrigation</b>			
Name of Owner	Change in yield	Increase in percent of crop marketed	Total change in income
H.A. Habib	+8400 kg apples <sup>1</sup> +16,880 kg apricots <sup>1</sup> +1,400 kg plums <sup>1</sup> +400 kg almonds <sup>1</sup> +48,000 kg peaches	100% <sup>1</sup> 100% <sup>1</sup> 100% <sup>1</sup> 100% <sup>1</sup> 0% (already 100%)	\$15,629
M. Akbar	+26,850 kg apples <sup>1</sup> +425 kg peaches <sup>1</sup> +1,000 kg plums <sup>1</sup>	100% <sup>1</sup> 100% <sup>1</sup> 100% <sup>1</sup>	\$3,922
Ahmad Shah	+210 kg of various crops (switched from tomatoes and eggplant to chilies and potatoes) <sup>3</sup>	8% increase (90% to 98%)	\$115
H. Yasin	-15,750 kg onions <sup>2</sup> -1,309 kg potatoes	0% (already 100%)	-\$6,284
H. Sardar	+1,050 kg grapes -500 kg plums +1,100 kg peaches +310 kg apricot <sup>2</sup> +220 kg apples <sup>2</sup>	5% increase (from 95% to 100%)	\$2,120

1. Yields the previous year were extraordinarily low on these crops due to drought. Fruits were consumed rather than marketed.
2. These crops were not exposed to drip irrigation.
3. The figures do not reflect a 6,584-tree nursery that will be mature and ready to sell next year.

Drip irrigation also saved the farmers money by allowing them to pump less water from wells and canals. Pumping water requires the farmers to spend money on diesel and regular pump maintenance. With drip irrigation, the farmers needed to pump less water—in some cases 90% less—as the technology delivers the water directly to the base of the plants and reduces evaporation and the growth of weeds.

<b>Increase in water due to drip irrigation</b>		
Name of Owner	Water source	Increase in available water from using drip irrigation
H. A. Habib	Well, canal	From 45% to 90%
M. Akbar	Well	From 30% to 60%
Ahmad Shah	Well, canal	From 80% to 90%
H. Yasin	Well	0% (already 100%)
H. Sardar	Well	From 95% to 100%

## Women Experience New Beginnings, Drip by Drip

*Fresh on the heels of 20 years of war and five years of drought that pushed the limits of food security, USAID introduces a new technology to 56 families searching for a new beginning.*

The blue aluminum door opens from the brown, dusty village road into the family's yard, and suddenly the landscape is alive with green, yellow, orange, red, and purple. Vines hang from latticework and archways, an apple tree shades the house, and flowers sweep back and forth in the afternoon breeze.

"Mom picks the tomatoes every other day and I fill the tank," says 12-year-old Omid, standing among the lush garden hidden behind the mud walls of the family compound in the Charasiab district of Kabul.

Omid's mother kneels on the smooth cement patio, drying tomatoes on towels and rugs. She stands, discreetly removes the scarf from her mouth and face and talks about the family's good fortune in gardening.

"This year was better than the other years," she says. "It's not much work: Omid fills the tank three times a week and I work in the garden everyday."

### Progress for Family Gardens

The "tank" sits about six feet above ground on a wooden platform supported by metal scaffolding. It is steel and blue, something resembling a water cooler you might see at a football game. From a spigot snakes the PVC tubing containing the filter, and four lines of black "drip tape" branch from the water filter to reach rows of plants in the garden.

Gravity works to pull water from the raised tank, through the filter, and out through the perforated tubing. Pin-sized holes in the tape dispense a fraction of the water of traditional methods of family gardening, which vary from throwing buckets of well water into the garden to flooding the plot with stream runoff.

For those families without access to any other means of irrigation and struggling through food shortages, USAID has introduced drip irrigation to Afghanistan. Four local NGO partners selected 56 families, including Omid's, in the provinces of Kabul and Parwan to participate in a simple, revolutionary technology that has worked so effectively in other developing countries. Over one-third of the families selected for this project now rely solely on their drip

systems to produce harvestable and consumable crops—nearly 20 families or 160 people. And unlike traditional irrigation, drip systems will improve and expand with greater awareness, saving water supplies and boosting family food security.



### Promoting, Protecting Human Rights

Because women and children are more likely to have flexible time during the day to cultivate the garden, the drip projects have also increased gender awareness through vocational exercises. Just getting women to attend the training sessions delivered by the local NGO partner and implementing partner's drip expert is

accomplishment alone. But when you walk through the gardens and see the tomatoes ripe on the vine, the fat sacks of grapes hanging from the leaves, eggplants, green and red chili peppers, melons and squash—you realize these families have tools to build for the future.

A family garden is not large. Usually a plot varies from 120 to 400 square meters, so the amount of food harvested cannot adequately feed the average eight-person family all year. However, the garden cuts food shortages dramatically while improving nutrition with vitamin-rich crops. Vitamin-A deficiency ranks among the top maladies for pregnant or lactating women in Afghanistan, causing night blindness and contributing to malnourished fetuses. Women are 60 percent of the Afghan population, and they have about 6.6 children in their lifetimes. With the infant mortality rate hovering dangerously close to 170 deaths for every 1000 live births, something as simple as a vitamin-A rich eggplant, chili pepper or melon can achieve miracles. Omid and his two younger brothers—all attend school—surround their mother's dress. She sits on the cement patio and cleans an apple on her skirt.

"My husband helped plant the seeds and does fertilizer sometimes," she says. "But Omid and I work every other day together. ...Don't you think it is beautiful?"

## USAID Bolsters Commercial Gardens and Orchards

*Afghanistan's water crisis goes well beyond individual families and people to cripple commercial farming businesses. Some farms and orchards are located just out of reach of the canals.*

When you have 6,584 fruit and nut trees and no reliable source of irrigation, “been there, done that” becomes your personal motto. At least that’s the case with 64-year-old Habiabdul Habib, owner of the five-hectare orchard receiving drip irrigation assistance from USAID.

“We have a well, but the pumping everyday is too much,” he says, beginning to catalog the past disappointments one after another. “The canals in the village deliver water only one or two months each year. And you must pump from down there.” His finger points to a low spot about half a mile away. “Also, the clay in the dirt clogs the pumps. Our pumps break.”

But his orchard is alive with green treetops in the middle of brown Paghman, a district of the Kabul province that was especially hard hit during the five-year drought. And despite heavy winter snow and increased rainfall in 2002 through 2003, Paghman continues to suffer from a water shortage. Drinking, cooking and irrigating land are challenges, as Habib indicates by pointing at the cracking earth below his feet.

Yet, Habib’s 20-year-old son loads wooden crates full of green and red apples. Apricots, peaches, almonds, mulberry, and plums grow in different sections. The orchard donkey is packed with two crates at a time and has made at least four trips in one hour to the family’s home. With 24 members of the family living together under one roof, it’s no wonder Habib has invested so much time and money into the project with USAID.

“Without the system, this would all be dry,” the farmer says. “And we would have nothing.”

Like when they returned to their home from Pakistan five years ago. Habib and his family spent 12 years living as refugees while their home was destroyed by

Taliban and Northern Alliance fighters. But at home in Afghanistan they met another foe: the drought. And now conserving water preoccupies the farmer.

Above, the donkey takes another load of apples to the barn. On a hill, overlooking the orchard is the heart of “the system”: a 56,000-liter cement-



The donkey takes another load of apples to the barn.

holding tank. Based on the drip irrigation technology that relies mainly on gravity, a conservative water supply and clear pathways of delivery, Habib’s system is the largest-scale drip project in the area funded through USAID.

Rather than pumping water from the well into the irrigation furrows and hoping for enough water to flood the orchard, the farmer now pumps water directly into the holding tank. The system shuttles water by two diesel pumps from a shallow well to the large concrete holding tank, where sediments such as clay settle to the bottom. When released, gravity then draws the water to 12 sections of the orchard. Drippers are placed near each tree’s trunk and drip at a rate of one gallon per hour.

The holding tank and diesel pumps were Habib’s contribution to the project in cost and labor. He and his sons re-dug and reinforced an old well to squeeze a few more meters from the water table. And the results have paid handsomely.

Although his trees are young and vulnerable, ranging from two to seven years old, everything—after a spring frost threatened the entire harvest—was delivered and sold to the market this year. Plus, the food itself comprises a majority of the family’s diet, making self-sufficiency a byproduct of commercial success.



The orchard remains green even after the harvest.



Habiabdul’s 56,000-liter water tank sits over the family orchard.

## Hand pumps for Drinking Water

Much of what can be said about the shortage of irrigation water can also be said about the shortage of drinking water, or potable water. On the other hand, because water is necessary to support life, the potable water emergency speaks with immediacy and presents some terrifying facts about the quality of life in Afghanistan, the world's poorest developing country.

Over 6.1 million Afghans are vulnerable. Simply put, that means Afghans of all ages require basic food items, are drinking unclean water and lack medical supplies to care for their sick. Unclean water contributes to over 7,800 cases of diarrheal disease in Kabul city each week. Once the disease racks a body with chronic diarrhea, the person is extremely vulnerable to dehydration and a weakened immune system. Although the disease applies to all people in Afghanistan—because all people living there are vulnerable—it affects children the most. And not only do unclean water and diarrhea affect children, they kill children by the tens of thousands each year.

In a country where women give birth to approximately 6.6 children in their lifetimes, Afghanistan's infant mortality is an appalling 170 deaths per 1,000 live births. For children 5 years and younger, the number soars upwards of 257 children per 1,000 live births.

The rural areas are hardest hit by water shortages. Unlike in Kabul city, where it's easy to spot a stainless steel hand pump on nearly every other street corner, the rural areas lag far behind Kabul's water accessibility. Water pumps are spotted less frequently in these areas. Sometimes those spotted are connected to dry or contaminated wells. That's when villagers may seek other sources for their drinking and cooking water, and often they rely on streams, rivers and standing water collected from floods and rain. Streams and standing water are prime breeding grounds for insects carrying deadly diseases, such as malaria-carrying mosquitoes. International aid organizations are combating contaminated wells through chlorination programs that attempt to reach the rural-dwelling Afghans who are less likely to receive medical attention. And USAID is meeting the water shortage head on through the establishment of new c

### Construction of Handpumps

Community labor and the AREA NGO constructed 52 community wells and hand pumps for drinking water in the Kulanghar and Kushi districts, Logar province, in response to the area's severe water crisis. Similar to the shallow irrigation wells, the NGO utilized the community's motivation and participation, exchanging their collective labor for hand pump wells. Each well is equipped with a concrete seal, base plate and stainless steel pump. The NGO worked in coordination with the Ministry of Rural Development and the local shuras to target the areas most in need. Once the sites were selected, the community members worked in three-person teams to excavate the shallow wells from 35 to 40 meters deep. After the rainy season passed and conditions were suitable for excavation, the laborers took turns digging the earth and filling a bucket, hauling up the bucket on a winch, and discarding the bucket's contents. On average, each well services the water needs of approximately five families, or 200 families combined.

The community members reportedly worked about 30 to 60 days to excavate each site. AREA staff, including engineers responsible for oversight, assisted in the remaining steps: construction, framing, reinforcement, purchase of cement, steel bars and rings, and brick.

Framing and reinforcement of the well's interior structure was accomplished by lining the walls with brick and cement. Workers placed steel rings about every three meters between the bricks and cement

for greater stability. Each well was completed with a top ring, a top ring cover or seal, and then finished when AREA engineers poured and set the pedestal base plate. Demonstrating commitment to the community, the AQIP staff—Chemonics and AREA staff—ensured that proper training was given to the community water committee. Training consisted of the proper way to use the pump, including pumping motion and maintenance of the pump and concrete seal. Community members were instructed on how to locate replacement parts if necessary. And when the AQIP staff inspected each well to make sure construction met high quality standards and that each well was sealed properly, Chemonics and AREA turned each well over the community.

## USAID Provides Wells for Drinking Water

*A water shortage in Afghanistan forces many to settle for streams, canals and standing pools that cause severe sickness and even death. Many of those affected are children. USAID has responded with a community well program.*

The stream along the road in Kulanghar is murky. Children play nearby, spitting into the water. Goats crowd the road to steal an afternoon drink. A green film has formed a snake-like pattern on the water's surface, but the pattern does not move like a snake. The stream is stagnant. Yet, something does move just below the water. Something white, almost translucent, and—after another inspection—there are many.

If you need water from this stream, you will also need a net to filter out the worms, says 55-year-old Ghulam Mohammed.

After watching his own 13 children become extremely ill with diarrheal disease four to five times per year, Ghulam does mind the worms. In fact, he minds so much that when USAID's implementing partner surveyed Kulanghar for possible drinking well sites, Ghulam told the local NGO that he would excavate the 30-meter well himself. But the NGO returned a few weeks later with good news: Ghulam didn't have to work alone. And, better still, his village would participate in a USAID-funded program to install 40 community hand pump wells, averaging 37 meters deep, in three rural Logar districts.

Today the pumps are installed, the water is flowing and everyone, it seems, carries a jug, pail or teapot filled at the new wells. Altogether, the wells benefit over 200 families, or nearly 2,000 individuals.

Clearly, all Afghan parents face harsh realities: an under-five mortality rate of 257 dead children per 1,000 living. Unclean drinking water contributes significantly to those harsh numbers. Severe cases of diarrheal disease were on the rise even in Kabul in 2003, with an estimated 7,800 reported each week. Many rural villages turned to chlorination when available. But the chlorination campaign did not reach Kulanghar. And villagers watched well water levels drop as much as five to 10 meters in the last year thanks to a new breed of dangerously deep wells, excavated 70 meters into the earth for the benefit of a precious few.

Just five meters away from a shiny, new stainless steel pump and waterspout sits the old well, only 16 meters deep and useless. Ghulam remembers helping his father and older villagers dig that structure over 40 years ago. They drank from the stream then, too, and children died over



A child approaches one of 40 new community wells in Kulanghar, Logar for a drink.

the summer months from diarrheal disease. Sometimes village members would come together to dig a well, but poor construction, poor maintenance, fighting, drought, and falling water tables would send everyone right back to the stream with buckets.

Eighty-year-old Abdulgahfar knows the chance of the stream: He lost six brothers to violent stomach illnesses, he says, more than 60 years ago. So the large-scale effort to install the hand pump wells came as a shock to the old man after all these years. "They [America] did not forget us," he says surrounded by at least 20 children. "We are a good village and our children go to school, boys and girls. We have vaccine, a new school and clean water now. It is good for the children."

An 11-year-old girl fills a silver teapot from the community pump. The water is clear and cold and overflows from the pot while she giggles with friends. Ghulam makes his way over to the well and pats the cool cement cover, talking about the level of effort required to excavate 30 meters into the ground. One man dug with a shovel, another pulled buckets of dirt from the deepening hole, and one more discarded the soil. They worked for over a month, exchanging labor for these clean water structures. And there are several men in the village experienced enough to fix any future problems that may occur, he says.

"The NGO sent us a mechanic" for training, says Ghulam. "But many of us here are mechanics, and we can take care of ourselves now."

## **NGO Capacity Building**

### **Partners in Revitalization and Building (PRB)**

“A quality NGO has a strong financial system or accounting network,” PRB director Noor Hussain explains. “The board of directors demands this. And this is where Chemonics gave us our first new idea, and we knew Chemonics was very good.” Hussain refers to how Chemonics set out to strengthen the accounting practices of each NGO, PRB included, by offering training sessions and access to QuickBooks accounting software. “You just put in the numbers. It’s very easy. And now we will always use this.”

The two organizations worked as partners, Hussain says, unlike the traditional contractor and subcontractor hierarchy. Chemonics always invited PRB representatives to discuss situations where technical aspects of planning or practice were in dispute or unclear. For example, government regulations in Afghanistan ask that all state-sponsored construction work end by November 15, says Hussain. That is because extremely cold temperatures often outweigh the level of innovation and skill available to make progress. Chemonics then introduced two new, invaluable methods to PRB during construction of the Khwaja Hassan diversion dam and canal to facilitate the project’s continuation.

The first training session involved using calcium chloride in the cement mix to prevent freezing before the cement could properly set and harden. “Some days were 15 degrees [Celsius] below zero. But we poured the concrete anyway with this mix,” Hussain says. “Still our workers could not work in that cold standing in one place.”

Chemonics recognized the dangerous situation in below-freezing temperatures. The AQIP team recommended that PRB build a greenhouse-like structure around the work area. Using plastic sheeting, some wood and nails, workers quickly constructed the housing and brought in heaters to raise and control the temperature.

### **The Agency for Rehabilitation and Energy Conservation (AREA)**

Chemonics provided all four NGOs working on AQIP with equal amounts of training and access to accounting software to strengthen their overall accounting practices. Although AREA is a reputable organization with five regional offices (one in Peshawar, Pakistan), a company website and a decentralized management team that the interim government prizes for its expertise, the NGO still kept most financial books by hand. The introduction to QuickBooks software by Chemonics has opened a new chapter in responsibility and transparency for each NGO. AREA and the other NGO partners still maintain handwritten accounts and records until their entire staff is comfortable using the software. Nevertheless, the transformation from handwritten to computer-assisted accounting practices is underway.

“We shared a close relationship with Chemonics,” says AREA coordinator Engineer Khiyal Shah. “We taught them about Afghanistan, about going through the ministries and the shura, and they shared experts with us and talked openly at meetings.”

Shah also gives credit to the Chemonics drip irrigation technician, Roberto Barrios, for adapting to a difficult environment. “He trained us and encouraged our technicians to solve problems any way they could. That is how you work in this environment.”

The AQIP team introduced drip irrigation to Afghanistan in the spring of 2003. The 56 families selected with assistance from local shura and on account of each family's interest, met some obstacles in the project's initial startup phase. Leaks in ill-fitting pipes and clogged drippers accounted for a majority of those problems. Using what materials he could gather, Barrios walked NGOs and families through a host of troubleshooting routines. He tightly wrapped rubber bands and rubber tape around ill-fitting pipe connections. He warmed the PVC fittings until they were malleable enough to create a natural gasket to secure the fittings. And he coached families to bypass the more expensive sulfuric acid flush to clear the drip tape of clogs by using a practical substitute—vinegar.

### **Helping Afghan Farmers Organization (HAFO)**

The implementation of drip irrigation systems for 14 families presented all four NGOs with some technical issues. However, Chemonics did provide the project with a knowledgeable technical expert who has helped implement the technology in other developing countries. Issues with procuring standard, uniform drip equipment presented some early obstacles, though. The technical expert remained in country to train and troubleshoot the difficulties, and took the NGO partners and their extension agents into counsel concerning those issues.

“We did have training with this new technology, but more is required to sustain the system here,” says Engineer Sayed Jawed, director of HAFO. “Partnership is partnership. The donor should always try to improve capacity when possible. Perhaps we did not take charge of the situation when we should have, especially with the dam.”

The diversion dam and Khanano canal reconstruction are fine examples of Chemonics working closely with HAFO to solve difficulties. Despite poor workmanship and lack of appropriate knowledge about the geological condition of the area, Chemonics and HAFO worked together to fix mistakes that are likely to occur when the amount of unskilled labor outnumbers skilled by nearly 15 to one, totaling 10,500 person days. Meetings between project engineers, site visits, special sessions to discuss recurring issues, and changing the project's design to provide greater stability against area floods—Chemonics and HAFO executed all these together. In the end, the Khanano structure provided 2,590 people with over 7 km of cleaned canals and 240 hectares of irrigated land.

### **Reconstruction Authority for Afghanistan (RAFA)**

“It was a project and institute for us,” Engineer Abdul Rashid Ghyasi, director of the RAFA, says about working with Chemonics on AQIP. “We will finish the project and move on, but the RAFA staff trained by Chemonics is part of the future of Afghanistan forever.”

Chemonics visited the Ghorband River dams frequently with engineers and demonstrated the community's work to officials from the United States government, which constantly uplifted morale on the site. Conversations at the site office were like impromptu training sessions for RAFA and site engineers, says RAFA site engineer Qader. They pored over blueprints and discussed options when the work reached a hurdle, like one of at least three floods, the freezing winter cold, or the river's unwieldy course.

“They are like a teacher to us,” says Ghyasi about Chemonics. He provides another example in discussing the monthly report, a requirement from USAID and Chemonics. “We had never written a monthly report before. And now we know that it is better to get a handle on our work, to assess our capacity and quality.”

## Rebuilding Afghanistan: A Conversation with Local Afghan NGOs

*Rebuilding Afghanistan requires professional, skilled and visionary men and women. As the number of NGOs rises with each project, so do the amount of hack agencies concerned only with self-gain rather than the future of the country. The AQIP NGOs—all are local—sat down to share in a conversation about the AQIP project, the future of Afghanistan and their places in it.*

The Darulaman Palace, right, barely stands, abandoned and destroyed in Kabul city.



### Partners in Revitalization and Building (PRB) contributions by Engineer Noor Hussain

#### *Projects Implemented*

- Gulbahar flood protection walls, dikes, control gates, canal cleaning, and Khwaja canal intake
- Poultry production in Istalif, Shakar Dara and Kalakan
- Drip irrigation in Charasiab, family gardens
- Patu weaving in Shamali
- Embroidery in Shamali
- Khwaja Hassan canal and water diversion dam in Istalif
- Karez rehabilitation in Istalif
- Oil seed press in Istalif

#### *Why AQIP?*

“I remember the CNN report just after the other NGOs started flooding Shamali,” says PRB’s acting director, Engineer Noor Hussain. “The reporter said, ‘Welcome to the burned city.’ That was our beginning here.”

Kabul-based PRB is very familiar with the Shamali Plain region of Afghanistan. The organization has led reconstruction projects and input programs in the area since that news story aired in December 2001, when only 200 returnees slept in UNHCR tents, in desperate need of food and shelter.

“We had a staff here. We had an office here. And people started coming to our office and requesting help, and that’s how we built our relationship with Shamali people.”

PRB concentrates much of its expertise in agricultural food security efforts funded by outside governments, and takes the occasional infrastructure project in dams and canals, as long as the connection to food security is evident.

#### *Lessons Learned*

Above all, Hussain says, use reinforced concrete. There is a certain “handout mentality,” Hussain says, where the villagers expect the NGO to contribute materials and labor, as well as maintenance. The ideal participants are people “truly interested in farming, or raising chickens,” he says, “not just receiving stuff for free.”

Projects like canals may fall into disrepair if the NGO does not return to provide upkeep. That’s why Hussain promotes more training to build incentive within the community. Simple steps are crucial, such as getting farmers involved in cleaning the canals to improve water flow. He uses the poultry production program to illustrate his point.

“We gave feed and building materials to the people to give more incentive,” he says. “This was unique. It goes beyond traditional development work because these things are considered inputs. Some NGOs provide these materials on loan or credit. But we really want people to grow with our experience.”

NGOs cannot continue to overlook establishing a relationship with the villagers within the community, Hussain says. While ministries and shura get undivided attention, a family still will not allow NGO representatives to talk with women unless they truly feel the organization has best intentions. Therefore, promoting gender awareness, for example, begins before implementation.

### *Capacity Building Measures*

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### *The Future of Afghanistan with NGOs*

A strong Afghan NGO must be built with Afghan resources, Hussain says. In other words, the capacity of the central government to properly fund and manage the services of an NGO is crucial. There is no compromise for proper planning and managed structure. Hussain points out that there are over 1,000 Afghan NGOs now operating in this country of roughly 26 million.

“Most have no office, not more than two or three employees, no management system, no financial network,” he says. “Just connections with foreigners, United Nations agencies, or they bid unreasonably low on development projects. That

will not help Afghanistan build a future. That builds corruption.”

The basic problem, Hussain says, is that the quality of work is very low because there are so many NGOs operating without a specialty focus or area of expertise. Moreover, most don’t even own their own equipment.

While a strong country rests in the hands of a strong development and reconstruction campaign, strength will come only when the Afghan



A small girl herds goats along the Ghorband River in Charikar, Parwan. RAFA constructed three dams that will benefit nearly 300,000 people downstream.

government establishes power and influence, Hussain says. Then the government can rein in the inexperienced, ineffectual NGOs, create an umbrella network for the true professionals, and provide proper management and oversight to build for the future of Afghanistan.

### **The Agency for Rehabilitation and Energy Conservation (AREA)**

contributions by Engineer Khiyal Shah, ACD and coordinator, and Engineer Sakhi, site engineer

#### *Projects Implemented*

- Constructed 20 km of road in Jaghatu district, Wardak province
- Building bridge on the Jaghatu to Rashidan road
- Constructed 40 community wells for drinking water in Kulanghar and Kushi districts, Logar province
- Constructed eight shallow wells for irrigation in Kulanghar and Charasiab districts, Logar province
- Drip Irrigation for 14 families in districts of Charasiab, Bagرامي, Paghman, and Shakar Dara
- Commercial drip irrigation for five participants in Paghman, Charasiab, Bagرامي, Shakar Dara

### Why AQIP?

“You may not think so, but one thing we have [in Afghanistan] is a local traditional system,” says Engineer Khiyal Shah, ACD and coordinator for AREA, one of four local Afghan NGOs that implemented AQIP along with Chemonics. “The elder is still the man you go to today. But organizations like USAID and Chemonics have given improvement. Therefore, the shura have expanded—from one man to whole councils in some places—because they were given more responsibility through greater improvement. The most important thing is to give responsibility back to the people, and AQIP is good for this.”

AREA’s reputation in Afghanistan and the region rivals only the most respected nongovernmental organizations, says Shah, because they have always pushed to build an Afghanistan that offers everyone a sustainable livelihood. The organization stresses integrated community development, similar to the message of the USAID impact projects. Since 1993, AREA has built a special relationship with Afghans through high-quality work in the fields of agriculture, community development, construction, energy technology, and mine clearance and awareness programs. AQIP allowed AREA to utilize a majority of their experience while sharing in innovation.

“This project represents a change,” he says. “When a project comes along and brings jobs—the cash for work—and people get used to pay every month, that takes something that people see as for private benefit—like the roads, because only few are traders or own cars—and makes it to everyone’s benefit.”

Shah also discusses the drip irrigation projects as “revolutionary” in the country.

“This is something I was very excited about,” Shah says. “It’s a brand new technology here that we want to share. The results were good, and that is what will convince people.”

### Lessons Learned

True. Success does breed more success. The family and commercial drip irrigation projects implemented by Chemonics and AREA now have a modestly successful baseline for comparisons. Just as important is how AREA improved their outreach practices during the training stage to allow villagers not selected for the program to gain education about the technology. That helped generate interest and conversation among villagers concerning better irrigation practices.

“We had a lot of people who wouldn’t believe this system could work,” says Engineer Sakhi, AREA’s site manager and engineer for all AQIP

projects. “But they see the results now and want us to come back with more equipment next year.

“Convincing people is very important for any project to succeed,” Sakhi says. And more incentive doesn’t hurt, either.



A boy fixes flat tires on the side of the road in Kabul. Approximately 947,126 skilled laborers and 1,172,308 unskilled laborers returned to the country since early 2002.

Both Shah and Sakhi noticed a drop-off for available labor in the past year. That forced AREA to recruit laborers, but the situation actually has a positive message, Shah says.

“People are working on rebuilding houses now. There are more jobs available. So, if you get someone to work on your house with you, they not only get money, but you must feed them lunch and tea. So, maybe we will provide lunch and tea to attract more workers.”

### Capacity Building Measures

Chemonics provided all four NGOs working on AQIP with equal amounts of training and access to accounting software to strengthen their overall accounting practices. Although AREA is a reputable organization with five regional offices (one in Peshawar, Pakistan), a company website and a decentralized management team that the interim government prizes for its expertise, the NGO still kept most financial books by hand. The introduction to QuickBooks software by Chemonics has opened a new chapter in responsibility and transparency for AREA.

“We shared a close relationship with Chemonics,” Shah says. “We taught them about Afghanistan, about going through the ministries and the shura, and they shared experts with us and talked openly at meetings.”

Shah also gives credit to the Chemonics drip irrigation technician for adapting to a difficult environment.

“He trained us and encouraged our technicians to solve problems any way they could. That is how you work in this environment.”

#### *The Future of Afghanistan with NGOs*

“The NGO was considered a spy for outside governments when we started in 1993,” Shah says, looking back on Afghanistan’s history with NGOs. “You could only do humanitarian work. Small projects. The ruling authority would not allow ‘development’ because then NGO employees may



Istalif village, 12 km north of Kabul city, is at the heart of the Shamali Plain area. The area is commonly called Afghanistan’s “breadbasket.”

make more money than may government employees. That’s how centralized governments think. They may provide good security, but nothing else for the people, for the future.”

The struggles between the few Afghan NGOs of the early 1990s and the government kept many donors away during hard times, Shah says. There has always been one fundamental difference between Afghan governments of the past 15 years and NGOs: only the NGO builds and rebuilds for its country.

As more and more NGOs position themselves to help rebuild Afghanistan, Shah sees a divide forming within the community: “There are straight contractors, and there are NGOs. And you cannot confuse the two,” he says.

The NGO of the future will answer to an Afghan government that has “power, strategy and credibility. The NGOs must also have a strategy and credibility—with a board of directors and legitimate decision-making process—but a proper government uses its power to give back to the people. We help them do that.”

For example, he says, it used to be that roads were built in Afghanistan only when governments—Afghan or foreign—wanted to move troops and weapons. Slowly people realized that quality roads

were necessary to gain medical attention or contact with market centers, and apprehension about road construction disappeared.

“Today people come to our field offices demanding that we build roads. In the future, they will go to the government through a local NGO.”

**Helping Afghan Farmers Organization (HAFO)** contributions by Engineer Sayed Jawed, Director and Founder

#### *Projects Implemented*

- Cleaned and rebuilt intake for Khanano Canal
- Constructed diversion dam on Tagab River, Tagab district, Kapisa
- Constructed 10 km of road from Shash Gaw to Jaghatu, Wardak province
- Drip irrigation for 14 families in Charaka Maidan district, Wardak province

#### *Why AQIP?*

Each local NGO that got involved with USAID’s AQIP project established a relationship with the local community well before this project became reality. This relationship is the hallmark of AQIP, and demonstrates a general preparedness from the NGOs that goes back to one common practice they all share: Each NGO took it upon itself to survey and determine the areas in need, before the donor community became a major factor in rebuilding the country.

“People would come to us and tell us their problems,” Engineer Jawed says about the country coming out from under Taliban rule. “We reacted. We took surveys and conducted feasibility studies to answer their needs and prepare for donors.”

HAFO has implemented projects and programs for agricultural and rural development since the late 1980s. With help from major Dutch and United Nations agencies, the NGO helped to meet the early demands of the country as it emerged from a war with the Soviets. They collected and supplied improved seeds to farmers, distributed fertilizers, offered veterinary care for dairy cows, rehabilitated karez and canals, constructed dikes and gabion walls to control floods and heavy flow, dug wells and distributed hand pumps to villages, and started poultry production programs around the country.

“Nothing has changed with us,” Engineer Jawed says. “We still care about the same people, the same issues—helping farmers and people working in agriculture.”

#### *Lessons Learned*

Engineer Jawed takes it to heart that perhaps more outreach would have benefited the people

impacted through the AQIP project, especially those near the Khanano diversion dam and canal.

“We didn’t talk to the community directly enough,” he says. “But during construction we told them of their responsibilities, about cleaning the canal. We have to look to give greater responsibility to the people in the future. We don’t have resources to stay back and continue to direct the people. At some point they must manage themselves.”

A lack of resources may have prevented HAFO from requesting or conducting a geological study of the Tagab area, Engineer Jawed says. He did not expect such sandy, gravelly soil in the area to present engineering issues.

The lack of proper resources can also force an NGO to pull up stakes as soon as they fulfill the project requirements, Jawed says. Sometimes, a project is more about nurturing than implementing. For example, the drip irrigation project represents a new, useful technology in Afghanistan. Engineer Jawed sees room for improvement with regard to the availability of technical staff and better and more sustained training for the community. Community extension agents employed under HAFO did not have nearly enough troubleshooting experience, Jawed continues. And each family would benefit from a qualified extension agent who coaches the beneficiary through the first planting season, every step of the way.

“We know this is a good technology,” Engineer Jawed says about the drip irrigation system. “But the families do not go with new technologies. They do not trust something unless they see results. And when there are maintenance issues and not enough training to fix things, they lose hope quickly. Next time, we will have better conversations with the donor about training and keeping us there all season.”

#### *Capacity Building Measures*

However, Chemonics did provide the drip irrigation project with a technical expert who has helped implement the technology in other developing countries. Issues with procuring standard, uniform drip equipment presented some early obstacles. The technical expert remained in country to train and troubleshoot those early difficulties, and took the NGO partners and their extension agents into counsel concerning those issues.

“We did have training with this new technology, but more is required to sustain the system here,” Engineer Jawed says. “Partnership is partnership. The donor should always try to improve capacity when possible. Perhaps we did not take charge of

the situation when we should have, especially with the dam.”

The diversion dam and Khanano canal reconstruction are fine examples of Chemonics working closely with HAFO to solve difficulties. Despite poor workmanship and lack of appropriate knowledge about the geological condition of the area, Chemonics and HAFO worked together to fix mistakes that are likely to occur when the amount of unskilled labor outnumbers skilled by nearly 15 to one, with 45,700 unskilled worker days to 3,065 skilled days. Meetings between project engineers, site visits, special sessions to discuss recurring issues, and changing the project’s design to provide greater stability against area floods—Chemonics and HAFO executed all these.

In the end, the Khanano structure provided 2,590 people with over 7 km of cleaned canals and 240 hectares of irrigated land.

#### *The Future of Afghanistan with NGOs*

Since the late 1980s, the HAFO staff has grown considerably from 25 members to over 200. Engineer Jawed, as director and founder, is very involved in promoting and sustaining the NGO community within Afghanistan, and has membership on several councils that demonstrate HAFO’s commitment. He is concerned mainly with substantially increasing the amount of donor funding to quality Afghan NGOs who have strong ties and successes within their areas of specialization.

“People here have had no chance to think about improving or developing their country,” he says. “For over 20 years we have not even had control of our cities. Now it is time to think about the social and economic structures of Afghanistan, and to do that we need a commitment from donors. We need long term commitments to go along with peace and security. With these commitments will come jobs for Afghans, and that too contributes to stability.

“But [the NGOs] cannot wait around,” he continues. “We must knock on doors and begin planning. We must assess our situation and establish advocacy to attract funding from USAID. But to do this we also need to have skilled professionals doing the best possible work now. So when we talk about the future, we really mean right now.”

## Reconstruction Authority for Afghanistan (RAFA)

contributions by Engineer Abdul Rashid Ghyasi, Director, and Engineer Qader

The agricultural specialists discovered a village sharing one well for all their water needs, and decided then that they would try to help. AQIP arrived soon after.

### Projects Implemented

- Construction of three water diversion dams (Akhtachi, Matak and Mahigeer) on the Ghorband River with intakes, reconstruction of four canals, and gabion walls
- Drip Irrigation for 14 families in Qala-e-Fatu, outer Kabul



A boy in Kabul looks through junk that has collected in the sewer.

### Why AQIP?

“No NGO has done this job before,” says Engineer Qader of the Ghorband River dam project. “It is the biggest project in the area with the most beneficiaries taken into account. Our target is to help our people, our country, and as the first NGO in Afghanistan, we have the training to do it. ... We have always struggled along with the people and know their struggles.”

Fifteen years after USAID funds helped to create the RAFA NGO, the organization’s structure is stronger than ever. They have completed over 550 projects since 1988, with a focus on building and infrastructure projects, including irrigation, roads, bridges, schools, and hospitals. The organization also remains faithful to its roots with simple income generation projects, like patu weaving.

“We began with small jobs, mainly distribution of wheat and patu weaving,” Engineer Qader says. “Once we got the opportunity to improve and grow—with teaching projects like AQIP—we did that and expanded focus. Today the focus is on irrigation because it’s the most important thing in Afghanistan—water.”

RAFA maintains a well-managed network of surveyors who investigate all over the country well in advance of project requests by donors. When Chemonics arrived in Afghanistan in early 2002 to begin building relationships with Afghans and businesses, RAFA was well ahead of their information requests. For example, Engineer Qader explains that RAFA usually declines small agricultural projects, like the AQIP drip irrigation efforts. However, the organization conducted a survey in 2001 of areas with water emergencies.

### Lessons Learned

Engineer Abdul Rashid Ghyasi is convinced that the AQIP drip irrigation project provided the local NGO with their most difficult lesson to swallow yet: “The people want the NGO to take control, to do all the work and take care of all the problems. Because the drip irrigation was new, never been tried here before, the people did not believe it could work. They did not help us enough. Ten of our 14 families did extremely well, but there were four who

did not. They did not care about maintenance. They did not believe in the system.

So they cut their pipes, moved the equipment aside and did not irrigate at all.”

A new technology like drip irrigation requires additional efforts of motivation from the NGO, Ghyasi says. However, he also says that the lack of effort from some villagers is unprecedented

“People are tired and poor. They want immediately. Farming is patience, and many do not have that.”

Weaning villagers off old irrigation habits, like flooding, will take some time, Ghyasi says.

“Why would anyone trust a water tank when they can easily open a gate and flood their land with canal water?” he asks. “We can’t allow people to take the easy way. It is our responsibility, but it is difficult.”

As a result, RAFA listens more closely to the needs of the villagers. They try to get people more involved by asking for their advice. The Ghorband dams project illustrates the point well.

“Sometimes farmers come to the dams to check our work,” says Qader. “There are some days when we cannot block the flow of water because there is a real need. Wheat crops have specific irrigation cycles, and only the farmers can tell you the schedule. We always listen.”

### Capacity Building Measures

“It was a project and institute for us,” Ghyasi says about working with Chemonics on AQIP. “We will finish the project and move on, but the RAFA

staff trained by Chemonics is part of the future of Afghanistan forever.”

Chemonics visited the dams frequently with engineers and demonstrated the community’s work to officials from the United States government,



Roads in Afghanistan often resemble this above, etched between the country’s rugged landscapes, pocked with holes and washed out.

which constantly uplifted morale on the site. Conversations at the site office were like impromptu training sessions for RAFA and site engineers, Qader says. They pored over blueprints and discussed options when the work reached a hurdle, like one of at least three floods, freezing winter cold, or the river’s unwieldy course.

“They are like a teacher to us,” says Ghyasi about Chemonics. He provides another example in discussing the monthly report, a requirement from USAID and Chemonics. “We had never written a monthly report before. And now we know that it is better to get a handle on our work, to assess our capacity and quality.”

#### *The Future of Afghanistan with NGOs*

The training and services provided through USAID, such as updating accounting practices and

providing the software components for the operation, all lend to USAID’s legacy in Afghanistan. These are the most important—and unique—efforts from USAID projects, Ghyasi says.

“USAID comes to improve your staff. They always work in this way. Our salaries, administration expenses, the quality of our employees—they are all improved because USAID came back to Afghanistan.”

Increasing security, safety and a stable governing body have helped pave the way for USAID to affect the lives of Afghans so positively. The improving situation also increases the professional level of NGOs, who will help lead Afghanistan’s future. Not only have the Afghan villagers recently returned from years abroad as refugees, but also the Afghan NGO professionals. Their stories of humiliation are just as stark and harrowing as are those told by their rural compatriots. Not surprising since they all share a similar past.

“I was in jail because I would not join the political parties,” Qader says. “It was 1983. The government could not stop the destruction of our country, but they did nothing to improve the lives of the people in Kabul. I worked in the government as an irrigation manager in Ghazni, and one day they said I must choose. I chose jail.”

Qader moved to Pakistan following the two-month jail sentence for insubordination. He came back to Afghanistan in 1989 with RAFA, primed to make a difference for his people. His patience and effort have been mixed with witnessing repeated acts of violence by and against Afghans since then. Yet, this period after the Taliban provides Qader with the most hope because the NGO is no longer an enemy of the government, but a partner.

With legitimacy and security, NGOs have a greater stake in the future of Afghanistan. Their budgets have improved, especially with assistance from the United States, allowing greater flexibility to hire experienced professionals. And their resources are growing day by day.

## Women's Leadership Seminar Series

While donors sponsor training for women, most of it is targeted primarily at women who are already acknowledged leaders and rural women in need of livelihood support. However, very few training, career support and mentoring opportunities exist for Afghan junior professional women working for NGOs, government entities and the private sector. The need for their training is based on the assumption that these women represent the next generation of Afghan leaders.

This discussion series, held monthly in Dari, feature at least one female speaker who is in a leadership position and touch on issues such as:

- Professional growth opportunities
- Discussion on common obstacles faced by women in the workplace
- Pressure faced from society and family for working outside the home
- The role of women in the rebuilding of Afghanistan.

## Objective

The Women's Leadership Discussion Series (WLDS):

- Created a close-knit support group for junior professional women working in non-governmental organizations, the private sector, and government ministries.
- Provided an opportunity for these women to interchange ideas with strong female role models.
- Developed a forum and networking opportunities for junior professional women that can be self-sustaining and replicable on a larger scale.

## Past Speakers

*Murwarid Ziaye:* Ms. Ziaye is currently the highest-ranking officer for Afghanistan based in Afghanistan, representing the organization to donors and partners, and overseeing the operations of the office.

*Suraya Paikan:* Ms. Paikan is the director of the Afghan Women Lawyers and Professionals Association (AWLPA). Previously, she was a professor at Kabul University's Faculty of Law, and director of a local women's NGO in Mazar-e-Sharif.

*Jamila Mujahed:* For 25 years, Ms. Mujahed had been a distinguished personality in the Afghan media, working as a journalist in both radio and television. She now heads a project sponsored by the Asia Foundation and funded by the U.S. Department of State in which 150 women are learning journalism skills.

*Masooda Jalal:* During the June 2002 Loya Jirga, Ms. Jalal became Afghanistan's first woman candidate for president and ran against Hamid Karzai. She is currently a program officer at WFP.

*General Khatol:* In April 2002, President Hamid Karzai promoted Khatol to the rank of general after 14 years in the Afghan Air Force—making her the second Afghan woman to attain that rank.

*Seema Ghani:* Ms. Ghani is currently the managing director of the Khorasan Charity organization and co-owner/manager of the Karwan Sara guesthouse in Kabul.

## Women's Leadership Conference

On Tuesday, November 11, 2003 USAID's AQIP project concluded its monthly Women's Leadership Seminar Series with the very well attended and successful "Women's Leadership Conference: The Past, Present and Future of Afghan Professional Women". The conference included a wide variety of Afghan women professionals from the NGO community, government, media, academia and the private sphere. More than 100 participants filled the main theatre of the Afghan Film Organization, which was the venue for the event.

Barbara Rodey, Gender Advisor for USAID/Afghanistan, gave the keynote speech on behalf of USAID and discussed USAID's activities to help improve the lives of Afghan women. Ms. Rodey was followed by Siddiq Barmak, director of the award-winning film *Osama* and president of the Afghan Film Organization. Mr. Barmak then screened the first half of his film, a gripping tale of a young girl forced to disguise herself as a boy in order to work and support her widowed mother and grandmother. The film sparked a thought-provoking number of questions from the audience—some were visibly moved to tears.

After a short break, the participants returned to a forum discussion featuring four Afghan women leaders:

**Soraya Rahim Sobhrang:** Sorya Rahim Sobhrang is the current Deputy Minister for Women's Affairs in Afghanistan. She graduated with a Medical Degree in Podiatry and Gynecology from Kabul University in 182 and has since worked as a medical doctor in both Iran and Pakistan.

**Mina Sherzoy:** Mina Sherzoy is the Director of the Women's Entrepreneurial Development Department of the Ministry of Commerce as well as and Advisor on gender issues to the Minister of Commerce. She returned to Afghanistan in March of 2002 after having lived in the United States since the Communist Invasion of Afghanistan.

**Nasrine Abou-Bakre Gross:** Ms. Abou-Bakre Gross is currently teaching at Kabul University School of Social Studies, Departments of History and Philosophy. Throughout the reign of the Taliban, she worked as an Afghan women's rights advocate, attempting to educate and mobilize world public opinion to increase support for Afghan women.

**Khorshied Nusratty:** Khorshied Nusratty is the Kabul Bureau Chief and Special Correspondent for Fox News Channel.

## Results

In addition to widespread demand for seminars from women who have heard about them by word of mouth, several organizations have expressed interest in replicating the seminar model, including the United Nations Development Program, the Afghan Women's Network, and the World Food Program. The United Nations Development Program has even offered to include the junior professional women from the AQIP NGOs and others currently attending the seminars under AQIP. The seminars have been covered by *The Kabul Times*, *Malalai* (an Afghan women's magazine) and the *The Voice of Afghan Women Radio* (91.6 FM), and received praise from USAID.

Adult Literacy Rate (2000): 36%  
Female: 21%; Male: 51%

Afghan women have an average of 6.6 children in their lifetime.

Primary school enrollment attendance is 24%, and girls make up 30% of that.

The November 11th Women's Leadership Conference succeeded in exposing a large segment of those dedicated to Afghan women's empowerment to the potential such seminars and conferences have for bringing Afghan women together and galvanizing them around their shared goals. The conference also made it evident that repeated discussions and continued networking are key to building the confidence and strength of Afghan women in making their voices heard whether in the workplace, political arena or individual household. The continuation of such discussions will prove to be a crucial factor in the success of Afghan women in assuming the leadership roles necessary to move the country forward. To that end, the AQIP Women's Leadership Seminar Series and Conference was concerned with nurturing such dialogue and passing the model on to others, such as the UNDP, to develop and grow.

## Environmental Impact

AQIP promoted activities that contributed to the development of productive and sustainable systems in conformance with USAID environmental guidelines. The construction of the water diversion dams assisted in ensuring that flood control and construction standards are followed to prevent soil erosion with special emphasis placed on stabilizing stream banks. Water conservation practices were encouraged through environmentally friendly drip irrigation. Road construction designs and standards were developed to ensure that modifications to the environment will be minimal.

Environmental protection and environmental monitoring were included as part of the road rehabilitation training jointly sponsored by UNOPS and Chemonics. Finally, Chemonics developed environmental guidelines, based on USAID's Environmental Regulation 216, and provided training to the NGO partners to measure the probable environmental impact of project interventions. The environmental training focused on how to minimize any negative affects. Environmental guidelines were provided to the NGOs explaining how to categorize probable affects on the environment: Non Significant (NS) to Significant (S) impact. When impacts are determined to be S, the NGOs are incorporating design modifications to reduce the environmental impact to at least a Moderate (M), in the event that it's not practical to further reduce the environmental impact to a NS.

The Project continues to promote activities that contribute to the development of productive and sustainable systems. This includes soil and water conservation practices, erosion control, construction and use of family wells and water reservoirs, dams that assist in flood control, and drip irrigation.

During the project, procedures for measuring the probable environmental impacts of project interventions and how to minimize any negative affects were developed and distributed to the implementing NGOs. Preliminary analysis of the implemented activities ranged from Not Significant impact on the environment (NS) to Significant impact (S).

### Irrigation Construction and Rehabilitation

Water diversion dams can reduce the speed of the flow of a river and assist in flood control. All AQIP dams include a cement stone masonry mortar apron in the downstream area of the dam to eliminate the danger of riverbed erosion from the flow of turbulent water. Additionally, protection walls on both sides of the river will strengthen the riverbanks and prevent erosion immediately downstream from the dam. Nevertheless, there could be significant negative affects on the environment if water is indiscriminately diverted without consideration of the need for adequate water downstream. Therefore, the plans for all water diversion dams are approved with the Ministry of Irrigation. Additionally, misuse of irrigation can result in a buildup of salts in agriculture lands. While the construction of water diversion dams could result in a significant negative impact, incorporating sustainable water use standards into the programs mitigates the risks to the environment and decreases the environmental risks from significant to moderate.

The construction of wells and cleaning of karezes fall into the category of insignificant effect, which indicates that the interventions are adequately managed, and the quantity of water diverted is insignificant to alter the water table.

**Road Construction**

Design standards for road construction were developed in coordination with UNOPS to ensure that the damage to the environment will be minimal during the construction phase as well as after the road is completed. At the beginning of construction, the project provided environmental training to the NGOs, which followed the environmental guidelines during the rehabilitation of roads.

**Agricultural Activities**

Complementary agriculture activity implemented by the NGO partners is contributing to overall soil protection through the planting of perennial crops such as fruit trees and grapes. NGO partners distributed approximately 15,000 fruit trees within the project area. The fruit trees, while providing a source of income for the farmers, minimize soil tillage and serve as windbreaks.

**Drip Irrigation**

The utilization of drip irrigation enables farmers to gain competitiveness by reducing the amount of water needed for irrigation. Since drip irrigation moistens only the soil at the base of the cultivated plant, this prevents sufficient moisture in the soil between the plants for weeds to grow. Drip irrigation also decreases the need for fungicides since eliminating excess water on the plants significantly reduces water-borne fungus common with furrow irrigation.

## Communications and Outreach

AQIP remained very attentive to the growing responsibility of projects in Afghanistan to publicize results and successes. In addition to USAID's new impact-driven website, there is increased attention given to Afghanistan's foreign aid program by Congress, the American public and the Afghan people. Consequently, AQIP adopted a three-pronged strategy to publicize its activities, in close conjunction with USAID/Afghanistan and USAID/Washington.

### Outreach Materials and Information Sharing

When AQIP first began, very little written guidance—programmatic, operational and otherwise—existed to assist international and local organizations in doing their work in Afghanistan. Much of the guidance was informal: information disseminated through word of mouth and informal conversations with experienced technicians. As AQIP realizes the value of disseminated best practices and lessons learned—particularly to local NGOs who cannot draw from experiences in other countries—the project has developed a comprehensive set of factsheets in Dari and English for dissemination by USAID and the USAID-funded Raising Agricultural Markets and Production (RAMP) project.

In addition, the final report is composed of a series of stand-alone materials that can be disseminated and tailored according to the audiences: local NGOs, international implementers, Congress or the media. The final report itself is a resource, containing fact boxes, multiple project and beneficiary stories, striking photography and graphics, and a host of usable resources. For example, the CD-ROM contained in the project's back cover contains the essential project information as an additional resource: success stories, case studies, photography, raw data, and fact sheets.

The project maintained close contact with Jennifer Lindsey, USAID Asia/Near East Outreach Coordinator, to optimize the AQIP materials through audience analysis and dissemination planning.

### Site Visits and Special Events

AQIP has coordinated and conducted numerous site visits and has hosted government ministers, Senate staffers, Women's Seminar, senior USAID staff, and journalists.

In addition, AQIP set up the conference entitled "Afghan Professional Women: the Past, Present and Future," which featured luminaries such as Siddiq Barmak (director of the award-winning film *Osama*) and Khorshied Nusratty (FOX Kabul Bureau Chief and Special Correspondent).

### Engagement of Local and International Media

Although AQIP has not specifically focused on media outreach, the project was featured on Kabul TV, the *Kabul Times*, *Malalai* (Afghan women's magazine in Dari), The Voice of Afghan Women Radio and USAID's *Frontline Magazine*.

## Impact Assessment Methodology

In order to fully assess the impact of AQIP activities—particularly those involving construction, the project conducted intensive field surveys from September to November 2003. The following bilingual (English/Dari) templates were developed:

Name	Information Gathered	Survey Methodology
Participatory Rural Assessment	Hectares of cultivated land; cultivation patterns; agriculture commercialization; population; refugee/IDP status	Conducted village by village with elder councils
Irrigation	Water sources for irrigation; water rights issues; water availability; irrigation practices	Conducted village by village with elder councils
Road Rehabilitation	Savings in travel times by place and mode of transportation; increase in traffic.	Conducted village by village with elder councils and other community members
Hand-pumps for Drinking Water	Availability of drinking water; family roles and responsibilities vis-à-vis drinking water; number of beneficiaries	Conducted with community at the hand-pump sites
Price Information Boards (PIB)	Agriculture commercialization behavior; PIB maintenance and usage	Conducted with community at PIB sites
Drip Irrigation	Production and commercialization; water availability; irrigation means and costs	Conducted at each drip irrigation site with owners
Cash For Work (CFW) Activities	Household information; refugee/IDP status; previous/current employment and earnings; spending patterns.	Conducted at CFW sites with workers.
Egg Production (Income Generation)	Egg production and commercialization; household earning and spending	Conducted with individual beneficiaries
Patu (Shawl) Weaving (Income Generation)	Patu production and commercialization; household earning and spending	Conducted with individual beneficiaries
Embroidery (Income Generation)	Embroidery production and commercialization; household earning and spending	Conducted with individual beneficiaries

Data submitted by local implementing partners.

Results were cross-referenced with the following data:

- Food and Agriculture Organization, 1993 National Land cover of Afghanistan (broken down by province and district).
- World Food Program, Vulnerability Analysis Mapping Unit and Partners, 2002-2003 Afghanistan Countrywide Food Needs Assessment of Rural Settled Populations.
- Discussions with the Ministry of Irrigation, Water Resources and Environment provincial sub-offices.
- Independent verification with respondents/other beneficiaries who were chosen at random.

As each activity differed in terms of templates used and differing surveying conditions (e.g. security, accessibility of respondents, implementation timelines), the survey methodology for each activity or set of related activities is discussed in more detail individually.

## Impact Assessment Methodology: Irrigation Construction

For irrigation construction, the following templates were used:

- Participatory Rural Assessment (PRA)
- Cash for Work (CFW)
- Irrigation

Activity	Template	Sample Size	Sample as % of Total	Issues
Parwan Dams (Ghorband River)	PRA	27 village clusters	32%	None
	CFW	799 labor days	3%	Sample size was small due to few number of workers on survey day
	Irrigation	32 village clusters	39%	None
Tagab Canal Intake/Karez Cleaning	PRA	12 village clusters	100%	None
	CFW	2941 labor days	27%	None
	Irrigation	16 village clusters	100%	4 extra village clusters surveyed as controls
Istalif Canal Intake/Karez Cleaning	PRA	3 village clusters	100%	None
	CFW	2987 labor days	93.4%	None
	Irrigation	3 village clusters	100%	None
Gulbahar Flood Protection	PRA	36 village clusters	50%	None
	CFW	735 labor days	13.3%	Survey was conducted post-construction
	Irrigation	23 village clusters	48%	None

Results were entered in an Excel spreadsheet and analyzed/extrapolated in the methodologies described over the following sections.

## Impact Assessment Methodology and Detailed Results: Gulbahar Flood Protection

### Number and Types of Beneficiaries Downstream

Using the PRA format, the project surveyors visited 36 villages total. The villages were classed into two types with the following characteristics:

PRA Village Classification		
Classification	Description	Characteristics
I	Villages > 3 km from primary/secondary farm-to-market roads	<ul style="list-style-type: none"> <li>• Low population</li> <li>• High land-population ratio</li> <li>• Low degree of commercialization and trade</li> </ul>
II	Villages < 3 km from primary/secondary farm-to-market roads	<ul style="list-style-type: none"> <li>• High population</li> <li>• Low land-population ratio</li> <li>• High degree of commercialization and trade</li> </ul>

The following results were obtained from the PRA surveys:

Survey Results by Village Classification				
Classification	No. Villages Surveyed <sup>a</sup>	Ave. No. of Households	Ave. Population/ Village	Ave. Ag. Land/ Village (Ha)
I	21	192	1374	172
II	15	119	1308	59

a. Many villages include clusters of sub-villages

Based on the number of total villages (information from the Mirabs, or water managers, and the Ministry of Irrigation), the following information was extrapolated using the average figures from the table above.

Based on discussions with the Ministry of Irrigation and Ministry of Agriculture, in addition to privately owned lands, there are also 1,800 hectares of government lands (Dag Oshughan and Dasht Naguman) downstream from the canals.

As a result, we are concluding that the canals protected by the AQIP work at Gulbahar reach the following:

PRA Impact Assessment Results			
Total No. of Villages Downstream	Total No. of Households	Total Population	Total Ag. Land (Ha)
72	11,707	97,014	10,907

The figure for the total amount of agricultural land is less than the 14,000 hectares quoted by the Ministry of Irrigation.

### **Cash-for-Work Beneficiaries**

Surveying workers who had worked on the activity proved difficult. Surveys were completed several months before the impact assessment. The survey comprises a small sample of workers, all returnees—95 percent internally displaced, 5 percent were refugees in Iran.

The information was collected from the surveys. Please note that the sample size is relatively small and the information is intended more as visual snapshot of some workers rather than a statistically significant series of data.

### **General Irrigation Issues and Water Rights**

According to surveys of 20 villages that consider water usage and rights, the following statistics were gathered. Please note that canals refer to those protected by the project.

- 100%: Percentage of drinking water received by all villages from the canals.
- 88%: Average percentage of necessary water received in the past for agriculture—all from the canals.
- 99%: Average percentage of necessary water expected for agriculture—as a result from the protection of the canals.
- 30%: Percentage of villages that mentioned water rights violations.
- 420: Number of average person-days needed to rehabilitate the canal.

## Impact Assessment Methodology: Road Construction

For the road construction activity, the following templates were used:

- Participatory Rural Assessment (PRA)
- Cash for Work (CFW)
- Road Construction

Activity	Template	Sample Size	Sample as % of Total	Issues
Jaghatu Road Construction	PRA	29 village clusters	27.6%	None
	CFW	5908 labor days	16.5%	None
	Road	28 village clusters	26.7%	None

The following methodology was used to estimate the flow of trade between Ghazni and Hazarajat along the reconstructed road. We thought it very important to get a sense of how widely used the road was and what economic value-additions resulted from its rehabilitation.

Step 1: We held discussions with the community and community leaders regarding the number of trucks traveling along the road.

Number of Trucks, before Road Reconstruction (Data from discussions with community)													
Direction	Month												Total No.
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
Hazarajat → Ghazni	27	27	36	36	36	54	54	54	46	46	46	27	489
Ghazni → Hazarajat	27	27	36	36	36	54	54	54	46	46	46	27	489

Step 2: We continued discussions with the community and community leaders regarding what types of trucks were traveling and what they were carrying.

Usages of Trucks				
Direction	Type of Truck	% Used	Goods	% of Trucks
Hazarajat → Ghazni	Large	70	Potatoes	40
			Timber	50
			Throw Rugs	1
			Kerout	9
	Small	30	Potatoes	50
			Timber	20
			Throw Rugs	10
			Kerout	20
Ghazni → Hazarajat	Large	60	Flour	71
			Oil	8
			Ag Inputs	20
	Small	40	Flour	54
			Oil	6
			Ag Inputs	40

Step 3: From the bazaar, we inquired about the capacity of trucks for particular commodities as well as the unit costs of the commodities. From that information, we were able to calculate the value of trucks carrying particular commodities at full capacity.

<b>Capacity and Value of Large Trucks</b>			
Commodity	Capacity in Tons	Value (\$/Ton)	Total Value
Timber	8	321.80	25,744
Potato	17	575.00	9,775
Oil	18	680.20	12,244
Throw Rugs	12	29,138.30	349,666
Ag Inputs	18	247.40	4,453
Kerout	13	1,107.80	14,401
Flour	18	193.80	3,488

<b>Capacity and Value of Small Trucks</b>			
Commodity	Capacity in Tons	Value (\$/Ton)	Total Value
Timber	4	321.80	1,287
Potato	9	575.00	5,175
Oil	10.5	680.20	7,142
Throw Rugs	8	29,138.30	233,106
Ag Inputs	10	247.40	24,474
Kerout	5.5	1,107.80	6,093
Flour	10	193.80	1,938

Step 4: Putting all the information together, we came up with a total value of all the trucks going in both directions on the road

<b>Value of Commodities Traded, before Road Reconstruction (data from discussions with community)</b>							
Direction	Type of Truck	% Used	Goods	% of Trucks	No. of Trucks <sup>a</sup>	Value/ Truck (\$) <sup>b</sup>	Total Value (\$)
Hazarajat → Ghazni	Large	70	Potatoes	40	136.8	9775.00	1,337,220
			Timber	50	171	25,744.00	4,402,224
			Throw Rugs	1	3.42	349,665.60	1,195,856
			Kerout	9	30.78	14,401.40	443,275
	Small	30	Potatoes	50	73.5	5,175.00	380,362
			Timber	20	29.4	1,287.20	37,844
			Throw Rugs	10	14.7	233,106.40	3,426,664
			Kerout	20	29.4	6,092.90	179,131
Ghazni → Hazarajat	Large	60	Flour	71	208.3	3,489.70	726,905
			Oil	8	23.44	12,243.60	286,990
			Ag Inputs	20	58.6	4,453.20	260,958
	Small	40	Flour	54	105.84	1,938.00	205,118
			Oil	6	11.76	7,142.00	831,990
			Ag Inputs	40	78.14	2,474.20	193,977
Total Estimated Value of Hazarajat-Ghazni Trade Along Road							13,908,514

a. Obtained from combining Step 1 and Step 2 data.

b. Obtained from Step 3.

## Impact Assessment Methodology: Other Activities

### Income Generation

For the income generation activities, only one template was used for each.

Activity	Sample Size	Sample as % of Total	Issues
Egg Production	196	22.8%	None
Embroidery	61	43.6%	None
Patu Weaving	18	45.0%	None

### Participatory Rural Assessment for Kabul and Parwan Provinces

We collected data through meetings with key community leaders, farmers and traders in seven districts of the Kabul and Parwan provinces during January through February 2003. A minimum of 10 community representatives participated in each session to obtain a consensus and minimize errors in production costs, crop yields and crop sales information. The data are community-based, and do not describe individual household characteristics. After tabulating the raw data from the PRA interviews, Chemonics/AQIP team reviewed the results for inconsistencies and returned to the relevant villages when necessary to clarify particular data. Community leaders quickly grasped the importance of the exercise because it provides them with a quick economic picture of their community (number of crops, production, average prices, production value, sale value, etc). This information is best used to estimate agriculture competitiveness, gaps and opportunities, and the impact of agriculture on the local economy. The database and conclusions of the survey were presented to USAID in mid-March 2003.

## **Project Closeout**

AQIP's closeout, like all AQIP activities, strongly emphasized NGO capacity building. The lion's share of AQIP office equipment and guesthouse furnishings was turned over to Chemonics' four NGO partners. Beyond this, AQIP procured over \$212,000 in road construction equipment and transferred this equipment to its Afghan partners. The closeout team accomplished all this in record time, while still managing to organize the final, large-scale Women's Leadership Seminar and to produce the series of lessons learned brochures included in this report.

### **Staff Transfer**

With RAMP commencing in summer 2003, a number of experienced AQIP staff transferred to the new project before the end of AQIP activities—including the AQIP Chief of Party, Program Coordinator, and two Logistics Assistants (all difficult losses). The best-qualified remaining staff also transferred to RAMP at the end of program activities in November. These AQIP staff bring a great deal of experience and a history of success to their new project. We have confidence that the lessons they learned on AQIP will contribute greatly to the success of RAMP.

Employees not transferred to RAMP were provided assistance in updating and editing their CVs, and AQIP staff made every effort to find them other job openings in their fields. The Chief of Party took significant time out from other closeout activities to coach various employees on how to give a good interview or improve their written communication skills. Chemonics has done its best to ensure that work on AQIP was not merely a source of income, but an opportunity for personal and professional development.

### **Property Disposition**

As AQIP closeout drew near, the Chief of Party and Operations Manager sought input from our four partner NGOs on what sorts of equipment would best meet their operational needs. The NGOs' requests were the basis for AQIP's final property disposition plan, which gave Chemonics the responsibility for disseminating its equipment to the Afghan NGOs. USAID approved the plan on October 27, 2003.

Government as well as non-government institutions have benefited from the resulting disposition. The desktop computers and hardware in the AQIP office were collected by RAMP for donation to the Ministry of Agriculture and Animal Husbandry (MAAH), which like most Afghan ministries still lacks strong communications infrastructure.

The two project vehicles were turned over to RAMP, along with the project's well-trained drivers. RAMP also received various communications equipment—in particular, the mobile phones given to the host of AQIP staff who are now employed by RAMP.

The project's laptop computers, printers, scanners, safes, satellite phone, photocopier, and digital cameras have all been transferred to the partner NGOs, along with a great deal of furniture from the office and guesthouse. AQIP organized the collection of this equipment in two phases with plenty of advance warning, to minimize inconvenience and expense for the NGOs.

### **Equipment Procurement**

AQIP has surpassed its goals and had a clear impact on thousand of Afghans in the Shamali Plain; yet even after two no-cost extensions, the project still enjoyed a considerable budget surplus.

Accordingly, Chemonics sought and received USAID approval to procure road construction equipment as a capacity-building measure for its Afghan partner NGOs.

After consulting with the NGOs and the chief road construction engineer at UNOPS, Chemonics decided to purchase the following equipment for each NGO:

- One large, 81 horsepower, four-wheel drive tractor, with front blade for use in heavy snow and rear plows for breaking particularly hard or rocky ground.
- One 5,000-liter water tank trailer for the tractor.
- One large cement mixer, with a two-bag drum capacity.
- Two heavy walk-behind vibrating compactors: absolutely essential to the quality construction of unpaved roads, and extremely hard to find in Kabul
- Two concrete vibrators
- Two water pumps.



Chemonics and USAID deliver brand new equipment, like the cement mixers pictured above, to Afghan NGOs during AQIP closeout.

The equipment was chosen to complement labor-intensive road construction and ensure long-lasting roads. It will dramatically increase the four NGOs' capacity for quality work, and also allow them to tackle more roads projects.

The procurement was competitive and fair, in accordance with all USAID regulations and restrictions. AQIP staff trawled the bazaars of Kabul in search of suppliers for specific items, as well as contacting international suppliers for quotes on all of the equipment. In the end, AQIP purchased from nine different suppliers (each water tank was made by a different metal shop in Kabul). Despite this complexity (and the difficulty of coordinating collection/delivery for four NGOs), the procurement was carried off with remarkable efficiency and speed. The initial Request for Quotations was issued on October 15; by November 19 all the equipment had been successfully transferred to the NGOs.

### **Outstanding Projects**

Out of all the activities under AQIP, two activities were still unfinished by the agreed-on date of October 31. One, a bridge in Jaghatu, Wardak, was requested at a late date by the community. The other—a series of diversion dams on the Ghorband River designed to channel water reliably year-round into four canals—was delayed unexpectedly when villagers resisted to close-off the canals for the project's completion.

Instead of extending AQIP indefinitely to finish these minor projects, the project staff thought it best to exploit AQIP's synergies with the RAMP program and hand the two outstanding activities over to RAMP for conclusion. AQIP's began closing down just as RAMP's office began to manage

work. To keep these two activities under AQIP's oversight would have been a waste of resources. Moreover, the NGOs were eager to begin work under RAMP, in whatever capacity. Chemonics accordingly requested and received USAID permission to make the transfer.

**Conclusion**

The AQIP closeout was an opportunity to boost both the RAMP program and the partner NGOs. Through careful planning and organization, the AQIP staff managed to accelerate RAMP's progress on several fronts, while also greatly benefiting the four Afghan NGOs and the government of Afghanistan. By any measure, the closeout was a success.

## Summary Project Financial Report

The AQIP project has been informally cited by USAID numerous times for its financial prudence. The project has saved U.S. taxpayer money through means such as:

- Taking advantage of economies of scale through subleasing office space and contracting out services to the International Rescue Committee.
- Sharing costs with the UN Office for Project Services for training road engineers.
- Encouraging implementing partners to shoulder more project costs (cost-share) using their own or other donor funding.
- Providing only modest furnishings in the project guesthouse.

As a result of cost-savings, the project was able to accomplish more than its original activities. Below is a breakdown of what was budgeted and what was actually expended

Implementing Partner	Activities	Budgeted	Expended*
AREA	<ul style="list-style-type: none"> <li>• Road Construction</li> <li>• Bridge Construction</li> <li>• Drip Irrigation</li> <li>• Shallow Well Construction</li> <li>• Hand-pump Installation</li> </ul>	400,000.00	422,888.07
HAFO	<ul style="list-style-type: none"> <li>• Canal Intake Construction</li> <li>• Road Construction</li> <li>• Drip Irrigation</li> </ul>	200,000.00	202,922.57
PRB	<ul style="list-style-type: none"> <li>• Canal Intake Construction</li> <li>• Income Generation</li> <li>• Drip Irrigation</li> </ul>	200,000.00	303,264.75
RAFA	<ul style="list-style-type: none"> <li>• Dam Construction</li> <li>• Drip Irrigation</li> </ul>	200,000.00	246,558.30
Chemonics	<ul style="list-style-type: none"> <li>• Management Oversight</li> <li>• Technical Assistance</li> <li>• Capacity Building</li> <li>• Procurement of Heavy Construction Equipment for the NGOs</li> <li>• Procurement of Drip Irrigation Equipment</li> <li>• Women's Leadership Seminar</li> </ul>	1,759,317.00	1,487,670.79
Total		2,759,317.00	2,663,304.48

*\*All expended amounts reflect those invoiced and projected through February 22, 2004. For the four NGO implementing partners, their subgrants were modified to increase the original budgets.*