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**Evaluation Report
For
Alternative Development
Program (ADP)
Southern Region
by
USAID
in the
Islamic Republic of Afghanistan**

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Acronyms and Abbreviations

ACCI	Afghanistan Chamber of Commerce and Industries
ADP/E	Alternative Development Project for Eastern Region
ADP/N	Alternative Development Project for Northern Region
ADP/S	Alternative Development Project for Southern Region
ARD	Association for Rural Development
AVA	Afghanistan Veterinary Association
AWATT	Afghanistan Water and Technology Transfer
BPF	Bolan Poultry Farm
CAP	Community Action Program
CDC	Community Development Council
COP	Chief of Party
CSO	Civil Society Organization
DABM	Da Afghanistan Breshna Moassessa
DAI	Development Alternatives International
DAIL	Directorate of Agriculture Irrigation and Livestock
DFEAK	Dried Fruits Export Association of Kandahar
DFID	Department for International Development
DOWA	Directorate of Women Affairs
DRRD	Directorate of Rural Rehabilitation and Development
EUREPGAP	European Good Agricultural Practices
FAA	Federal Aviation Administration
FAO	Food and Agriculture Organization
FDA	Food and Drug Administration
FFEAK	Fresh Fruits Export Association of Kandahar
FTE	Full Time Equivalent
GAP	Good Agricultural Practices
GMP	Good Manufacturing Practices
HA	Hectares
HACCP	Hazard Analysis of Critical Control Point
HAVA	Helmand Arghandab Valley Authority
IATA	International Air Transport Association
KG	Kilogram
KOP	Kandahar Orchards Projects
MRRD	Ministry of Rural Rehabilitation and Development
MT	Metric Ton
NSP	National Solidarity Program
PDC	Provincial Development Committee
RAMP	Rebuilding Agricultural Marketing Program
UNODC	United Nation Office of Drugs and Crimes
USAID	United State Agency for International Development
USDA	United State Department of Agriculture

I. Introduction

The ADP South project operated in the provinces of Helmand, Kandahar and Uruzgan with the vast majority of the projects activities taking place in the province of Helmand in and around the capital Lashkar Gah. The provinces of Helmand and Kandahar, once considered the breadbaskets of Afghanistan, are now heavily occupied by Taliban and contain more than 80% of the countries poppy harvest.

During the period of the projects operation between 2005 and 2009, the security situation in these areas increasingly deteriorated. The project also suffered from frequent early changes in leadership with approximately 7 COP's in the first year and a half. The final COP ran the project for the final two and a half years. Stakeholders also pointed out that many of the activities were implemented at the direction of the USAID mission since for much of this period ADP south was the only project operating in the volatile southern region of Afghanistan.

Early conceptual project documents discuss ADP south as utilizing an area based development approach in which discrete interventions become linked and support each other in integrated clusters. There would eventually be "value added" agro-processing activities all of which would be back-linked to farmers. Primarily because of the security situation (there were four employees killed in 2005) the ADP south's portfolio of activities was eventually made up of a combination of infrastructure projects, cash for work and agricultural projects. The ADP South infrastructure projects include the Lashkar Gah airport runway, upgrade of the Lashkar Gah Electrical Substation and construction of the Bolan Agricultural Center. The project's cash for work activities involved mostly road and irrigation rehabilitation. The agricultural projects were made up of Animal Feed, a Poultry operation, Chili production, Horticulture, Wheat, Corn and Peanut seed along with fertilizer distribution. There were also some greenhouse hoops and vegetable seeds distributed. These activities were all aimed at the regions farmers and ultimately its poppy growers.

ADP/S had two strategic objectives:

1. Help accelerate licit economic growth and business activity where poppy is thriving
2. Provide an immediate alternative source of income to poor households whose livelihoods depend on the "temporary" opium economy.

Examination of the portfolio of activities implemented by ADP/S shows that the majority of them are in line with the recommendations from the 2008 World Bank Report "Economic Incentives to Reduce Opium". The six priority intervention points mentioned in this report are:

1. Integrated Rural Development
2. Expanding agricultural land under Irrigation
3. Improve returns to Livestock
4. Rural Enterprise Development
5. Local Procurement
6. Value Chains Pertinent to the Local Economy

II. Methodology

The ADP/S Evaluation Team, contracted by Checchi and Company, was comprised of 3 expatriates and two Afghan staff. The expatriate team members were comprised of an agricultural economist (team leader), agribusiness specialist, and a social scientist. The Afghan staff were an agricultural specialist and a translator. The expat team arrived in country on January 11, 2010 and attended initial briefings along with the teams for ADP/E and ADP/N with the Mission's Office of OAG. From these sources, the Team obtained electronic and hard copies of key documents including annual work plans, performance monitoring plans, spreadsheets, metrics reports, audits, and quarterly and bi-weekly progress reports.

Using these documents and the initial discussions with USAID, along with former ADP staff, the Team developed a work plan to allow for a comprehensive impact evaluation. To examine ADP/S activities, the Team relied on key informant and stakeholder interviews, collection and review of documents, on-site observations, and small group discussions with beneficiaries. The team also hired a survey team to interview stakeholders and beneficiaries in Helmand province which was in the middle of the Marja operation preventing the team from traveling to Lashkar Gah.

The team made a total of three trips to Kandahar province and arranged interviews with DAIL, RRD, Fresh Fruit Export and Dried Fruit Export Associations of Kandahar, former Paravets, subcontractors, shura and beneficiaries. The team also met with the owner of Kandahar Treasures and the Director of MOWA.

Utilizing available literature, project reports and cross referencing with other project documents, the team developed a business approach for analyzing the economic impact of various project interventions of the project.

III. Farm Production, Income, Employment and Investments

A. Agricultural Production (1)¹

The long growing season, dry air, abundant sunshine, and fertile, well-irrigated soil can produce wheat, corn, peanut, superb grapes, a variety of vegetables, high-quality nuts, and the world's finest pomegranates in the Kandahar, Helmand and Uruzgan provinces of Afghanistan. A breakdown by sector is given below.

Wheat, corn and peanut trial production

ADP/S distributed wheat seed and fertilizer to farmers resulting in reported production of 97,500 metric tons for 2009 harvest season with about 64% due resulting from the project. Reports indicate that the wheat seed had 95 percent germination rate with a 30 percent increase in production level for 19,154 participating farmers on 15,000 hectares. This bumper harvest was the result of using high quality seeds, fertilizer, training and extension work by the project.

¹ Note that the number refers to the question numbers in the scope of work

The impact on wheat production was positive as the estimated revenue from the wheat harvest was \$15.7 million using a rate of \$250/MT for wheat. The project reported total revenue of \$43.4 million; \$27.9 million came from wheat sales that reflect additional production due to increased planting from ADP/S. The remaining \$15.5 million of revenue was the result of farmer's individual efforts. This high revenue is also due in part to the increased wheat price at that time. This one time benefit has the potential for future production of larger quantities of wheat per hectare in the three southern provinces. Corn and peanut production were also successful but needed further extension work for further improvement in the production level.

The project reported in January 2009 that sales of corn were 2,388 metric tons for \$ 524,914, sales of peanuts at 355 metric tons for \$ 231,360 and mung beans at 151 metric tons for \$1,502,982. These activities all together benefited 110,500 farmers on record who received the training and support for wheat, corn and peanut. It is expected that some of the farmers will continue to benefit from this experience by using the proper agricultural inputs and the training received. Other farmers may join the program after observing the success.

A major constraint remains in the source of supply of certified seeds. They utilized some private companies that have a good reputation as a seed supplier; however there are many businesses who supply lower grade cheaper seeds. The industry needs to be regulated to prevent the sale of lower quality grade seeds with poor germination rates.

Vegetable in green house production

The project supplied 146 metric tons of vegetable seeds, distributed 200 hoop greenhouses and constructed 150 drip irrigation units. Bolan Demonstration Farm was used with a shade house technique to grow high value crops such as lettuce, cauliflower, tomatoes, cabbage and green beans. They also used inter-row crops that included corn, okra, carrots, soybeans, radish, silver beet and spinach.

The project did not report any commercial success even though the high value horticultural crops were successfully grown in the trials at Bolan Demonstration Farm. Security situation related to mobility problems in Helmand, Kandahar and Uruzgan prevented further development of this idea. Impact on farm income due to vegetable production could not be evaluated due to lack of reported production and distribution data.

Horticultural crop production

The project target planting of 500,000 pomegranate saplings, 20,000 grapevine rootstock and 800,000 stone fruit saplings were undertaken to increase fruit production in the future. The planting targets were mostly achieved but fruit production is not expected until 2012 and 2013, when the trees and vines will start bearing fruit.

If the trees and vines are fertilized and irrigated by farmers properly, the increased fruit production will provide an abundance of pomegranates, grapes and stone fruits for domestic and export markets. The project demonstrated that use of trellises for vineyards verses the traditional mud walls can quadruple grape production.

The pomegranate orchards can be very productive if water, fertilizer, disease and insect control and pruning are done by the farmers. No extension service after planting was provided by the project. Orchard care was totally left at farmer's responsibility. Estimated cost of irrigation and fertilizer per hectare for a year is about \$ 1,500 which the farmer has to bear (see annex for details). At 25 Kg per tree of pomegranate production, 780 trees per hectare will produce 19,500 Kg of pomegranates. The entire 400 hectares planted by the project would produce 7,800 MT at this average production rate. This would have significant impact on increasing the pomegranate production in the country. (See annex for details of the calculation of income.)

Analysis for the production of stone fruits is given in section H-3.

B. Farm Income (2)

Many of the project's activities were designed to have a short term impact on farm incomes. The distribution of wheat, corn and peanut seed to farmers helped improve the food security for farm families in this region. Livestock owners were also impacted by the projects distribution of animal feed, a lamb fattening program and the poultry program. Additional project activities had a potential longer term impact such as the planting of pomegranate saplings, grape vines and stone fruit saplings. The project was also engaged in smaller activities such as the distribution of 200 hoop greenhouses, vegetable seed distribution and the chili project. The impact of the chili project can be considered negligible.

Conversations with beneficiaries and stakeholders indicate that much of the animal feed along with some of the wheat and corn did not reach its intended beneficiaries. Although it was not possible to measure the amount of animal feed that reached farmers, interviews indicate that approximately half of the animal feed distributed to farmers ended up for sale in the market.

The wheat, corn and peanut program had a positive short term impact on farm incomes particularly with the high prices of grain in 2008/2009. Utilizing normal yields for corn, wheat and peanuts, benefits can be calculated as \$350 per farmer.

The horticulture trees planted by the project were still growing and were not yet ready to bear fruit for 2 or 3 more years. According to beneficiary farmers, they lost between 15 and 50 percent of the trees and vines that were planted. Team interviews indicate that approximately half of these farmers were able to replace their dead trees. The impact on farm incomes from these activities has not yet been realized but once the trees begin to bear fruit and come into full production in 2012 and 2013 the discounted benefits can be calculated as \$6,300 per farmer (\$7,800 gross income less \$1,500 estimated costs for irrigation and fertilizer per year).

The chili program had no effect on farm income due to the lack of market and ability to produce chili. This program was implemented without full analysis of the whole value chain and also did not consider the needs and interests of the local farmers.

C. On-Farm Employment and Wages (3)

The project had a significant effect on employment in all three provinces where it conducted its activities especially in Kandahar and Helmand. Studies indicate that 70% of the

households are engaged in some sort of employment activity with agriculture the primary employer. The project reports that 276,000 FTE jobs were created in the three provinces where it operated. It was not possible with project reports and documents to independently verify this number.

The short term cash for work programs involving local wage earners in canal cleaning and road building were of short duration and provided a significant source of local employment. Other project interventions such as distribution of 800,000 stone fruit trees in Helmand and the distribution of 5.1 million chili seedlings, corn, peanut and wheat occupied a substantial number of people.

One cannot speak about farm wages in Helmand and Kandahar without looking at the opium economy. Discussions with beneficiaries and stakeholders along with some analysis point to a substantial short term increase in wages as a result of the ADP/S project interventions. Data show that agricultural wages in Helmand are higher than the rest of the country due to the opium economy. Additional demand for agricultural labor such as that generated by the ADP/S project with intense cash for work requirements and agriculture interventions requiring a large labor force will naturally push wages up.

D. Decline in Opium Production (4)

There is no evidence that the project had an impact on the production of opium. The opium economy represents approximately 2.7 billion dollars in annual revenue for the projects 3 provinces of operation with the majority of this in Helmand. Comparing this to the projects budget of just over \$40 million dollars per year it is very difficult for ADP/S to have had a major impact on the opium economy. Production of opium in all three of the provinces increased during the project with a drop off in Helmand, the largest producer of opium, the final year 2009. It is possible that there could have been lag effect from the project, which may have caused this drop off but this is unlikely.

Opium cultivation in the projects provinces of operation from 2006 to 2009 is shown in the table below:

Opium Plantings in hectares of cultivation by province from 2006 to 2009.

Province	2006	2007	2008	2009	Change (%) 08 - 09	2009 (Ha) % of country
Helmand	69,324	102,770	103,590	69,833	- 33	57
Kandahar	12,619	16,615	14,623	19,811	35	16
Uruzgan	9,773	9,204	9,939	9,224	- 7	10

Source: Afghanistan *Opium Survey 2009*. Kabul: UNODC, December, 2009.

As shown by the table above, opium cultivation has been consistent in Uruzgan and has gradually increased in Kandahar during the projects operation. In Helmand it increased substantially between 2006 and 2008 with the drop off of 33% in 2009. Although fewer hectares were cultivated, UNODC points out that yields were up in 2009 for an effective 10% decrease in overall production.

Wheat prices were high in 2008 and in 2009 opium prices were at their lowest level since 2001. It has been speculated that many farmers switched over to the production of wheat from opium in 2009 in response to the high grain prices. It is also possible that farmers switched to the production of other crops. Mansfield stresses that production of opium is driven by its own market and demand, and UNODC speculates that as much as a two year supply of opium is being kept off the market due to consistent over production. The price of opium is not very predictable and the opium industry in Afghanistan is beginning to appear like that of a cartel according to the 2009 UNODC report.

This region of the projects operation in the south became increasingly insecure from 2005 to 2009. Government influence and lack of rule of law became increasing issues. Conflict Zones not just in Afghanistan, but around the world represent havens for drug production since these zones are outside the influence and control of the government. In these circumstances it was extremely difficult for a project to have an impact.

The project was also challenged to have an impact on opium production since opium appears to behave like a well coordinated value chain with well developed backward and forward linkages. Farmers are given credit, there is opium denominated debt and traders take delivery at the farm gate eliminating the need for marketing and transportation. Opium is also non-perishable and farmers who have the means will often withhold opium from the market storing the sticky blocks in their home awaiting better price. This makes it very difficult for other crops to compete against opium.

Based on these observations about opium, and the lack of government influence in this region, along with the increase in opium production, it is doubtful that the projects conditionality agreements had any effect on the growing of opium. It is even possible that the expansion of the irrigated area from irrigation restoration could have a positive impact on opium production but it would require more research before this could be said with any degree of certainty. A more detailed discussion on opium is provided in the annex.

E. Human Capital Investments (Training) (15)

ADP/S provided a training component with each of the activities of the project. The evaluation team was unable to obtain any detailed information about these trainings such as outlines, participant rosters, learning objectives or sample course material. Investigations with stakeholders and beneficiaries revealed very little impact on sustainability as a result of the projects training efforts.

Numbers reported by the project related to training are shown below:

Table : Training Listed in the ADP/S Accomplishment to Date Report

Training Reported	Number of Participants
Para – Veterinarian and Basic Veterinary Workers Trained	180
Farmers trained in agricultural Practices	43,000

Source: Major ADP/S Accomplishment to Date, Biweekly Report, July 16-31, 2009.

The project also reported that 1,712 people were trained in business skills. The evaluation team could find very little information about any of these trainings or how these numbers were obtained.

There were also some training programs aimed at women. For example the project reported that a large number of women were trained as members of the Arghandab Cooperative on bag and garment making along with some carpet making. These women were paid to attend the training and were given a tool kit at the close of the training. The intent was to empower the women to do this work on their own. The evaluation team found no evidence of the sustainability of effort with Arghandab Cooperative. Interviews with stakeholders did not indicate if any of these women were still doing this work.

Kandahar Treasures was also the recipient of training on quality control, color theory and design. The President of Kandahar Treasures had mostly positive things to say about the training and support they received from ADP/S. The only negative comment from the President was that the trainer did not have experience running a business here in Afghanistan and therefore could not provide assistance on some of the most challenging aspects of her business such as logistics, sourcing material and marketing. Approximately 50% of the part time women are still working at Kandahar Treasures along with 20 full time employees.

Based on evaluation team discussions with beneficiaries and stakeholders we could find very little sustainability from the training efforts and few samples of training materials from ADP/S. More sustainability when introducing new cultivation practices would have been obtained from prolonged extension efforts verses short training workshops with farmers.

F. Infrastructure Investments (irrigation) (13)

The economic returns to improved irrigation, especially in a country such as Afghanistan are well documented. Numerous World Bank, FAO and USAID reports illustrate the economic benefits from improved irrigation practices. ADP/S states that 89,500 hectares were impacted by the restoration efforts of ADP/S. The project was primarily involved in canal, karez and drain cleaning but they also shored up flood walls, repaired drop structures, repaired control gates and installed culverts. It was not possible to determine the type of irrigation improvements allocated by hectare as it was not reported. The total 89,500 hectare number could also not be independently validated by the survey team due to time and travel restrictions.

Also in calculating economic benefit it is important to know of this 89,500 hectares, what portion was already under cultivation and what was not. Project data provided for 56,600 of this 89,500 land was newly irrigated land as a result of the projects restoration efforts. It is also important to point out that Afghanistan utilizes traditional flood irrigation which is a very inefficient use of water. Plots are often unlevel and farmers will often over irrigate. Engineers from the AWATT project have data that show some farmers at the bottom of canals, who irrigate less frequently (3-4 times during the season) can have better yields than farmers who irrigate 8 -10 times.

A DAI impact study for RAMP discussed 3 types of benefits accruing from irrigation improvements: a.) horizontal intensification (cultivation additional hectares of a crop), b.) Vertical intensification (improved varieties, improved yields due to better water access) and c.) Area shift (shift to higher value crops such as vegetables). The study estimated benefits a 3.4 cost benefit ratio from irrigation improvements over a 3 year period. This ratio however was calculated on undiscounted revenue streams.

Calculating the economic benefit from the efforts of ADP/S was done using the 3.4 cost benefit ratio from the DAI study. Although the command area of irrigation improvements was 89,500 hectares, the project reported 56,600 hectares of new land brought into cultivation as a result of irrigation improvements which is 63% of the total. Assuming that 85% of the command area is under cultivation and using the 63% figure and the 3.4 cost benefit ratio, costs for this amount of land was calculated at \$5,045,319. This number is multiplied by 3.4 and spread over 3 years. Discounting this income stream by 12%, results in a net benefit of \$13,733,738 which comes to \$242/ha which is very conservative.

Looking at the net income derived from irrigated wheat alone ranges between \$650/ha and \$1,200/ha depending on price. The table below also shows returns to vegetables:

Returns to irrigated land 56,600 hectares	Net Income/ha	Total annual Income at 100% cultivation	Total annual income at 50% cultivation
Irrigated Wheat	\$700.00	\$39,620,000.00	\$19,810,000.00
Irrigated Vegetables	\$2,500.00	\$141,500,000.00	\$70,750,000.00

This table shows that the economic benefits from irrigation improvements, particularly if there is new land being irrigated can be very high. These numbers compare favorably to the \$8,008,443 total amount spent on irrigation improvements by ADP/S.

G. Seed and Fertilizer Distribution Programs (16)

The project distributed 1,945 metric tons of improved wheat seeds, 288 metric tons of corn seeds and 4 metric tons of peanut seeds. It is reported that 110,500 farmers received seeds and fertilizer and 26,800 of these farmers received training in proper usage of the seed and fertilizer. Farmer selection criteria appeared to be random and not well defined by the project reports. Team interviews and reports indicate that consultation with village elders was helpful.

The supply of seeds certified by FAO and high quality fertilizer (urea and di-ammonium phosphate) resulted in high yield of wheat production by an increase of 30 percent. The corn and peanut yields were not quantified due to the lack of data collection ability. Qualitative analysis showed that both the crops had good production results.

Selection of seed and fertilizer distributors was done carefully. They were chosen from the private sector. They were companies with a good reputation. The voucher system worked mostly because they were redeemed by the farmers at the time of receiving the inputs from the distributors. The project also instituted more stringent controls on the distribution of the seed and fertilizer.

This type of demonstration should attract more farmers in future because it showed that higher yield for high quality wheat production could be achieved. This project activity has provided positive impact on farmers.

H. Orchard Investments (17)

Pomegranate and stone fruit (apricot, plum and peach) orchards were developed by planting saplings and cuttings which were obtained locally and grafted with root stocks in the nurseries prior to planting. Grape vineyards were planted with imported root stocks from South Africa which were also kept in the nurseries to be rejuvenated prior to planting. Details are given for each segment of the program.

1 – Pomegranate

Orchard investment

Improvement of pomegranate orchards included a target of planting of 500,000 saplings, introduction of proper management techniques, and training on post harvest technology to boost production of high quality pomegranates. The strategy was to increase the production of high quality fruit that would increase the business and get higher premium from the export market.

Reports from participating farmers in Kandahar where all of the pomegranate saplings were planted presented a wide range of survival rate. They reported that 15 to 50 percent of the saplings, which were grown in nurseries grafted with rootstocks when planted in the field, did not survive. One farmer reported as high as a 80% loss. Most of the losses were due to lack of irrigation and poor orchard management and farmers said that some of the saplings were dry. In addition to making land available, the following farmer activities were required to make the planting successful:

1. Pumping of water from wells for irrigation that required purchase of fuel,
2. Fertilizing the plants with chemical or organic fertilizers purchased locally, and
3. Pruning for training, re-planting, disease control and orchard management for proper growth of trees using farm labor and family resources.

Estimates developed through farmer surveys showed that about 444,000 saplings were successfully planted, verses the 500,000 reported by the project. Some farmers are still re-planting the dead trees to achieve their target. The saplings may need another 2 to 3 years to bear fruit as long as they receive water and fertilizer regularly. Full commercialization can be expected in the year 2013. Till that time proper maintenance of the orchards will be necessary.

The project estimated that farmers could get on average of about \$4,800 per hectare (5 Jarebs) income by cultivating pomegranate. This estimation appears reasonable since estimates show that \$6,300 per year of income per family of 10 persons per hectare would be possible from the sale of high quality pomegranate at farm gate price of 20 Afs/kg (\$1 US= 50 Afs). The planting of 444,000 pomegranate trees for orchard improvement will provide a new source of income for decades to come if the orchards are well maintained till commercial production of fruits takes place around 2013. The above estimate of income is based on 70 percent survival of the trees actually planted. The project initially invested \$ 1.1313 million for the purchase of saplings and planting them, according to the final ADP/S report. Details of calculation for potential income are given in annex. (Note: UNODC estimates income for growing poppy at \$3,170 per hectare which is less than half of income from pomegranate per hectare).

Cost benefit ratio for orchard development

Direct cost of orchard development for 400 farm families not including security and project overhead expenses, was \$1.1313 million or \$2,829 per farm of one hectare (5 jeribs). This is based on the cost of saplings and planting at \$2.26/per tree. If the inputs by farmers such as water, fertilizer and pesticides were not included in calculation, the direct cost of orchard development over 10 years would be about \$283 per one-hectare farm per year. The net income per farm of \$6,300 per year would offset the cost by a wide margin. Net Farm income for 10 years will be \$63,000. Therefore, based on these costs excluding annual upkeep, every dollar invested in orchard development would generate 22.26 times the dollar in income per year over a 10-year period. Proper care and maintenance of the orchards should make the program extremely profitable. A packing house for sorting, cleaning, grading, cooling and packaging under hygienic condition should be constructed to increase sales and establish quality brand for domestic and export market. This is especially important when the orchards begin to produce adding fruit to the existing market. Afghanistan will need to develop new markets. (See annex for income analysis).

2 – Grapes and raisins

The main strategy for grape production was to improve the vineyards by demonstrating the use of trellises. In addition to this, high quality imported rootstocks were introduced to improve the cultivars.

Grapes

Simple trellising demonstration of existing grapevines resulted in yields four times higher than using traditional mud wall methods. 20,000 improved grapevine cultivars imported from South Africa was done to enhance high quality grape production in future. The survival rate of grafted root was about 50 percent which is normal. The remaining rootstocks that survived may take several years to show any impact on the income of grape farmers. Although trellising was demonstrated by the project successfully, it did not get into wide use at commercial level. Even free distribution of some trellises did not motivate the farmers to implement the program. Very little follow up was noticed. Since trellising requires capital expenditure by the farmers, and involves new methods of working that are different from the traditional method, these may be the reasons for its not gaining popularity.

Raisins

Afghanistan has been known for different kinds of raisins produced for many years but very little improvement in production techniques has taken place. The raisin drying facilities (kishmish khana) for brown and large yellow varieties are still traditional. Sun drying without protection from dust and dirt does not enhance the raisin quality for export. The green, yellow, dark raisins are also dried in a similar manner. Improvement in drying process with dust removal, fumigation and cleaning for export under hygienic condition require substantial investment in processing facilities. The project provided some assistance in Kandahar for packaging raisins. It will require additional capital expenditure for modernizing the raisin drying facilities under a hygienic dust and insect free environment. The impact on farming families could not be determined due to lack of coordinated activities to increase income.

3 – Stone Fruits

The main strategy was to improve the orchards by planting 800,000 fruit trees to increase fruit production. According to project documents the majority of these trees, nearly 600,000, were apricots. Other stone fruits were peaches and plums. Survival rate of planted trees is estimated at 70 percent. This will increase production of stone fruits for drying and will boost the dry fruit industry. Some of these fruits may also be used for nectar production in Kabul. The impact on family income is expected to be substantial in 2014 and 2015 when the fruit production may reach commercial harvesting level of 20-30 Kg/tree. Based on an average of 10 Kg of production per tree, the total fruit production may be 5,600 metric tons. Assuming the farmer gets 10 Afs per Kg at the farm gate it would generate an income of \$ 1.32 million. Post-harvest handling, processing and packaging will be essential in value addition and expansion of export market at that time. It is estimated that the cost of fruit trees at \$0.64 per plant came to \$ 512,000. This investment with the contribution of farmers for watering, fertilizing, pruning and disease control would result in the expected annual income of at least \$1.32 million for 10 years. The impact on orchard income will be very positive.

I. Poultry and Livestock Production (19)

1. Poultry

Start up of nucleus hatchery and satellite farms

In 2007 ADP/S started an integrated poultry operation called Bolan Poultry Farm (BPF) that included hatchery, feed mill, broiler and layer parent stock production and a training facility for farmers in Lashkar Gah, Helmand. By July 2009 the operation was able to supply a total of 110,000 chicks to the farmers that were produced from the 5,000 birds as parent stock imported from Holland. The operation had a well-rounded approach in providing service and training in veterinary health, manufacturing of boxes for layers, building of transport cages and ventilation equipment.

By the end of the ADP/S program in 2009, BPF was able to support 23 private commercial scale farmers who were producing 10,000 eggs per day and 40 metric tons of poultry meat per month. BPF assisted in construction of 36 commercial scale buildings for housing 90,000 broilers and layers. Feed formulation and mixing was also considered as a vital part of the operation but the operation mostly imported feed from Pakistan.

The nucleus formed by BPF in egg and poultry business was quite successful. It helped in generating 150 full time jobs and nearly \$1 million in annual sales. The goal was to double the business by increasing the number of farms. The trend to achieve this goal was positive. USAID continues support of the operation and by January 2010 there were 33 farms in operation. The nucleus facility is maintaining about 30 professionals on a full time basis to support a target of 64 farms. Each farm will be able to handle 3,500 to 4,000 birds. BPF employs 5 well-trained veterinarians and civil engineers and has trained 120 poultry workers to impart the skills required in poultry farm management. Extension service is provided by BPF on a daily basis, which is an excellent idea for sustaining the independent farms. This is particularly important as feed management of the broilers is critical. The farmers need to

stick to the 45 day cycle as each additional day of feeding cuts into profits. Chicks are also difficult to raise as they are very susceptible to disease.

Possibility of privatization

The progress toward viable commercial venture through privatization is in progress. The current contractor is in the process of selecting candidates to review the possibility of commercialization. This is expected to take place in 2010. If the hatchery can provide one-day-old chicks at \$ 0.80 to the farmers and provide veterinary and technical services on a monthly fee basis, it may be a viable freestanding venture (production costs are about \$.60/chick). The biggest challenge lies in the procurement of inexpensive feed. Currently feed is imported from Pakistan. In order to raise a chick to a 2 Kg bird in 45 to 50 days, the cost of feed consumed per bird is estimated at \$1.65. Therefore, if a 2 Kg bird brings in \$3.50 at \$ 1.75 /Kg and the cost of feed and chick is \$2.45 without farm labor and veterinarian services, the gross margin per bird will be \$1.05. This shows that farmers should not only be able to cover cost of production but will have a small profit. Discussions with beneficiaries in Helmand indicate that farmers can buy birds cheaper from Pakistan (about \$.50/chick) which may impact the profitability of the hatchery and needs further investigation. Also it is worth noting that these chickens produce brown eggs which are about 1.5 times larger than those produced by chickens from Pakistan/India. These larger brown eggs fetch a premium in Kabul selling for 7 afs each verses 5 afs for the smaller white eggs.

The above calculation shows that benefits to the participants would be positive even if it is marginal at 5 percent net profit. At the moment, it provides employment to farmers in at least 30 farms. At the rate of 10 persons per farm, this builds up to be 300 persons employed on a full time basis. If the semi skilled farm workers are paid \$ 6 per day that amounts to \$180 for a month on a 30-day basis. The payroll itself provides \$ 54,000 of income to the farm workers as beneficiary of the operation. If each farm becomes a profit center, it will further enhance income and employment in the Helmand area. The hatchery may remain as a service organization to the farms with a nominal profit to sustain itself by selling chicks and veterinary and technical services. Besides this, the feed and ancillary equipment suppliers would also benefit from the farms and this multiplier effect will add to the level of income and employment.

Egg production is difficult to analyze because the demand fluctuates with season. In summer fewer eggs are consumed than winter. Besides this, the demand for imported small white eggs from India continues to be steady compared to the large brown eggs produced by the local farms. Nevertheless, it can be an income-generating component of the farms if they are integrated for egg and poultry meat production.

In this regard, selection criteria of candidates for private handover of the hatchery have been prepared and land lease terms are under consideration by the Government of Afghanistan. This is a viable venture that can generate profit and create employment in the area. Moreover, it can contribute towards import substitution in the long run if it is transferred to local ownership with proper management. (See annex for investor selection criteria.)

2. Livestock

Animal healthcare

Animal healthcare and proper feeding were given emphasis to help boost the production of milk and meat from cattle and sheep. Afghan Veterinary Association (AVA) was taken as a partner. AVA had trained 56 paravets in the Veterinary Field Units in Kandahar, Helmand and Uruzgan provinces prior to ADP/S. They were established with USAID assistance. Half of these paravets were trained in artificial insemination and the other half were trained in laboratory services. They were all trained in vaccination of animals. The project provided nearly 696,000 vaccination and medication to animals. However, 42 Veterinary Field Units that got equipped for continued service were not found in sustainable condition after the project ended. Cost benefit ratio could not be calculated because the number and type of animals treated were not reported. Moreover, the data on number of animals that survived due to this intervention was also not reported. It can be only assumed that at least 232,000 animals were vaccinated if each animal received vaccination 3 times during their life cycle.

Estimated gross sales from sheep

At \$100 per lamb revenue of \$23.2 million would be generated if the survival rate of animals was 100 percent. Field information suggests that in many cases 30 to 35 percent mortality was observed among the owners from Kuchi tribe that owned more than 60 percent of livestock. If the survival is assumed at 80 percent, the gross sales proceed to the owners is estimated at \$ 18.56 million. This appeared to be a good idea but it did not remain in sustainable condition after the project was over.

3. Animal Feeding

a) Feed distribution and milling of feed

The project appropriated \$23.2 million for the purchase of feed for the three provinces. During the harsh winter of 2006 and 2007, 10,000 metric tons of imported feed were distributed. The feed was distributed free of charge in Kandahar and Helmand province. The kuchi nomads living in the south of Helmand province were given 1,200 metric tons of the feed for their animals. Although it was a one-time intervention, the impact was very positive in these areas. Provincial Development Committees (PDC) assisted in identifying and distributing the feed to the needy persons.

Four Mini Feed Mills were installed in Kandahar and Helmand area that could each mix 350 Kg of feed in 40 minutes. Experiments on feed formulation were conducted to produce high quality livestock feed. However, the feed mills did not remain as viable business after the project was over. These were mostly dependent on the project subsidy and could not continue as private businesses.

b) Lamb Fattening

Three lamb and sheep feeding trials were conducted to demonstrate the benefit of proper feed and animal healthcare that would be commercially profitable. The results reported from the trials are summarized below:

Trial 1	60 days	120 head of Rigi Sheep	Avg.weight gained per animal 14.2 Kg	Avg.profit, earned 25 % over cost
Trial 2	75 days	120 head of sheep	Avg. weight gained per animal 28.43 Kg	Profit not reported
Trial 3	75 days	120 head of sheep	Weight gain, doubled of initial weight.	\$50 per lamb bought was sold at \$180

The three trials were conducted to obtain preliminary information of the feasibility of this activity. Note above that the project did not compare profitability between the three trials although the results appear favorable. The sheep in the third trial were on alfalfa and grain based concentrate. The feed cost at market rate is \$350 - \$400 per MT. The feeding trial proved to be beneficial in fattening sheep and making profit over pasture feeding that usually takes 6 months and good weather. It is reported that net return per sheep ranged from \$25 to \$40. The result was encouraging enough that future consideration should be given to this idea.

Fattening of lambs in feedlots appears to be a profitable venture for year round production of meat. However, the trials were done mostly with the Kuchi tribe and did not prolong after the program was over. The Kuchi did not adapt to the new ways of establishing small feedlots and they reverted back to the traditional feeding of sheep. Any idea in the future to re-establish the sheep-feeding program should be evaluated not only for profit and loss analysis but also for possible behavior change of the participants. Trials alone without extensive and prolonged training and extension are not enough to transfer technology.

J. Inclusion of Women (20)

ADP/S had a limited impact on women. The social structure in southern Afghanistan was a major impediment to significant progress in this area. Both men and women in this region were reluctant to speak about women's role in the workplace, few women could be seen in the streets and it became clear that this region was behind the rest of the world with giving women access to the same freedom as men in the society.

The female population of Helmand and Kandahar can be classified into three categories; nomad, peasant and urban. The nomad women or Kuchi's are productive members of their households and have unlimited mobility. The peasant women from the traditional feudal system in Afghanistan are divided between peasant households and landlord households with the women from landlord households the most secluded and expected to perform a reproductive and child rearing role in the house. The final category is the urban woman

which is divided between the poor and the affluent. The urban women from poor households are expected to work in factories and the affluent women are typically educated and are more influenced by western culture.

In Kandahar, the project worked with the Arghandab Women's cooperative and a female owned business called Kandahar Treasure. There was a significant training component with both of these activities. Of these two enterprises there was little evidence of sustainability or impact from the project work with the Arghandab Women's cooperative. Conversations indicated that Arghandab Women's Cooperative was no longer an active organization. Kandahar Treasure was still operating and although at a reduced size (200 part time employees from the 400 at the close of the project) it was beginning to turn the corner and according to its president was expected to earn its first profit this year. The project trained women farmers in the Helmand area but it was not possible to validate the sustainability of these efforts.

K. Farmer and Worker Safety (pesticide exposure) (21)

Exposure to chemicals such as insecticide, pesticide and herbicide was examined carefully. The project did not recommend specific chemicals for these purposes. However, it was noted that some seeds supplied by vendors were mixed with fungicides and in some cases a packet of fungicide was provided to be mixed with seeds prior to planting.

Although the project was not directly involved with the distribution of chemicals, a review of the availability of such chemicals in the market was done to see what was available without any restriction. Results are summarized in a table below:

Common chemicals	Usage on farm	Country of origin
Ripcord, Chlorpyrifos, Larsbin, Dainadim	Insecticide for fruit trees	China, Germany, Malaysia Pakistan
Zenib, Copper oxychloride, Propiconazole Vitavax, Thiram, Sulfur (powder)	Fungicide for wheat, corn and vegetables	China, Iran, Pakistan
2-4D (dichloro-phenoxy - acetic acid), Illograss,	Herbicide for flat leaf and needle herbs	China, Iran, Pakistan and Switzerland
Deptrix,	Insecticide to eliminate worm from soil	China, Pakistan, Germany
Arrivo, Dimethoate, Advantage, Imidacloprid, Diazinon, Cypex, Perfekthion, Cascade	Insecticide	China, Germany, Swtzezrland, USA,
Talstar	Eliminates mites and insects	USA
Bavistin, Kumulus, Cobox, Micropel, Veto Top, Polyram, Curzate	Fungicide	Germany, Switzerland
Petroleum Oil	Fungicide and pesticide	Iran
Wetable sulfur	Fungicide	Iran, Pakistan

Additional details about these chemicals and their functions are given in the annex.

Discussions about the safety of hazardous chemicals with vendors revealed that instructions to use gloves, masks and safety glasses were recommended by them to the customers at the time of sale. However, no special training or workshops are available to farmers. Therefore, it is essential that provision be made to give general safety training for future projects since it is likely that farmers will be exposed to these types of chemicals.

IV. Agribusiness and Rural Economic Development

a. Infrastructure Investments (13)

The two primary investments in infrastructure related to agribusiness were the poultry operation and the Bolan Agricultural Center. The road work done by the project also had a positive impact on agribusiness and is analyzed later in the report. The Electrification upgrade and the airport upgrade will have a positive effect on agribusiness in the future and they are also analyzed in a later section.

The Agricultural Center as of this writing was not yet complete and does not appear to be ready for completion for at least another year or two while DFID completes the build out of this facility. This project has gone through changes in direction and ownership. Originally the Ministry of Agriculture was to own this building and lease to tenants. With the new Minister, ownership and operation was transferred to the Afghanistan Investment Support Agency (AISA). Since this property is still under construction, this activity which cost the project \$3.5 million dollars has not yet had any economic impact.

The Poultry Operation is still in operation and is being run by ARD under the ADP Southwest project. This operation which currently employs 30 people, is impacting local farmers who purchase chicks from the hatchery. It currently serves 33 farm families with an additional 15 farmers due to come on line in April. It is not yet being operated as a viable business but there are plans to privatize ownership this year. It is however having a positive effect on poultry farmers that buy chicks. These 33 farms potentially earn a net profit of after buying the chick and paying for feed of \$3,994 per farm. With 33 farms this is a total of \$131,802 for each cycle of birds raised and sold. Eggs would be an additional benefit but this information was not known nor was it reported.

b. Agribusiness Employment (3)

The project created very few sustainable agribusinesses with the exception of poultry. At the end of the projects operation there were about 30 poultry farms that were established and supported by the hatchery. With about 10 persons per household on average this represents about 300 jobs. The hatchery also employed 30 people with various skills.

ADP/S created feed mills, trained additional paravets and established some micro-nurseries but there was very little evidence that these were sustained. No operational feed mills could be found and few paravets were still in operation. The micro-nurseries were primarily dependent by the project and could not be found by our survey team. Other agri-businesses supported by the project were members of the Dried and Fresh Fruit Growers Association of

Kandahar. These Associations were still functioning when the evaluation team visited Kandahar.

c. Growth (19)

1.Sales

Sales figures of existing business in fruit, nuts, vegetable, poultry, egg and meat industry show some increase in demand and growth of the industries, Details are given below.

1-Fruits and nuts

Annual production and sales figures for fruits and vegetables were not available for determining the yearly growth of this industry. The following observation is made based on interviews with farmers, industry associations and exporters.

The Afghan Chamber of Commerce and Industries (ACCI) reported that 45,000 MT of pomegranate were sold. The project reported that its assistance had helped export 905 MT of fresh pomegranates in 2007 which was doubled in 2008. This indicates that this segment has shown growth.

Besides fresh fruit export, a newly established fruit juice plant and nectar concentrate plant in Kabul has been built by the private sector to produce concentrates of 55 degree brix (Brix is a measure of sugar concentration) from pomegranates, apples, pears, peaches, plums and apricots. The plant currently sells concentrates in 55 gallon drums. This business will create demand for processing lower grade fruits. It currently buys much of its pomegranates from Kandahar.

Growth can also be expected in dry fruit industry because demand continues from India and Middle East and Gulf countries. Dry apricots, plums and raisins from Afghanistan are in great demand. Nuts such as almonds, pistachios, walnuts and pine nuts are also in demand. The growth of the industry is limited by its capacity of production and processing under hygienic conditions. In 2008 the project reported exports of dry fruits of nearly 3,700 MT. This is expected to grow with increased production of stone fruits, grapes and nuts. Traders also complained about the difficulty in transporting produce overland to Pakistan and India. One trader had to change trucks 4 times on one occasion trying to sell fresh pomegranates in India.

Vegetables

Trial production of vegetables with high quality seeds were conducted at Bolan Demonstration Farm in Helmand. The production results were reported to be excellent. In December of 2007, 100 tons of vegetables were exported to Armenia. ADP/S assisted Afghan traders in exporting them to the Afghan border in route to Armenia as a pilot program to see if it was commercially feasible to export vegetables from southern Afghanistan. Root crops like potato have excellent potential for export. The program was not repeated however to allow for further exploration of the concept.

Growth in vegetable production can be achieved with proper shaded green houses with application of irrigation, fertilizer and pesticides. The major constraint is in maintaining cold

chain such as transportation, cold storage, field heat removal, sorting, grading, and packing the produce in controlled conditions. Post harvest technology does not practically exist. Further processing and value addition is also not available. Post harvest technology remains a serious constraint in Afghanistan.

Poultry

The project assisted this segment by assisting in poultry meat and egg production in Helmand at Bolan Poultry Farm. Growth in this area is taking place gradually. The hatchery in 2009 supported 23 private commercial poultry farms. It has since grown to 33 farms. They produced 10,000 eggs per day and 40 MT of poultry meat per month. The poultry industry has room to expand because the eggs and live poultry are imported from India and Pakistan and they dictate the market price. Local poultry industry has to compete against them. The margins are low and above all the feed has to be imported from Pakistan.

Lamb

A few trials in lamb fattening for meat were conducted by the project. The results were positive but further refinement was not done for commercialization. Demand for meat is steady but efficient feedlots with proper feed formulation at reasonable cost are not available. The trials showed that each fattened sheep may bring in net profit of \$25 to \$40. This industry has high potential for growth. Replication of feeding trials and data for commercialization is needed.

2-Business Start-ups

The project was involved with very few business startups. ADP South did provide *assistance* to several small businesses and was very involved with the woman owned business “Kandahar Treasures”. This business which currently employs 200 women part time and an additional 20 women full time is in a position to start making a profit this year.

Although no new businesses were started up in fruit, vegetable and livestock area, there were 23 poultry and egg farms were established with the assistance of a hatchery in Helmand. Fresh fruit and dry fruit exporters were assisted in increasing their existing business. The project started 40 nurseries and 120 micro-nurseries that supported the planting of trees. Most of these were not to be counted as viable commercial ventures because of their dependence upon the project.

No Veterinary Field Units were found by the evaluation team to be operating as a self-supporting unit. It was reported from the field that 1 of these units was still in operation.

Seed and fertilizer distribution system used existing vendors. It did not create any new business.

3-Private investment and industry growth

This region is lagging behind industrial growth. The competition from neighboring countries makes it even more difficult for local businessmen. The ongoing war has also taken its toll on the region's economy. Lack of incentive from the government and inadequate credit

support from banks may also be the reasons for not attracting investors to support growth of this segment.

ADP/S attracted farmers and area businessmen. Interest was shown by potential investors who participated in the demonstration programs. Other than poultry and egg farms, none of the other enterprises remained as viable business. The fresh fruit and dry fruit exporters remain as traders and some of them work through the Afghan Chamber of Commerce and Industries (ACCI). The FFEAK and DFEAK have remained as loosely knit groups but not as strong selling cooperatives. Moreover, they do not operate as businesses.

The project identified several areas for growth of agribusiness such as feed milling, seed and fertilizer selling, grain marketing, fruit and vegetable processing, poultry and meat industry etc. These areas need pilot production and sales so that they can go beyond demonstration level. The lack of cold chain continues to be a constraint. In addition to this, a vital need remains to overcome transportation and logistics challenges of getting products to market and bringing inputs to the farms.

d. Agricultural Exports (18)

Food grain such as wheat and rice are imported from neighboring countries to meet the demand. Feed for animal and poultry are also imported. Food security issues are therefore of major concern in Afghanistan.

The export data on two major items, pomegranate and dry fruits and nuts are given below. They were major exportable items. These are based on project report and verified by the ACCI.

ADP/S provided technical assistance on post harvest technology and grading standards but they were done at a demonstration level and not at a practical business level, nor were they sustained long enough to have an impact. Additional assistance is needed to establish the Good Manufacturing Practices (GMP) in the fresh and dry fruit industry as requires by the USDA and FDA.

1. Market development for pomegranate export

Market development for the export of high quality pomegranate was done utilizing improved grading, sorting and packaging of fruit to open up new markets. The resulting exports are given in the annex to show the new markets and quantities exported in 2007 and 2008. Dubai market alone imported in excess of 100 tons of top quality pomegranates (such as the red Kandari variety). However, there was no provision made to follow up future transaction and sales promotion without the subsidy of freight and procurement of cartons. Besides these, no packinghouse for cleaning, sorting and grading with field heat removal was found in operation. Any sustainable export of pomegranate to developed countries in the Arabian Gulf or Europe would require hygienic packing facilities in Afghanistan using Hazard Analysis of Critical Control Point (HACCP) and Good Agricultural Practices (GAP).

POMEGRANATES EXPORTED (With ADP/S assistance)

2007 and 2008 SEASONS

Market	Exports 2007 (metric tons)	Exports 2008 (metric tons)
India	806	1,383
Dubai, UAE	62	117
Singapore	31	33
London, England	5	0
Vancouver, Canada	1	45
Azerbaijan	0	270
Total	905	1,848

Market development through participation in Dubai Gulf Food Fair and trips to India (5 times), Dubai (13 times), Singapore (3 times), and Hong Kong, Thailand, Malaysia, Indonesia, Qatar, Oman, Netherlands and United Kingdom (twice) introduced Afghanistan as a source of fresh fruit exporter. The Afghani producers and distributors however, seldom had direct contact with the potential buyers. ADP/S made the initial contacts and tried to boost the activity of FFEAK and DFEAK, the fresh and dry fruit associations of Kandahar. The Afghan Chamber of Commerce and Industries that continues to help in providing certificates of origin and quality for export of fresh and dry fruits was seldom involved. Therefore, the export promotion and sales remain with the strong merchants who have been in this business for many years. They still have difficulty in conducting transactions due to transport problems, high rate of commission by middlemen and fluctuation in currency exchange. Therefore, much more support is desirable to make the exporters strong and capable of managing the international market.

2. Grapes and raisins

ADP/s provided minimal assistance in improvement of raisin drying facilities (kishmish khana). Brown and large yellow varieties are still produced in this traditional manner utilizing natural sola energy. This technique is not hygienic or efficient enough to produce significant quantities for export. The green, yellow, dark raisin drying, process with dust removal and cleaning for export under hygienic condition require substantial improvement in processing facility such as that observed by the team in Kandahar. Grape production in Kandahar and Helmand province require additional capital expenditure for modernizing the vineyards with trellises and new varieties. The raisin drying facilities need hygienic dust and insect free environment including stem removal for export processing.

Impact on farming families could not be determined due to lack of coordinated activities to increase income.

3. Dry Fruit Export

In 2007 the amount of dried fruit exported was 1.5 times more than projected (1,500 metric tons versus 1,000 metric tons) due to the subsidies and marketing assistance provided through KOP. Exports included raisins, figs, almonds, pistachios, and dried apricots. Most of the product was exported to India. A first trial container was shipped to the Netherlands, carrying a collection of raisins from farmers in Kandahar and surrounding areas.

With marketing assistance from ADP/S, exports of dried fruit and nuts in 2008 were 5.68 times greater than the original goal of 650 metric tons. A total of 3,692 metric tons of dried

fruit and nuts, including raisins, figs, almonds, pistachios, and dried apricots, with a market value of \$16.6 million were exported. This has fallen off in 2009. Most of the dry fruits were exported to India with new quality standards and new packaging for buyers who paid more for the better quality. In order to sustain the high export levels, a clean packing facility would be a pre-requisite. The evaluation team inspected a facility in Kandahar. It had a cumin cleaning and packaging facility and separate raisin and dry fig packaging plant with a form, fill and seal machine. If these facilities are brought to hygienic standards of the European Union such as EurepGap, the export business can be enhanced considerably.

Dried Fruit Exported During 2008 Season

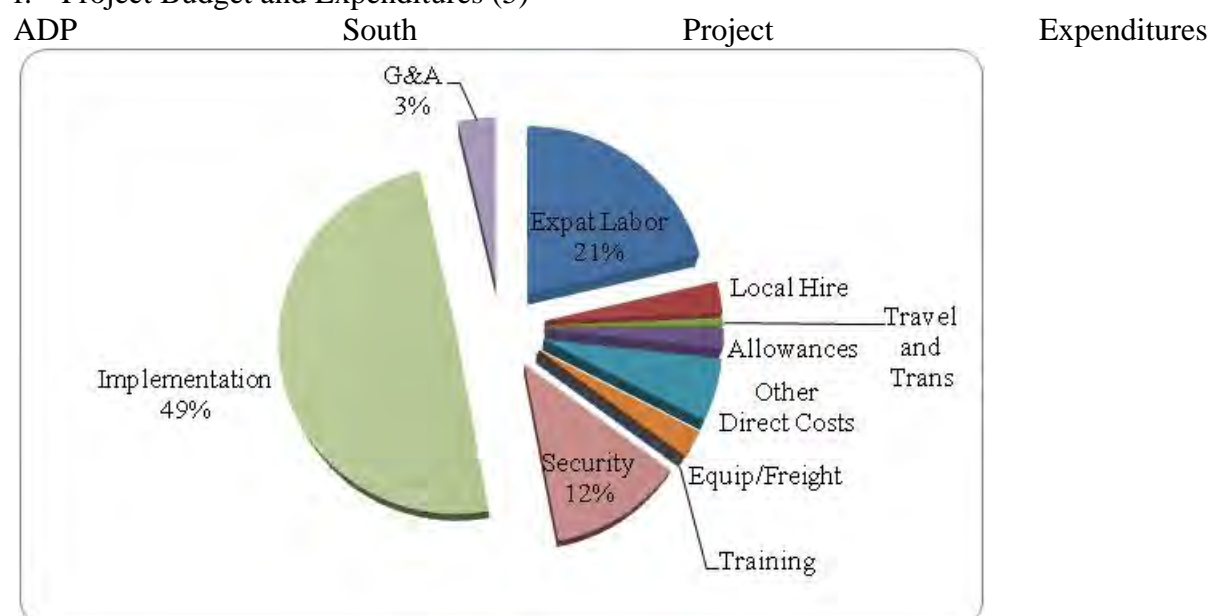
Market	Exports 2008 (Metric Tons)
India	3,105
Moscow, Russia	330
Germany	120
Australia	46
Dubai, UAE	44
Canada	34
Malaysia	13
Total	3,692

e. Inclusion of Women (20)

Project documents indicate that there were 30 women farmers trained by the project. The project also reported 362 women trained on business skills. No information could be obtained to validate these numbers.

V. ADP BUDGET ANALYSIS

f. Project Budget and Expenditures (5)



g. Budget Reaching Intended Beneficiaries (6)

The project spent a total of \$162 million dollars with \$80 million of this going towards the implementation fund which represents about 49%. The budget dollars provided by the controllers did not provide breakdowns for these numbers. Since the aggregated numbers almost always contain other embedded costs it is safe to say that the project spent almost half its expenditures on beneficiaries. Three different project breakdowns are shown below:

- | | |
|--|-----|
| 1. % project expenditures less security | 88% |
| 2. % project expenditures less security and contractor overheads | 63% |
| 3. % project implementation (reaching beneficiaries) | 49% |

h. Economic Cost/Benefit (7)

The cost benefit for the projects major activities can be found below as follows:

Activity	Cost	Years of Benefit	Discounted Benefit	Source
Lashkar Gah Airport	\$11,800,000.00	10	\$11,502,239.74	IATA
Lashkar Gar Electrical Substation	\$7,043,410.00	10	\$6,345,159.02	World Bank
Bolan Agricultural Center	\$3,491,245.00	0	\$0.00	ADP/S
Road Rehabilitation	\$4,828,848.00	3	\$5,237,831.97	RAMP
Irrigation Rehabilitation	\$8,008,443.00	3	\$13,733,738.44	RAMP
Poultry Operation	\$2,045,863.00	6	\$6,209,252.91	ADP/S
KOP	\$9,059,304.00	10	\$9,048,863.58	ADP/S
Helmund Orchards	\$7,892,739.00	10	\$6,328,249.79	ADP/S
Wheat Seed and Fertilizer	\$3,408,076.00	1	\$15,668,250.00	ADP/S
Corn Peanut & Mung Distribution	\$1,355,714.00	1	\$2,259,256.00	ADP/S
Chili program	\$5,945,881.00	0	\$0.00	ADP/S
Veterinary Program	\$1,077,082.00	1	\$18,560,000.00	ADP/S
Totals	\$65,956,605.00		\$94,892,841.45	

Note that different activities have differing estimated lives hence varying years of benefit. Also the above listing contains the primary activities in the implementation fund and is not all inclusive.

A more detailed discussion of the economic cost benefit of the projects activities is provided in the annex.

VI. Government of Afghanistan Involvement

i. Strategies – Inclusion of Afghan Experience and Knowledge (8)

Early project documents discuss that ADP south was to utilize detailed value chain assessments to determine the best sectors for intervention. The goal was to eventually end up with a regional specific development approach where discrete interventions were linked and supporting each other in integrated clusters. This would include “value added” agro-processing activities which would be back-linked to farmers. Primarily because of the security situation but also because the frequent changes in project leadership, the ADP south’s portfolio of activities did not end up this way. The project was eventually made up of a combination of infrastructure projects, cash for work and agricultural projects.

Preliminary project documents stress the importance of working through the local leadership structure when setting goals for the project. According to project reports the majority of the projects activities attempted to utilize the local leadership in assessing community needs and implementing project activities. ADP/S leaders sat in on local Provincial Development Councils where they heard about local community requirements.

The project had mixed results utilizing local leadership for implementation especially when discussing the project with local stakeholders. Most of the cash for work project activities went well and the projects appeared to meet community needs. HAVA complained that they would have liked to have more involvement. For example some of the canal cleaning went too deep in some areas and was too shallow in others and they felt more involvement on their part could have prevented some of these problems. DAIL also indicated a desire for more involvement.

Activities such as animal feed distribution, wheat seed and fertilizer distribution all did not reach their intended beneficiaries. Interviews suggest that the project had better success with wheat seed and fertilizer distribution than with the animal feed as a significant quantity of feed ended up in the market for sale. The primary reason is that there were stronger controls on the wheat distribution and local elders were utilized rather than the PDC's. There was little community involvement in selecting the Electrical Substation and airport projects which might be the reason why these activities were initially subjected to attacks and theft.

j. Level of Government Commitment and Involvement (9)

Afghanistan has a social structure similar to many traditional societies. It has two political social structures that function parallel to each other. Shuras, Maliks, and Mullahs form one, the traditional structure. These three institutions function like the executive, legislative and judiciary branches of a government; but it is most effective at the village level in Afghanistan. They provide three benefits: resolve land disputes, general disputes, and security. They perform many of the functions that are usually the responsibility of the sub national government. Like in Africa and many other traditional societies, any project, government, or international organization that ignores their influence and power is bound to have difficulties. Finally, they should not be confused with CSOs, Civil Society Organizations, because they do more than advocate for their public; they actually act and enforce their decisions.

On another dimension, the government of Afghanistan has created more than 18,000 CDCs, Community Development Councils, as part of the National Solidarity Program (NSP). Some international organizations and the Ministry of Rural rehabilitation and Development (MRRP) have suggested that CDCs should replace the traditional structure in rural Afghanistan. The problem is that social change does not occur by legislation alone. It has created from the start, a conflict with the local traditional structure while the public continues to search for the Shuras, Maliks, and Mullahs to solve their problems. By avoiding local political structure, recognized and supported by the local population, CDCs created a top down approach that was not very conducive to the development of a democracy. It also has not yet secured popular support and trust. This conflict has created difficulties between the government and the communities.

ADP/S made many attempts to inform and involve CDCs and PDC's at the sub-national government during project implementation. There were meetings and a regular exchange of information. We can safely say that ADP/S had to deal with one institution de facto and another de juris which make communication lines complicated and at times unclear.

Interviews with RRD and DAIL indicated some involvement with the project, with DAIL indicating that they had more interactions with the project. For example they wished to be involved with deciding the location of orchards. Although ADP/S frequently interacted with HAVA, conversations between HAVA and the evaluation team in Lashkar Gah indicated a wish to have more consultation with project decisions especially with regard to canal cleaning and irrigation restoration.

VII. Major Implementation Problems (10)

It is difficult to assess project performance without factoring in the security situation in Helmand and Kandahar. However there are other factors that affected the project both positive and negative.

On the positive side it was apparent that following on from the RAMP project helped provide a consistent presence and contributed to the sustainability of the efforts with the fruit growers in Kandahar. The Fresh Fruit Exporters Association of Kandahar (FFEAK) and the Dried Fruit Exporters Association of Kandahar (DFEAK) were still organized and functioning. They all appreciated the follow on from the efforts of the RAMP project. Extending the chicken hatchery beyond the end of ADPS was also good and will help contribute to the sustainability of the poultry operation.

The cash for work portion of the project was mostly successful and had a positive impact on the region even though this is only a short term benefit. Due to the security situation it had to be cut back and budget challenges forced the early shutting down of the Kandahar portion of the project.

The airport and substation infrastructure projects can be considered mostly successful. They will contribute to the regions future economic growth. However the substation project and the airport both suffered from land ownership issues which prevented them from having a more substantial impact. For example all the electrical distribution poles could not be installed due to disputed land and the airport runway could not be lengthened for a similar reason.

On the negative side the short duration of the project and of many of the ADP/S activities prevented lasting impacts on the regions agriculture. The efforts to encourage exports were of too short a duration to have a lasting effect. The lamb fattening project needed to last much longer in order to have an impact on the Kuchi livestock nomads who have been raising their livestock in much the same way for centuries. Agriculture projects due to their seasonal fluctuations need to take place over longer periods than just 4 years.

The cobblestone road was poorly conceived and did not take into account the needs or interests of the local people. Beneficiaries were not able to use bicycles or motorbikes on the road and animals such as camels had difficulty walking on the road. Many vehicles were traveling beside the road and were not utilizing the actual road due to the difficulty of travel

on it. The quality of the road was poor also and found to be in disrepair in many places. Beneficiaries asked that USAID pave over the road.

The chili project was poorly conceived and implemented. The project was done without taking into account the entire value chain as once the chilies were harvested there was no market for them. There were also production problems related to flooding and since chilis are a sensitive crop particularly to water and farmers were not used to growing them, the harvest was poor.

Although the airport project was an unusual one for an Alternative Livelihoods project, it was a success. ADP/S however, did not adequately plan the airport project as the original budget of 5 million dollars appeared to be more or less a “plug” figure according to project stakeholders. This number was arrived at before developing a full architectural plan with load plate testing and site drainage. The airport runway ended up costing \$11.8 million.

The project also suffered from large turnover at the beginning and with 7 Cops in the period of 1.5 years making it difficult to maintain a focus on project goals and objectives. The final COP ran the project for the remaining 2.5 years which helped provide consistency in project direction and leadership.

The design and duration of the ADP/S project was typical of USAID programs and was not tailored to the specific circumstances of operating in a war zone. Paul Collier has written extensively on development challenges for the bottom billion countries that are at the bottom of the UN’s Human Development Index. He has also studied extensively post conflict countries and the cost and benefit of development efforts in conflict zones. In his 2007 work “The Bottom Billion: Why the Poorest Countries are Failing and what can be done about it” he makes the point that these countries have unique characteristics which often keep them in the bottom billion. Afghanistan has the challenge of possessing three out of four of these characteristics or traps; Bad Governance, Landlocked with Bad Neighbors, and the Conflict Trap.

Afghanistan has been stuck in a conflict trap with repeated cycles of conflict and economic decline for more than three decades. As such Afghanistan’s development needs have unique requirements. Collier points out in another 2004 work “Development and Conflict”, Oxford Press that although development aid does not increase or shorten the conflict, successful interventions require security, rule of law and consistent public services. Also the timing and duration of the interventions need to be flexible without pressure for results. More importantly aid should taper in (increase) as the government gets stronger rather than taper out (decrease) which is very typical of development efforts. Focusing on burn rate in a conflict zone is not appropriate as projects should be given flexibility in the timing and disbursement of funds.

The ADP/S project was audited by OIG in September 2007. The audit found the project to have exceeded 6 out of 15 indicators as of that date with 8 out of the remaining 9 partially fulfilled and one that had no results. By the end of the project it was reported by ADP/S that they had met or exceeded 10 out of the 15 indicators. The 5 indicators not met were:

1. Change in production of high value crops
2. Hectares devoted to licit agricultural production
3. Number of business enterprises assisted

4. Afghan's trained in business skills
5. Kilometers of rural roads repaired

The team could not independently verify the data on these indicators.

VIII. Sustainability Issues (11)

The project had mixed results with sustainability. Veterinary clinics were not found to be in operation. Feed mills that were established during the project were no longer in operation. The projects efforts to promote exports also did not sustain as exports dropped dramatically in the 2009/2010 harvest. Farmers indicated that some pomegranate was left on the trees due to the lack of a market.

Other project activities such as the distribution of various seeds and cash for work were not designed to be sustainable.

The most sustainable effort of the project was the establishment of orchards. Although it was found that many fruit trees died after planting, many farmers replanted trees and there was also many that did survive which should prove to have a positive impact on fruit production in the region. More extension work with farmers would have helped make the orchard activities more sustainable.

Because of the nature of infrastructure projects the region can expect to receive continued benefits from some of the road and irrigation rehabilitation along with improvements on the electrical substation and paving of the airport runway. There is also potential that the poultry operation will sustain but there was no evidence yet that this will occur as the operation was not yet being operated as a business and there was no demonstrated profit being earned from the hatchery.

IX. Replicability and Models for scaling up (12)

The project had several activities that are worth future replication and some activities to be redesigned. They are given below :

Activity	Result	Replication
Vegetable trials	Demonstrated the production in greenhouse with drip irrigation	Growth was successful. Should be replicated in model farms to show profitability.
Wheat, corn and peanut trial	The certified seeds had 95 percent germination rate and showed high yield.	The trials were successful using proper seed, fertilizer and irrigation. Replication to establish 30 percent higher yield should be

		done.
Orchard and vineyard development	Pomegranate and stone fruit saplings and grapevine roots were planted	In spite of low survival rate the orchard if maintained by farmers will give high return on investment. More planting in suitable areas should be done.
Poultry and egg production	Hatchery and satellite farms were established successfully for egg and poultry meat production.	Hatchery should be expanded and more farms should be added as a private business unit. The model should be replicated if profitable.
Chili growing trial	Demonstrated that the program did not work.	Introduction of new crops should be done after thorough examination of adaptability and marketing linkage of final product.
Lamb fattening trial	Demonstrated that in 75 days of proper feeding the lambs could double in weight sold at premium price.	The trial should be replicated for further refinement in obtaining feeding data and developing forward linkage in marketing.
Export promotion	Exports increased from the region during the operation of the project.	The project should sustain this effort over a longer period to help farmers export products that meet the quality standards of the EU.

X. Economic Impact – Infrastructure Investments (13)

ADP South implemented a number of infrastructure activities. Those discussed in this section are the Lashkar Gah Airport, Road Rehabilitation, Four Villages Project and the Lashkar Gah Substation. Each of these activities had varying effects upon the local population.

Lashkar Gah Airport

The largest and most expensive project was the Lashkar Gah airport costing about 12 million dollars. This project was originally budgeted at 5 million dollars but FAA requires that an architectural design be done prior to construction. By the time the architect drew up the plans, and drainage, load plate testing, grading, compacting and leveling were accounted for, the project came in at 11.8 million dollars. The work done on the airport was the paving of

the runway which allowed for airplane traffic to come in to Lashkar Gah opening up Helmand province to increased commercial ties with Kabul and places beyond. Although the Ministry of Transportation would have liked a longer runway to accommodate larger planes such as the Boeing 737, there was nowhere to expand either to the north where there are residences or to the south where the cobblestone road is along with land with disputed ownership. At 2,000 meters the runway is about 500 meters short for most the 737 models.

The airport currently provides benefits to the military allies with a benefit for people flying out for medical emergencies and local businesses. People prefer to fly to Kabul by plane verses driving by car from Helmand due to the lack of safe travel on the road to Kabul. A study done by IITA in 5 developing countries calculated annual economic rate of returns for airport investments ranging from 59% in Kenya, 19% in Cambodia and 16% in Jamaica which is a substantial return. Using a rate of return of 19%, the airport work should be paid back in approximately 11 years. As of this writing there are three flights going in to Lashkar Gah each week, one with Pamir and two with KAM Air. Although Helmand derives very little benefit presently from the airport and there is no freight traffic coming in and out of Helmand, once the security situation stabilizes in Helmand, the airport should make a significant contribution to the regions economic growth.

Road Rehabilitation

The project rehabilitated 83.1 kilometers of roads in Helmand, Kandahar and Uruzgan through cash for work program costing close to 5 million dollars. Local beneficiaries indicated that the quality of the workmanship was mostly good and local people indicated a significant reduction in transport time. For example for two roads, beneficiaries indicated that transport time was reduced to a third of the time it took before road improvements. Beneficiaries indicated however that there was no change in transportation costs. The one road that was in disrepair and was not yielding any economic noticeable benefit was the 8 kilometer cobblestone road.

The potential benefits from road improvements can be derived from estimated increases in agricultural production (due to improved availability of inputs), savings from reduced spoilage, travel time opportunity cost savings, and net vehicle operating costs savings. We did not have sufficient data for a full economic analysis but the benefits can be imputed from other reports such as those done by RAMP. The average economic benefits calculated by RAMP for a 3 year period were found to be \$54,789/km for road improvements which sounds very high. The ADP/S project benefits would be lower than this figure since there was no evidence of fare reductions in the south for passengers or freight. The evaluation team was unable to determine the impact of these roads on agricultural output. With nominal increases in agricultural output and reductions in vehicle operating costs, it is likely that the roads had a reasonable payback with an annual benefit of \$29,038/km but providing exact numbers was not possible.

Four Villages Project

The Four Villages project was a Community Action Program (CAP) involving four villages around Lashkar Gah. The project improved irrigation systems in three villages, built a road for another village and made repairs on a school. This project which cost \$896,000 was mostly a success because it mobilized local communities by providing a benefit to the participating communities.

Lashkar Gah Substation

The Lashkar Gah substation was upgraded with additional distribution lines and transformers at a cost of almost 2 million dollars. The original goal was to provide power to an additional 8,000 customers along with the Bolan Agricultural Center. This project suffered from rocket attacks and stolen equipment. One out of two transformers were installed with the other waiting for an additional turbine to be installed at Kajaki dam. Due to a variety of implementation challenges related to land ownership, the project did not complete the installation of all the distribution lines and the large transformer along with the smaller transformers await the additional power from the dam project.

According to the World Bank the economic and social returns on capital investments in electrical projects in developing countries are typically around 20%, however this project is unable to claim all of this benefit because it was not apparent that it was providing electricity to all of the 8,000 additional customers (according to its original goal) and it is not providing power to the Bolan Agricultural Center since the center is not yet complete. These benefits will be realized in the future with the installation of the other turbine at Kajaki dam, but as of this writing this has not yet occurred. Beneficiaries stated in interviews that the reliability of the electricity improved substantially with the installation of the upgrade by ADP/S. (There is further discussion in the annex.)

Parks

ADP/S constructed five public parks in Lashkar Gah including two for women. Although no economic benefit could be calculated from this effort, the project improved the look of the city and helped to build good will with the community.

XX. Operations and Maintenance – Infrastructure Investments (14)

The project was severely impacted by the security situation in the south. Project personnel were confined to housing compounds and were unable to provide good project oversight. Security was top of mind for virtually every aspect of this project. Interviews with beneficiaries and stakeholders point to a lack of supervision and coordination of activities primarily due to the poor security situation in Helmand.

The project conducted training sessions in conjunction with each of its activities in an effort to build local capacity to sustain its activities but there was very little evidence that these efforts were effective. Trainings were conducted to ensure proper maintenance of the Lashkar Gah substation and other agricultural efforts but it was difficult to measure the impact of these efforts. Extensive training was also provided to poultry farmers that were obtaining chicks from the hatchery. Many of the poultry farmers interviewed were having difficulty with disease and proper feeding of the chicks. The farmers indicated that they were in need of additional assistance from the hatchery on disease control and improved feed for the chicks.

There were no funds made available for maintenance of the roads and irrigation structures. The airport and Lashkar Gah Substation were turned over to the appropriate local

government agency. DFID has continued to follow up with work on the airport and DABM the local utility, was given control over the substation.

XXX. Summary – Major Findings, Conclusions and Recommendations

The ADP/S project was mostly successful. The project endured many challenges mostly related to security during its 4 years of operation. The fact that ADP/S was able to complete the Airport Strip and Electrical Substation projects, are large accomplishments by themselves. Because this project operated in a war zone, many of its activities were of short duration by design. The cash for work and seed distribution programs, although not sustainable, succeeded in providing licit alternatives to farmers in this region. It must be said however, that the projects annual budget of around \$40 million is no match for the size of the \$2.7 billion plus opium economy in this region.

Some of the projects longer term efforts such as the establishment of orchards will have a positive impact on the future economy of this region. This impact could have been stronger had the orchard establishment begun earlier in the project and been accompanied by more extension outreach by the project. The export efforts would also have had more impact had they been sustained over a longer period. Some of the projects activities did not last beyond the project timeframe such as the veterinary program and the feed mills. The Bolan poultry project is currently moving toward privatization which should occur later this year. The Bolan Agricultural Center which has been taken over by DFID has yet to make an economic contribution to the region but still may in the future. The evaluation team has several recommendations for future projects which are listed below:

Agriculture

1. Follow up with more extension services when introducing improved practices. Trellising, row planting, lamb fattening were all excellent ideas that would have benefitted from additional project follow through. Incorporating a behavior change component in the training and extension efforts would also assist with sustainability. Short term trainings, are easy to conduct and report, but have much less of an impact than longer duration extension services which are also difficult to measure and report on.
2. Orchard development should provide support (extension services) till the plants start bearing fruit. Simply planting the trees for farmers without working with them on proper management practices such as timing of fertilizer applications, appropriate watering and best pruning practices is not enough. The local University should be more engaged in the project to help build capacity of its experts and to make these efforts more sustainable.
3. When promoting exports to European countries, account for packing facilities that conform to EUREPGAP, HACCP and incorporate GAP. Expand cold storage facilities to assist in the storage of fruits and vegetables that is compartmentalized to adapt to the different storage requirements of various products. Exports of fresh and dried fruits should also involve ACCI, DFEAK and FFEAK.
4. Feed is a major cost component in poultry and animal feeding and sources and prices of feed should be worked out in advance of the project. In addition to this, the management component of feeding chicks is critical since an additional day of feeding reduces profit margins.

5. The poultry farm operation should not be rushed to privatization. This operation needs to be run as a business with demonstrated profit and loss if it is to be an attractive investment.

Project Design

6. Do not rush projects operating in a war zone demanding fast results. Provide a project model that incorporates flexibility in fund disbursement without the focus on burn rate.
7. Agricultural projects need to be of longer duration. Projects introducing new ways of cultivation should last more than 5 years if the results are to be sustainable. Projects also need to be sensitive to seasonality. Some crops can only be grown at certain times of the year and many of them require special land preparation and irrigation. (The orchards will start bearing fruit in 2013 and farmers will need help with exporting the surplus.)
8. The export goal indicator should be “unsubsidized” exports. It is easy to show an increase in exports when they include a subsidy from the project. An export promotion project can be shown to be sustainable if it achieves unsubsidized exports.

Future Activities

9. Examine labor intensive industries such as textiles which used to exist in the area and food processing for the fruit grown in the region. These industries also tend to be large employers of women.
10. Expand Vocational training, university agricultural, and agribusiness programs. This will support the development and expansion of the economy and begin to build a regional resource of human capital to support development of the region.
11. Although ADP/S did not distribute or endorse pesticides & herbicides, any agricultural project should incorporate training for farmers and workers to improve safe handling and to insure proper usage.
12. Irrigation is essential to the agriculture of Afghanistan and in particular the southern region where virtually all of the agricultural land is irrigated. Perhaps one of the largest impacts a project can have is opening up more land to irrigation. This activity should be examined by future projects as this will have a major impact on employment, food security and the regions economy.

Appendix I – Places and People Visited

Date	Name	Organization	Number	Email Address	
1/14/2010	USAID, Francesca etc.	USAID	700078706	fnelson@usaid.gov	Initial briefing and documents
1/15/2010	John Schamper etc.	ADP Eval Team/Support			Team Strategy
1/19/2010	Fida Ghazi	Former ADP Horticulture Marketing	799544912	fidaajji@gmail.com	Contact names in Kandahar
1/20/2010	Paula Kantor	AREU	799608495	paula@areu.org.af	Dadta sources, studies and research
	Royce Wiles	AREA	798246583	royce@areu.org.af	
1/21/2010	Maria de Los Angeles	ASAP, Contracts Officer ADP/S	794100426	mzelaya@asap-af.com	Contracts list for ADP/s
1/25/2010	FSN's	USAID			Protocol for meetings
1/25/2010	Sonnya Valencia	M&E Director ADS/S...IRD	793200313	svalencia@IRD-SPR.ORG	M&E Reports documents, contact names etc.
1/25/2010	Naajeebulah Mahzoon	ADP Field Officer			Orchard establishment
1/26/2010	Francesca Nelson	USAID	700078706	fnelson@usaid.gov	Workplan approval and review
1/27/2010	Drako Reyes	Infrastructure Director ADP/S	706719892	dreyes@ird-av.org	
1/27/2010	Dr A Fata Noor	Noor Brothers / DASA	799364354	afatahnoor@hotmail.com	Input distribution at ADP/S
	Jahan Masudi		796871175	dukhshan-jahan@yahoo.com	
1/28/2010	Jonathan Greenham	DAI/ADP/East	795553716	jonathan_greenham@dai.com	James will provide information
1/28/2010	Zach Lea	Roots of Peace	0794-677-212	zach@rootsofpeace.org	Grape vineyards reparations and marketing
	Gary Kuhn			Gary@rootsofpeace.org	
	Haji Saleem Mohammed		799403248	Saleem@rootsofpeace.org	
1/30/2010	Gregory Naarden	CN Officer INL	797771045	NaardenGL2@state.gov	INL strategy, coordination with USAID
	Wali Ullah	ADP/s Field Officer	0795-683 374		
2/2/2010	Ghows Mohammad	PHDP Kandahar	0703-087-900		General information
2/2/2010	Dr. Zahir	DAI/Director of Veterinary Services	0700-321-337		VFU's Establishment and Feed Milling
	Dr. Shershah	DAI/Responsible for Animal Clinics			
	Haji Alowuddin	Chairman of Itehad Agriculture and Livestock Cooperative			
2/2/2010	Guy Ewald	FAF (Fare Acre Farms) member	0799-183-541	guy.ewald@fafdevelopments.com	Fruit trees information, Trilising of grapes and planting pomegranates
2/2/2010	Aminullah Zaheer	Chief Executive Officer for Amin Karim Ltd	0799-058-751 0700-324-509	aminullah_nm@yahoo.com	Fresh fruits and Dried fruits exports.
2/3/2010	Haji Nooruddin	DFEAK Director	0700-301-386		Dried fruits exports general information
2/3/2010	Haji Rahim Rahimi	Director of Economics Department	0700-300-684		General overview of ADP/S
2/3/2010	Miss Rona Tarin	Director of Women's Affairs Department	0700-306-177		Women's participation in ADP/S project
2/3/2010	Abdullah	Chief of Ghani Khan Mena Community Shura			Community Shura's Participation in projects implementation
	Abdul Ahad Khadem	Member of Ghani Khan Mena Community Shura	0700-670-616	ahadkhadem@gmail.com	
	Haji Abdul Razzaq	Member of Ghani Khan Mena Community Shura			
	Nida Mohammad	Member of Ghani Khan Mena Community Shura			
	Mutaqi	Member of Ghani Khan Mena Community Shura			
	Haji Shir Mohammad	Member of Ghani Khan Mena Community Shura			
	Haji Noor Ahmad	Member of Ghani Khan Mena Community Shura			
	Haji Hamdullah	Member of Ghani Khan Mena Community Shura			
2/4/2010	Mr. Hadrat Mir Totakhil	Kandahar University Chancellor	0707-259-635		
	Shah Mahmood Baray	Dean of Agriculture Faculty	0700-300-866		
2/4/2010	William Thompson	DAI/LGCD DCOP/Technical S/W	0797-443-370	william_thompson@dai.com	LGCD Project Information
	Anant Singh	DAI/LGCD Regional Director	0708-903-795	Anant_Singh@dai.com	
	Mohammad Din Barak	DAI/LGCD Provincial Stabilization Manager			
	Altat Rahimi	DAI/LGCD District Stabilization Officer		altat_rahimi@dai.com	
2/4/2010	Mohammad Sulaiman	Member of Ghani Khan Mena Community Shura (Arghandab District)	0793-639-277		

		Kandahar Tressure Trainer			Training of Women (bag making, handicrafts and hand sewing)
2/6/2010	Janan Agha		0700-340-051		
2/6/2010	Sayed Kabir Aga	Lecturer of KUFA	0700-302-901	kabiraga@hotmail.com	ADP/S Training programs information
		Chief of the Fresh Fruits Union			Fresh Fruits and Dried
2/7/2010	Sayed Yaqoot Shah Na		0799-813-853		Fruits General Information
	Lalay Agha	Fresh Fruits Union member			
	Abdul Raziq	Deputy Chief of fresh fruits union	0799-806-091		
2/7/2010	Haji Rahmattullah	CADG Country Director, Kandahar	0700-300-317	r_cadg@yahoo.com	General ADP/S overview, Agriculture Development
2/7/2010	Mohammad Sharif	ADP/S beneficiary, Baba Sahib village	0700-318-070		Planting Pomegranate trees, Orchards
	Agha gul		0700-320-787		
2/7/2010	Mohammad Sayed	ANCC member	0799-447-390	pc.ancc@gmail.com	Alusio will give me information
		ACCI Executive Manager, Kandahar			Dried fruits and Fresh fruits exports and imports information
2/8/2010	Eng. Abdul Baqi		0700-300-650	kandaharacci@yahoo.com	
		Director of Kandahar Treasure	0700-303-819 & 0799-020-380		Kandahar Treasure general activities and ADP/S project information
2/9/2010	Rangina Hamidi			rangina@kandahartreasure.co	Abdulrab/Alusio will provide us information
2/9/2010	Haji Abdul Razziq Alku	Director CSDC	0700-280-674 & 0799-430-645	csd_afghanistan@yahoo.com	Phone calling with James Philips ADP/S Team Leader
		COP Chemonics Int'l			
2/12/2010	Henry Koner			HKoner@chemonics.com	
		Owner of Omaid Bahar Fresh Fruits Processing Ltd	0799-867-506 & 0786-002-007		Pomegranate consumption and processing
2/15/2010	Mustafa Sadiq			hewad90@hotmail.com	
	Hamidullah Hamid	Quality Assurance Manager	0787-092-498 & 0776-768-001	hameed_hamid@hotmail.com	
		ACCI Industries & Export	0700-222-827		Discussion about export data for pomegranate, grapes and dried fruits
2/17/2010	Mirzaman Popal	Promotion Director		mirzaman.popal@acci.org.af	
		Center for Policy and Human Development (CPHD) Project Coordinator	0708-815-971		Dr. Kamal will provide information
2/17/2010	Khawaga Kakar			khwaga.kakar@undp.org	
2/18/2010	Arshad Arshad	Secretariate for DABS, CEO	0778-193-570	a.arshad@dabs.af	James will provide information
					Fresh Fruits and Dried Fruits Production and Export data
2/21/2010	Azizullah Faqiri	Head of Economy Statistics (CSO)	0799-134-472	faqiria@yahoo.com	Employment and Wages
2/21/2010	Rahila Arif	Head of Demography and Social Statistics Department (CSO)	0700-255-889	rahila.arif@gmail.com	
2/21/2010	Haji Mamoor Aga and Surveyers	ADP/S Survey Team	0707-168-513		Training them on survey questionnaires
2/22/2010	Eng. Fazil Ahmad	Lashkargah Sub Station	0700-307-193		
	Haji Nanai with Three Farmers				
2/22/2010	Farmers				
2/23/2010	Abdul Hai Nemati	DAIL Director (Kandahar)	0706-937-861	kandaharkarana@yahoo.com	
	Rangina Hamidi	Director of Kandahar Treasure	0700-303-819 & 0799-020-380	rangina@kandahartreasure.com	
2/23/2010					
		Managing Director, Helal Group of Companies	0700-601-734 & 0786-601-734	info@helalgroup.org.af	Procurement of Poultry feed
2/24/2010	Hazrat Wali Wali				
2/28/2010	Dominic d'Angelo	Program Manager Growth and Livelihoods Team DFID	0799-717-319	d-dangelo@dfid.gov.uk	
3/2/2010	M. Saboor Shirzad	Director General of Alternative Agricultural Livelihoods	0700-653-048	saboor.shirzad@yahoo.com	Discussion about ADP/S Project
3/2/2010	Abraham P. Chacko	Sr. Project Manager Venco Imtiaz	0707-812-509	achacko@vencocorp.com	Runway, Ag. Center and Substation
	Jafar Khan	Sr. Project Manager Venco Imtiaz	0786-169-502	jkhana@vencocorp.com	
	Ajmal Imtiaz	Structural Design Engineer Venco Imtiaz CC	0798-225-757	aimtiaz@vencocorp.com	
	Jorge Duqueza jr.	Quality Control Director Venco Imtiaz	0777-300-434	duqueza@vencocorp.com	
	Safuallah Anis	Assistant Director	0700-225-757	sanis@vencocorp.com	
3/6/2010	Abdul Qayum Basharyar	President of Civil Aviation Operations (MOTCA)	0700-292-130	aq.basharyar@yahoo.com	Discussion about Lashkargah Airport
		Technical and Operations Deputy Minister (MOTCA)	0202-101-031	ralami@motca.gov.af	
3/7/2010	Henry Koner	COP Chemonics Int'l		HKoner@chemonics.com	James will provide information
3/8/2010	Dr A Fata Noor	Noor Brothers / DASA	799364354	afatahnoor@hotmail.com	Wheat seeds certification process
	Jahan Masudi		796871175	dukhshah-jahan@yahoo.com	
3/8/2010	Eng. Sayed Aga	Engineer working for DRRD Kandahar	0700-355-499		Discussion about ADP/S Reconstruction Projects
3/8/2010	Haji Rahmattullah	CADG Country Director, Kandahar	0700-300-317	rahmatullah@central-asia.net	General ADP/S overview, Agriculture Development
		Member of Baghban Agricultural			Overview of Agricultural

Appendix II – Employment and Wages

EMPLOYMENT AND WAGES

DRAFT

- 3. What impact did the ADP/S have on employment? Did growth in the agricultural sector in the targeted areas increase demand for farm labor? What was the impact on farm wages?**

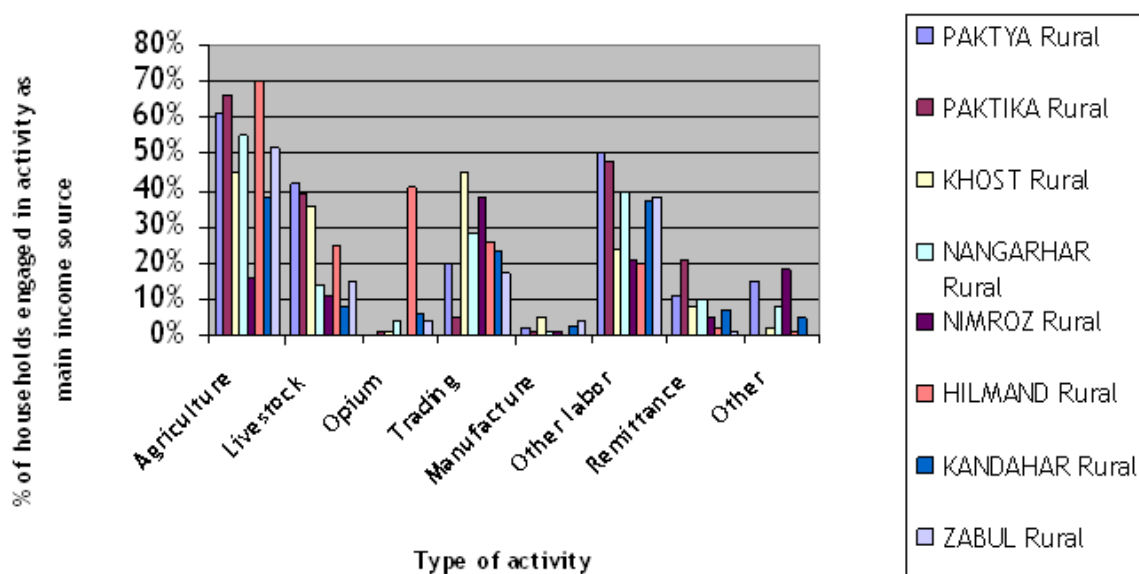
What impact did the ADPs have on employment?

Employment impact in agricultural areas of Afghanistan is difficult to verify using traditional and systematic approaches. First, because there is no readily available data specific for provinces and districts; secondly, because, as in the case of Kandahar and Helmand, local visits and interviews are prohibited due to insurgents' activities in the region. The only possible approach available to verify ADP/S impact on employment, as well as other variables, is to check conditions before the project began implementation and logically deduce the possible impact it had in areas of implementation. We cannot precisely determine ADP/S impact but we can to a certain degree of accuracy, explain possible results and consequences. This approach however requires first a description of the labor force, employment, and wages in Kandahar and Helmand.

Labor categories in Afghanistan are classified by income (wages) source rather than occupation. This approach narrows down the division of labor but facilitates the analysis by showing a more direct impact per occupation. For instance, animal husbandry includes many different occupations from tendering the herds to sheering the sheeps, but in Afghanistan, they are all listed as animal husbandry occupation. In the south, especially in Helmand, because of the importance of poppy cultivation, labor categories include various types of opium activities (Opium and poppies are referred to in most documents as interchangeable but in the analysis both mean poppy cultivation).

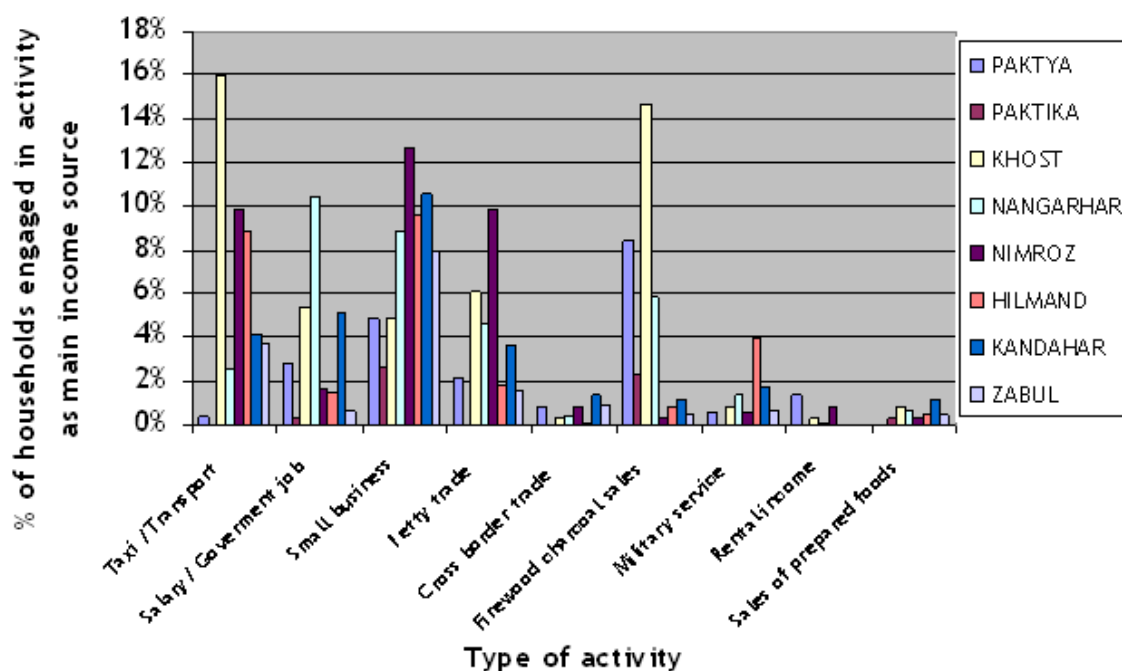
In rural Helmand, agriculture is the main activity with 70% of the households engaged in some sort of field activities. It drops substantially in Kandahar (40%) with main occupation related to Kuchis (animal husbandry) in the rural areas and small businesses in cities and villages. The graph below also shows that 40% of the households in Helmand are involved in poppy cultivation while the same number drops substantially in Kandahar. A relatively low percentage of peasants are involved in livestock activities, especially in Kandahar. However, this is a percentage of the overall activities and does not include the Kuchis. Later we will see how important the Kuchis are economically, especially in Kandahar.

Graph 1: Main Areas of Rural Income



The main urban occupation in Kandahar and Helmand is small business (all three provinces in the south have this concentration). Kandahar is more urbanized than Helmand but not so much that would show a sharp difference between the two provinces. Small business is more prevalent in the urban sector than in rural areas. However, given the social and economic conditions in Helmand and Kandahar, most businesses should be considered informal. They lack a structured accounting system, do not pay taxes, and employ relatives. Increasing employment in these circumstances is extremely difficult.

Graph 2: Main Areas of Urban Income

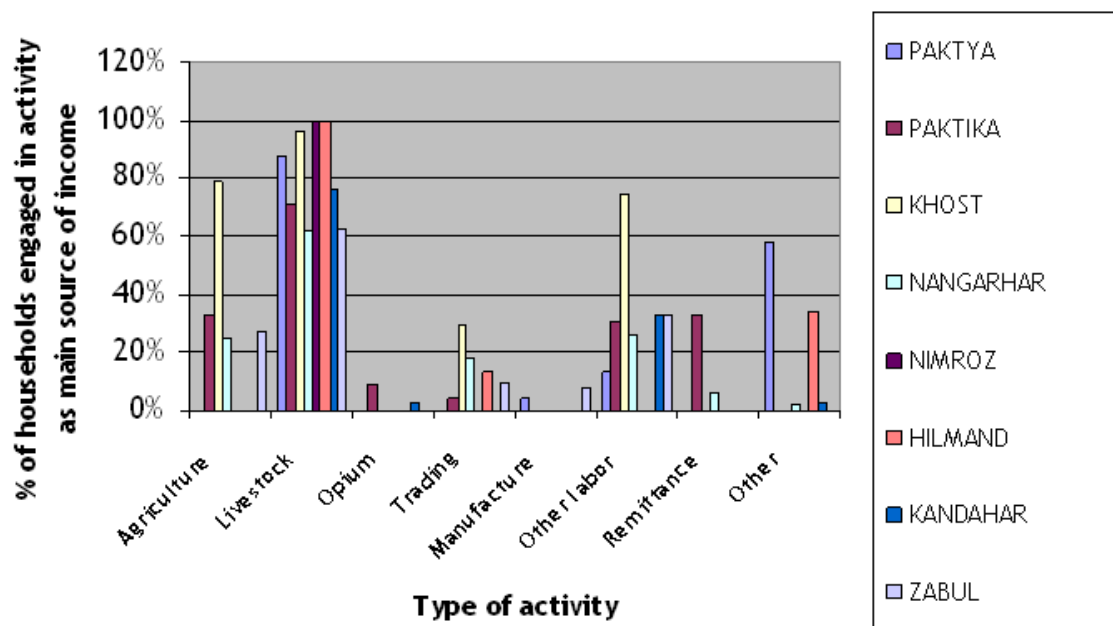


The Kuchis, mainly in the south with the highest concentration in Kandahar, do not participate in poppy cultivation or in agriculture. Kuchis are nomads and as such are not

prone to agriculture sedentary occupations. They are the herdsmen of Central Asia like the Tuaregs of Sub-Sahara Africa and the Bedouins of the Middle East. Unlike the Bedouin, and not so much the Tuaregs, they continue to live and move with their herds in the region.

Like all other nomad tribes, their occupation and income are derived from their herds, in this case, sheep. Kuchis women also engage in carpet weaving and other crafts. Kuchis women are the most free and skilled in the south. They provide income and support for their families by diversifying their occupation in some highly skilled areas, such as rug weaving. Another condition difficulty to have an employment impact due to their 'occupation' and mobility.

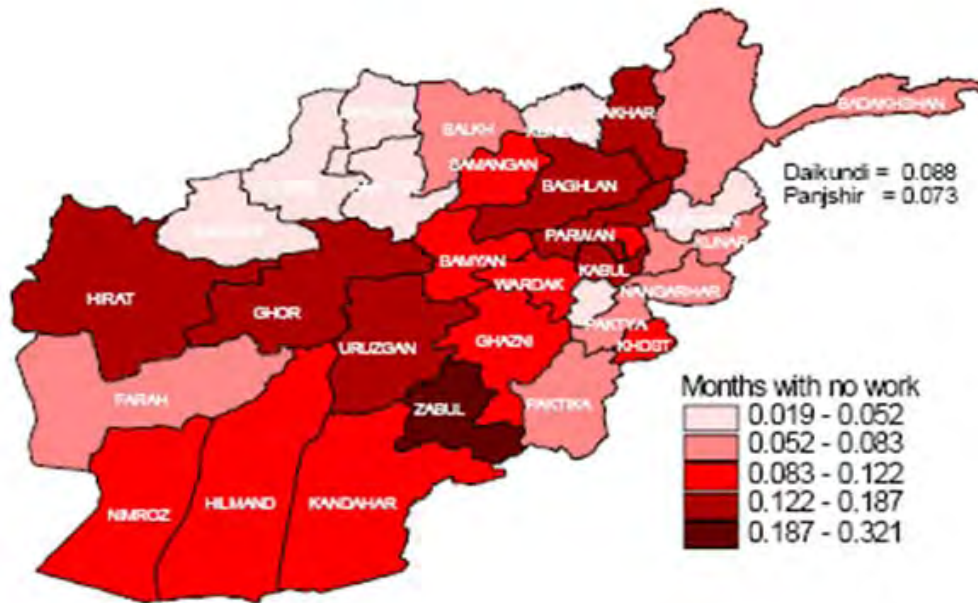
Graph 3. Main Sources of Income: Kuchi Households, Southern Region



Economic activities and labor definition based on income source rather than occupation are very useful not only to identify problems with the labor force but also to provide labor training and support that are necessary and sustainable, without changing the social and economic structure of the region. Simples because any project attempting to force change would be required to have a very long-term approach and substantial sums of money. That is not the case in any development project.

Rural occupations in the south are important also because they keep labor in the primary sector fully employed, whether they working in the fields or tending the herds. By definition then, there is no unemployment in the South, perhaps we could say that they are underemployed or have occupations that provide only a low income. However, household members in traditional agricultural societies are constantly occupied with many require everyday tasks. The Map below confirms this fact in the three provinces in the south, idle time per month is very low.

Map 1. Average Number of Months that Household is Unemployed



ADP/S generated 276,000 'full-time equivalent jobs' in Kandahar and Helmand (including Uruzgan) and a total of 89,500 hectares were made available for agriculture by cleaning up canals all over the Helmand river basin. These activities did have an impact on rural labor and employment but it did not directly touch the Kuchis. The main agricultural project implementation of ADP/S was in Helmand province.

As nomads, Kuchis are not employed in the traditional sense but certainly are occupied all the time. Kuchi women are skilled in areas of textile, weaving garment and rugs for the market. The project had no impact on them. What many working groups in the agricultural sector needs is not a job but an occupation or additional training that will help supplement their income. Training needs to be in areas that add breath and depth to their occupations.

This was done by ADP/S by providing training for 43,000 farmers in diversified areas of agriculture from pomegranate, and grapes to animal husbandry and poultry production. To help the Kuchis, 180 para-veterinarian workers were trained and many clinics created in Kandahar. All these clinics closed down due to lack of funding and poor planning. Finally, ADP/S reported 276,000 full time equivalent jobs created in a region where people traditionally have an occupation. The impact in the area, considering the type of employment activities and diversified occupation, like Kuchis and farmers, had to be substantial. Any increase in employment in areas of the licit economy with low unemployment rates(as defined above) will have an impact on the labor force, increase wages level, and have a negative effect on the illicit economy.

Did growth in the agricultural sector in the targeted areas increase demand for farm labor?

The low level of labor downtime, or unemployment, in Helmand and Kandahar makes possible, by definition, to state that any increase in the demand for labor would automatically have an impact on employment and wages. Workers in the two provinces,

especially in Helmand with intense and extensive poppy cultivation, are not necessarily looking for jobs. Nevertheless, workers would accept another occupation or job that would increase and/or complement their household income. This is however a zero-sum game: an increase in employment in one area is compensated by a decrease in another.

The intensity of short-term employment (cash-for-work) demand created by canal cleaning projects, for instance, immediately intensified the demand for labor in the region. However, at the same time, it created a shortage elsewhere, hopefully in the opium producing areas. Other ADP/S activities employing large number of farmers and farm labor, such as pomegranate planting, poultry farms, chilies farms, and grape trellising also created growth in the agricultural sector and increased the demand for labor. It is fair to conclude that ADP/S, because of the low availability of labor in Helmand and Kandahar, had a positive impact on the demand for labor caused by labor-intensive project interventions.

Looking at two project interventions in Helmand and see how this logic applies. The CADG project for Horticulture planted 800 thousand stone fruits trees. Assuming a very conservative approach, we can estimate an average of 140 trees per hectare (the farm size for horticulture). In order to plant and maintain these trees, 10 people are needed with dedicated time. Using an average of eight people per family in farms, the number of labor dedicated just for this expansion would be 57,140 (800,000 trees divided by 140 per farm multiplied by 10 people). Of this total, 20 % would be an increase beyond the average family available labor.

In another case, DWC – Chilies Network, 5.1 million chilies seedling were distributed among farmers. Each farm received an average of 20 seedlings. Dividing 5.1 million at the rate of 20 per farm, we have a total of 255,000 farms benefited for the project. At eight family members per farm, the increase in occupation per farm is substantial.

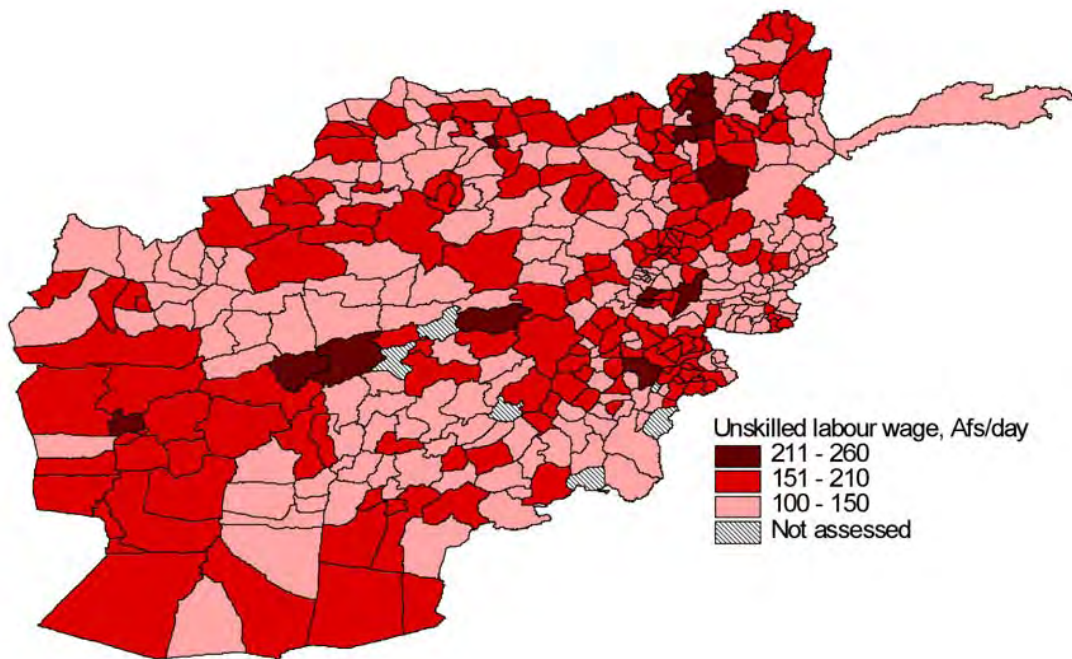
What was the impact on farm wages?

There were two important variables in Kandahar and Helmand pushing farm labor costs upward: labor availability and the opium economy.

The analysis in this case will also show that there was an impact on farm wages actually more intense than on labor. Because there was no labor availability in large number in the region of the two provinces, especially in Helmand, it caused an increase in wages: a simple case of demand and supply of labor.

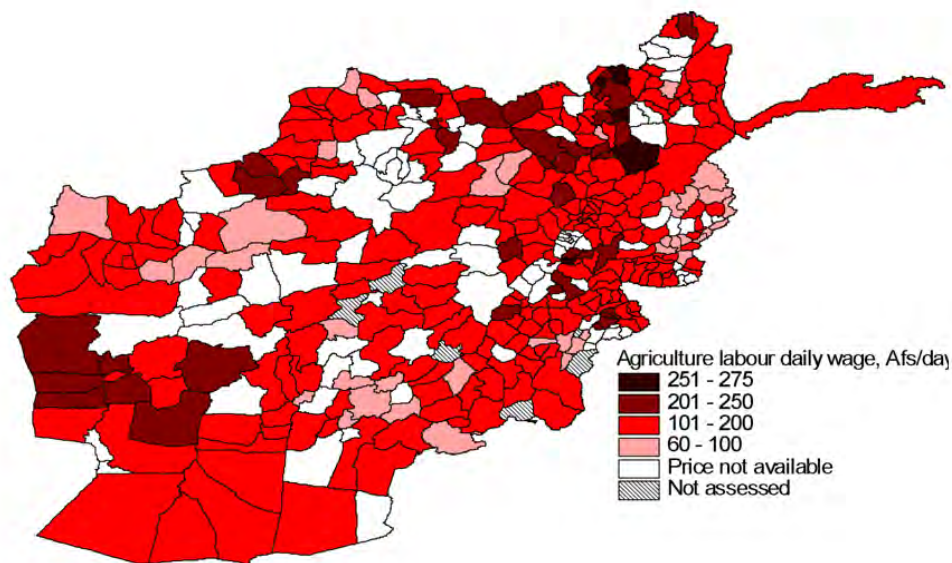
The map below shows that poppy and agricultural producing areas in the Helmand River Basin have wages levels typical of unskilled farm workers, by national standards even lower than many other areas. This wage, an average of 100-150 Afghanis per day comes with a set of circumstances typical of unskilled labor at this level. They are usually landless peasants, low skills, and young. A dangerous group, if left unoccupied with no income. It is also an excellent reserve labor force for cash-for-work infrastructure projects and additional unskilled labor for farming activities.

Map 2: Daily Wages for Unskilled labor, June July 2005.



In addition to the labor demands, ADP wages had to compete with opium wages, which are the highest in the region, may be in the country. The next map shows that daily wages for agricultural workers were much higher than for unskilled labor in the district were ADP/S implemented projects. It is an excellent indication, especially before the project started, that there was not a surplus agricultural labor force available in the region. This data coincides with the opium season and wages are high during that time. In addition, the fact that agricultural labor wages were higher than wages for unskilled labor, which might have included rural and urban labor as well, further indicates that there was a shortage of available agricultural labor. Under those circumstances, any additional demand for agricultural labor would cause an increase in farm labor wages in the region.

Map 3. Daily Wage for Agricultural Labor, June – July 2005



Several projects were implemented by ADP/S requiring a large labor force. Many of these projects, if not all, were labor intensive operations requiring both, short and long term labor. Among these project intervention, it worth to cite all canal cleaning cash-for-work, mostly in Helmand. ADP/S management stated that in order to recruit workers, wages had to increase. A parallel effect, as described by project personnel, is that by paying higher wages, ADP/S put pressure on poppy producers also to increase their wages. Therefore, the effect was not just with ADP/S and farm wages.

In the Helmand River Basin region, mostly in northern Helmand province, there are indications that a combination of shortage of farm labor in the area and additional demand caused by ADP/S interventions caused an increase in farm wages. It is worthwhile however to mention that, as discussed before, additional available land due to canal cleaning and irrigation open new opportunities for farming expansion, opium cultivation or agriculture, causing an increase in farm wages.

All maps are from the FEWS Report, May 2007.

See Asia Foundation Report, p. 23. also p.41 (unemployment as a major cause of crime ; corruption comes second) ; awareness of reconstruction programs in the agricultural sector, p.55 ;

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Appendix III – Impact on Opium

3. To what extent did the ADP/S contribute to a decline in opium production? How many hectares in the poppy growing areas were converted to alternative crops? Analyze the contribution of the ADP/S to the overall USG counter narcotics strategy.

A) To what extent did the ADP/S contribute to a decline in opium production?

Poppy areas in Kandahar and Helmand apparently were not influenced by government or ADP interference. A look at the poppy areas of production, even if correlated with price, external markets, production and productivity and other crops, continue to expand and concentrate in the region during the life of the project. Variations of poppy production areas in Helmand and Kandahar (and the South in general) shifted but maintained and consolidated its activities in a core around the Helmand river basin, so much so that poppies, agriculture, and horticulture seem to be in the same area. (Because the literature in Afghanistan as well as reports treat and refer to poppy as opium, we referred in this report as poppy only). This report does not include opium production, only poppy cultivation.

Nationwide, there is an indication that poppy production income per household and family decreased from 2008 to 2009. However, wheat income per hectare dropped even higher than opium. A short drop by 25% compared to opium 23%. This is important because wheat is seen as an alternative to opium production. It seems to have fluctuated parallel to opium income, perhaps indicating a variation affected by market prices than cultivation problems. Wheat income in 2009 was 30% of the opium income. It maintains almost the same ratio for 2008 (34%). What is very relevant here is that opium and wheat production do not have an inverse correlation. So, one is not affecting the other. More importantly, at least for this time, wheat production, and prices do not seem do affect opium production.

Table 1 : Poppy Growing Income for 2008 – 2009

	2008 (US\$)	Change from 2008 (%)	2009 (US\$)
Average gross income from opium growing households	1,997	10	1,786
Gross income from opium per hectare	4,700	23	3,600
Gross income from wheat per hectare	1,600	25	1,200

Source: *Afghanistan Opium Survey 2009*. Kabul: UNODC, December, 2009.

Recent data shows that although poppy cultivation decreased from 2008 to 2009, and productivity increased substantially during the same period. In addition, production estimation for 2010 indicates also that cultivation will remain stable for both provinces, with the expectation that levels for Helmand will be very high. The drop in Helmand, at least in percentage, was compensated in Kandahar. Uruzgan remained stable and Helmand dropped only to 2006 levels. One or two years of data collecting is needed to ascertain if the drop is influenced by market demand, and price, or is a result of ADP/S impact. However, this drop in production does not correlated with producing areas.

Table 2: Opium Production per province from 2006 to 2009.

Province	2006	2007	2008	2009	Change (%) 2008 - 2009	2009 (Ha) as % of country total
Helmand	69,324	102,770	103,590	69,833	- 33	57
Kandahar	12,619	16,615	14,623	19,811	35	16
Uruzgan	9,773	9,204	9,939	9,224	- 7	10

Source: *Afghanistan Opium Survey 2009*. Kabul: UNODC, December, 2009.

Maps of the region show that areas producing poppies have expanded and, at the same time, intensified its concentration in the river basin, making good use of plenty of water resources, irrigation, available labor force, and good soil.

An analysis of the endurance of poppy production in Helmand and Kandahar in the last few years shows that ADP/S interference had no verifiable impact on opium producing areas. We can go one-step further and state that, if anything did happen in the south, it was a concentration of opium-cultivated areas because ADP/S did not successfully create sustainable conditions for farmers and employment for agricultural labor. Opium production seems to react to only demand and price:

‘Opium production is first and foremost influenced by internal demand and market prices. Even the threat of government interference should not affect production based on price alone. However, opium markets and prices seem to be unstable. ‘(David Mansfield, Initial Brief for UK Drivers Report 2009/2010, p.1)

The lack of specific data for the region from NGOs, government agencies and private companies makes a more precise analysis difficult to achieve. However, the evidence provided by the UNODC overwhelmingly shows that no research at this point will produce any information showing positive results of ADP/S reducing opium production and area expansion. It will show that opium cultivation areas are constantly in flux and maintaining its main production area overlapping with agriculture areas.

Despite of many risks, districts producing opium seems to expand, even though there are many risks associated with the production and selling of opium and opium products. Although some are similar to regular crops, such as price variations, others are very

peculiar to illicit activities. Among these risks are price fluctuations, theft or seizure, and adulteration. (Adam Pain, Opium Trading Systems in Helmand and Ghor – Issues Paper series –AREU, January 2006.)

Price fluctuation at the farm gate is a market driven variable influenced by market demands at the time opium reaches the market. This is a high-risk business and traders are expected to maintain certain control of market demand. Timing then becomes very important. However, since control of supply and demand is not perfect, there is a possibility of high profit as well of high loss.

Another problem faced by opium traders and producers is theft and/or seizure. There is always the possibility that part of all the opium stock will be stole at gunpoint or seizure by the police or armed forces. In addition, in some cases, opium suffers from adulteration, faced more often by inexpedient traders. Why then in the face of these odds, people still resort to producing and trading opium and it is by products? Is it possible that the reason is profit or perhaps another variable, such as unemployment?

The assumption is that proximity to provincial centers such as Lashkar Gah and Kandahar city caused farmers to replace poppies with high value agricultural products, especially horticulture, while in areas farther removed for the center, the shift was to plant wheat. However, the information available does not support that the best lands, irrigation, and surplus labor are plentiful around the cities, villages and provincial capitals were replaced by agriculture.

It is a matter of fact that opium production and agriculture areas in Helmand/Kandahar are the same. How farmers planted and produced at the same time is not a complete mystery. Maps provided by the UNODC show agriculture and opium in the same areas. The areas covered in the maps go from the districts of Garm Sr in south of Helmand to Kajake in the north and Nowzad in the northwest. Following the river and the agricultural zone in the direction of Kandahar, opium-producing districts are noticeable in Kandahar province itself. Overlapping both maps together, we noticed that the areas are the same all the way even to southeast of Farah province (See maps 7-9). ADP/s therefore did not have an impact in Kandahar/Helmand area in its implementation areas. UNODC maps shows that the opium producing areas were unaffected by the project. If ADP/S had an impact on opium production, such a map would show gaps where there was an expansion of agriculture production during the project.

B) How many hectares in the poppy growing areas were converted to alternative crops?

There is no available data provided by the ADP/S showing a direct correlation between agricultural expansions of productive areas in the region as substitution to opium areas. However, we can look at opium producing districts in Kandahar/Helmand from 2005 and compare it with estimations for 2010 to see if there was a contraction in the region or if the data shows expansion.

According to ADP/S report listing major accomplishments, the project planted “29,200” hectares of licit crops out of “89,500 hectares of farmland made available due to irrigation improvements.” The assumption is that the difference between farmland made available for planting and hectares of licit crops planted should minimal. If the project prepared

and made more land for cultivation available that it was capable of supporting, what happened to the available land? Farmers do not have capital investment available to start or expand business. This leaves only one conclusion: surplus farmland made available by ADP/S was used for illicit crops or remained idle.

In addition, failures in chilies production planted in prime irrigated areas and the lack of pomegranate output due to the natural cycle of fruit productions, left farmers completely without an alternative, except to resort to illicit crops. Furthermore, photographs provided by the UNDOC will show that opium-producing districts expanded during the life of the project. A decrease in opium production, possibly caused by a drop in demand and price, occurred only during the project closing days in 2009.

Countrywide maps provided by the UNDOC shed some light on the cultivation of opium in the region. The location and intensity of opium cultivation in Kandahar/Helmand indicate two important movements: (1) opium area intensified and concentrated in districts with major agricultural production, following the Helmand River basin. (2) This movement occurred exactly while ADP/S was been implemented and opium production was successfully been eradicated throughout the country, independent of demand and price. If nothing else, ADP/S not only did not have an impact but also influenced its expansion by bringing large cash investment into the region and making more land available for cultivation. There was a push-pull effect after from 2005 to 2009. While other provinces forced (pushed) opium producers out, Kandahar and Helmand (pulled) became more attractive with available cash, farmland, and surplus labor.

ADP/S lack of sustainability and long-term commitment to agricultural production may also have pushed local farms to produce opium. Furthermore, the shift from agricultural concentration to infrastructure development projects, such as the landing strip (called in the reports as “airport”) at Lashkar Gah created a vacuum and lack of support for agricultural production, forcing farmers to shift immediately to opium.

Cleaning canals for irrigation, without expanding agricultural production in the area made more farmland available and attracted opium producers to the river basin. Agricultural failures, such as chili farms and normal delayed production as in the case of pomegranate, pushed more farmers to opium.

An analysis of the cultivation areas in the south, especially in Kandahar and Helmand, shows that there was no impact in the region and poppy cultivation continued to shift and concentrate in the river basin in the same districts as agricultural and food production. From 2005 to 2010 (estimation) poppy cultivation was constantly in flux and concentrating in the best-irrigated land in the region.

During this period, 2005 to 2010, opium cultivation in the region expanded and concentrated in district of the Helmand River basin, while in other parts of the countries it nearly disappeared. In 2004, opium-producing areas vertically cut the country in half, with some production in the East, especially Nangharar. (See Map 1). By 2005, at the beginning of ADP, opium production in the country was similar to 2004 but some very high concentration was appearing in the Kandahar / Helmand region (See Map 2).

The critical year, as ADP began implementation, was 2006 (See Map 3). It was already beginning to show the formation of a strong nuclei around the Helmand River basin from

Helmand to Kandahar and very intense in the Nad Ali District following the river in the north direction. This development followed a north direction.

One year later, in 2007, a major development occurred and opium-producing districts began to take a Y shape with Helmand as its spine and spreading out in the direction of Kandahar to the East and Farah to the West (See Map 4). The major producing districts however were in the center of Helmand province. It seems that, during the mid term implementation of the project, opium-producing district were well established, as shown in the map for 2009, in the center of Helmand (See Map 5). The reasons behind opium producers move to Farah is outside of our scope. However, it is important to mention that this development also follow Pashtun populated districts. Estimations for 2010 provided by the UNODC indicate that there is additional intensification in the region while the rest of the country has gone almost opium free (See Map 6).

The land tenure system is affected by farmers' status and participation in the opium cultivation process. In Kandahar and Helmand, more relevant in Helmand, poor people are dependent on opium cultivation to access land and credit. Poor farmers are in its majority in debt and dependent on credit to survive. Opium gives the poor farmer access to land to earn an income and produce some for the market and his own consumption. Access to opium production and benefits varied according to the farmers' status.

There are four types of farmers in the south: the affluent or better off, the less affluent and dependent on opium, the poor and highly dependent, and landless labor. In the technical terminology, only the first is actually a farmer. The second and third types can be classified as farmers but are more like peasants with smallholdings. The last in the group, landless laborers, are just available laborer in the area and an important group in the eradication process.

Table: Land Structure in Opium Producing Areas

Type of farmers	Land, Cultivation and livelihood
Better off farmers	Diversified livelihood Living close to provincial or district centers Varied crops including high value horticulture Access to land and irrigation Access to commodity, credit and labour markets Not dependent on opium, "opportunistic producer"
Less affluent farmers, dependent on opium	Marginal Small landholding Not food self-sufficient Some vegetables, dairy or fruits and nuts for sale Intermittent irrigation Seasonal wage labour Some accumulated debt
	Marginal Very small landholding or sharecropper

Poor highly dependent farmers	Food self-sufficient for only a few months Almost no cash sales except opium Where sufficient household members, year-round wage labour
Landless labourers	Very poor Sheep and goats Handicrafts Year round wage labour

Source: World Bank Report, Chapter 2: The Opium Economy, P.11. Kabul: 2009.

The affluent farmer is an opportunist seeking to maximize his profit; opium can generate as much as 1,400% in profit. He does not produce only opium but some high value horticulture products and has access to irrigated land. The second farmer, the less affluent, is a marginal small landholder dependent on opium production. He is followed by the poor highly dependent farmers who are a very small landholder and/or sharecropper. Finally, the mass of landless laborers, very poor, with no access to land. Irrigated land expansion in the Helmand River basin is important because it affects these “farmers” very differently.

The increase in land availability at the time that opium suffers from lower demand and market prices, makes more land available to farmers but it also lower the land prices and rental rates. However, both variables can only benefit all parties involved, if there is a replacement product available with immediate market prospects. More importantly, the availability of more irrigated land, because of the drop of opium market, put more pressure on the economic system to find alternative employment, especially for unemployed agricultural labor. Although the price of land will drop as result of these three variables, opium demand, more land, and lack of agricultural development, it does necessarily generate land availability for poor farmers and certainly does create employment. Land can only have an impact if there are credit available and alternative commercial crops. Credit is available for opium producing farmers but not for agriculture. The availability of land at a low point of opium demand is only relevant if immediate measures are taken to deal with the expansion of agricultural production of the two farmers in the middle: the less affluent and the highly dependent.

We cannot determine how many areas were reduced as result of ADP/S. However, we can quite certainly state that there are strong indications that the expansion of available irrigated farmland, failed project such as chilies and lack of sustainable support for pomegranate farmers may have contributed for the expansion of opium production in the districts in the Helmand River basin.

C) Analyze the contribution of the ADPs to the overall USG counter narcotics strategy.

The only pillar of the five overall USG counternarcotics strategy relevant to ADP/S is the Alternative Livelihood. In that case, we can state that the project did not accomplish its goals. Although it intended to address livelihood alternatives, it suffered from poor project implementation strategies, security problems and sustainability. However,

observation shows that by shifting implementation strategy from agricultural development to infrastructure and short-term employment (cash-for-work) created an infrastructure necessary for agricultural development in the south. By further developing the benefits generated by ADP/s, expanding in some areas, and maintaining an influx of credit in the region, agriculture and agribusiness will take off and chisel away the opium strong hold in the region...

This is not to say that, if ADP/S had followed the project design to the letter that it would have provided farmers in the south with an alternative and, as a consequence, away from illicit agriculture. Opium cultivation is so complex and well structure that an alternative livelihood based on short-term job development and infrastructure construction without a systematic long implementation process would not work.

In fact, there was a reduction in opium cultivation in 2009. However, considering the sharp increase from 2005 until 2008, it seems more likely an adjustment because of overproduction that over supplied the market causing a reduction in demand for opium. Even that reduction, noticeable in the rest of the country, and in Helmand, was not shared by Kandahar.

The first pillar is not to reduce the production of opium per se but to provide farmers with an alternative livelihood that is sustainable by providing not only jobs but income to compete with the illicit agriculture. The system is so complex that one project alone could not attempt to make a dent in illicit agriculture.

Specifically, Helmand saw a drop in opium hectares from 103,590 thousands to 69,883 from 2008 to 2009. While Kandahar had almost the same percentage variation, but an increase, for the same year but at a much lower hectare total. It went from 14,623 to 19,811, a variation of minus 33 percent for Helmand and a positive increase of 35 percent for Kandahar. Even considering such a drop, the country produced close to 7 metric tons of opium, mostly in the south.

The south however is a region wired to produce opium. It has 103 thousand hectare (2009) dedicated for opium cultivation in farms averaging in size of only a half-hectare and involving almost 205 thousand families. A staggering 83 percent of the households in the south are involved in Opium cultivation. That is not all; there is a large labor pool of available labor in the region: famers (peasants) without access to land. In Kandahar, 127,700 people are available but have no land while in Helmand the number drops to 9 percent. To compound the problem, a sharp drop in production was counter balanced by an increase in yield (productivity). Southern provinces increased their productivity from 52.1 kilos per hectare in 2008 to 58.5 last year.

This move may have been possible by a shift in opium seeds last year. In 2009, farmers increase the use of Watani Soorgulai (39.5%) from 2008 (20%). At the same time, many farmers (17.4%) introduced seeds of Ghwar Sebi for the first time. Production dropped but seed distribution and selection, based on climate, condition, and water availability shows that eradication was not alone left to alternative employment.

D) How effective were the ADP conditionality agreements whereby farmers agreed to not grow poppy in return for receiving ADP assistance?

It is impossible to determine if there was positive result in this case since farmers interviewed in the field did not acknowledge that they planted poppies in the first place. However, we can deduce from available data on agricultural production, specially fruits and cereal, that there was a NOT a shift from opium to other agricultural products.

The first problem in the area is that there is a very large population of landless peasants in Helmand and Kandahar. According to the NRVA report for 2007/8, out of a population of 123 thousand farmers, 23 thousand have no access to land; while in Kandahar the number is staggering: out of close to 180 thousand farmers, 127.7 have no access to land. In one way or another, landless peasants are earning a living but they are also an easy target to farmers producing poppies.

In addition, maps for the area show that poppies and agricultural areas are in exactly in the same locality (See Map 9). It is not surprising that the impact has to be analyzed with some care. However, it is also important to state that the fact that they are in the same area, may show that labor is share across different types of farm.

The Afghanistan Opium Survey for 2009 shows why is not possible to create and enforce such an agreement. It would have been possible for the areas of ADP/S implementation only, and only if, the project had implemented change and expansion of alternative livelihood and the project was sustainable during a long period.

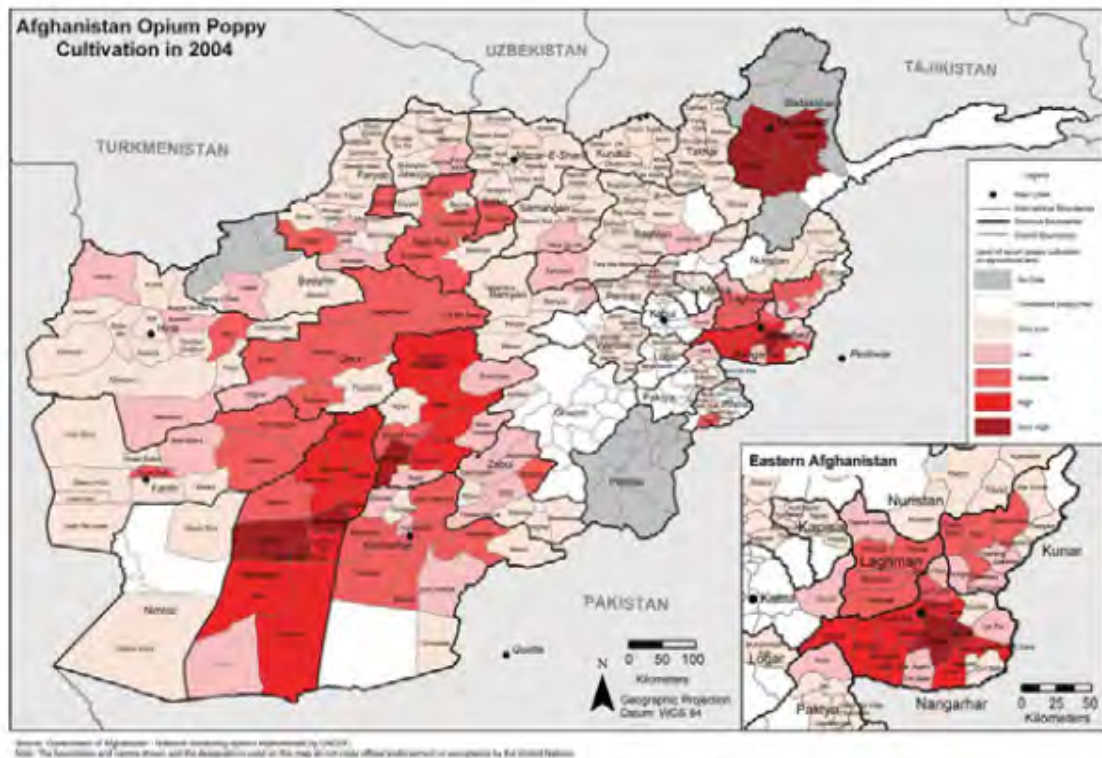
Farmers' decision to plant opium is strictly an economic decision based on their needs and opium market. Similar reasons pushing farmers to not produce opium also pull farmers from poppy fields. Keeping in mind that the average opium farmer has only half a hectare, he needs to maximize his land to produce an income to survive all year around.

Farmers decide to produce opium because of the high market price (61%). When the opium demand and prices fall, 27 percent shift their interest, some (18%) stopped because the government banned production, others because of Islam (11%), and some (8%) because of the high price of wheat.

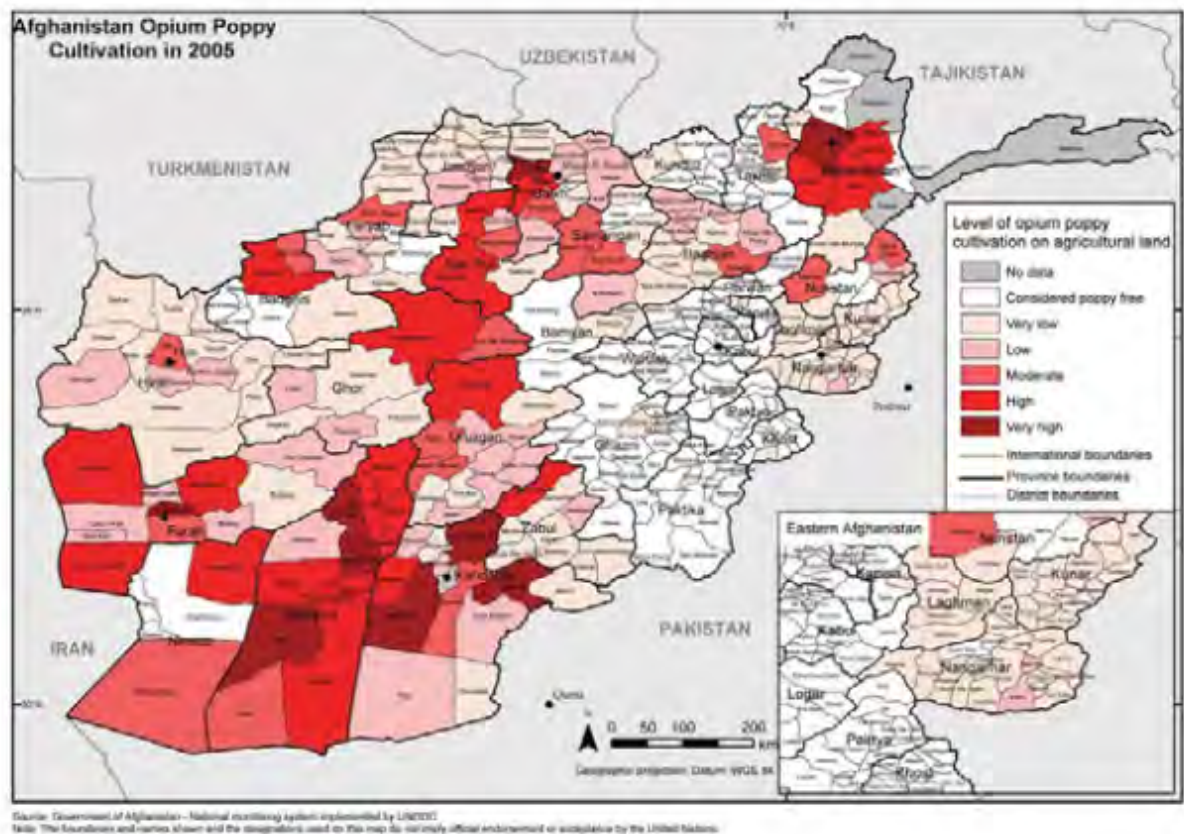
In the absence of hard data to answer this question, we can deduce, based on the evidence collected about farming, land structure, social and economic conditions and tradition in Kandahar and Helmand that farmers are producing opium solely for economic reasons. The pillar of alternative livelihood is correct; offering people alternatives to livelihood will stop farmers from producing opium. Even if the conditionality clause was enforced and agreed by farmers, economic and family needs always take precedent. If farmers can only survive by producing opium, they will produce opium.

APPENDIX

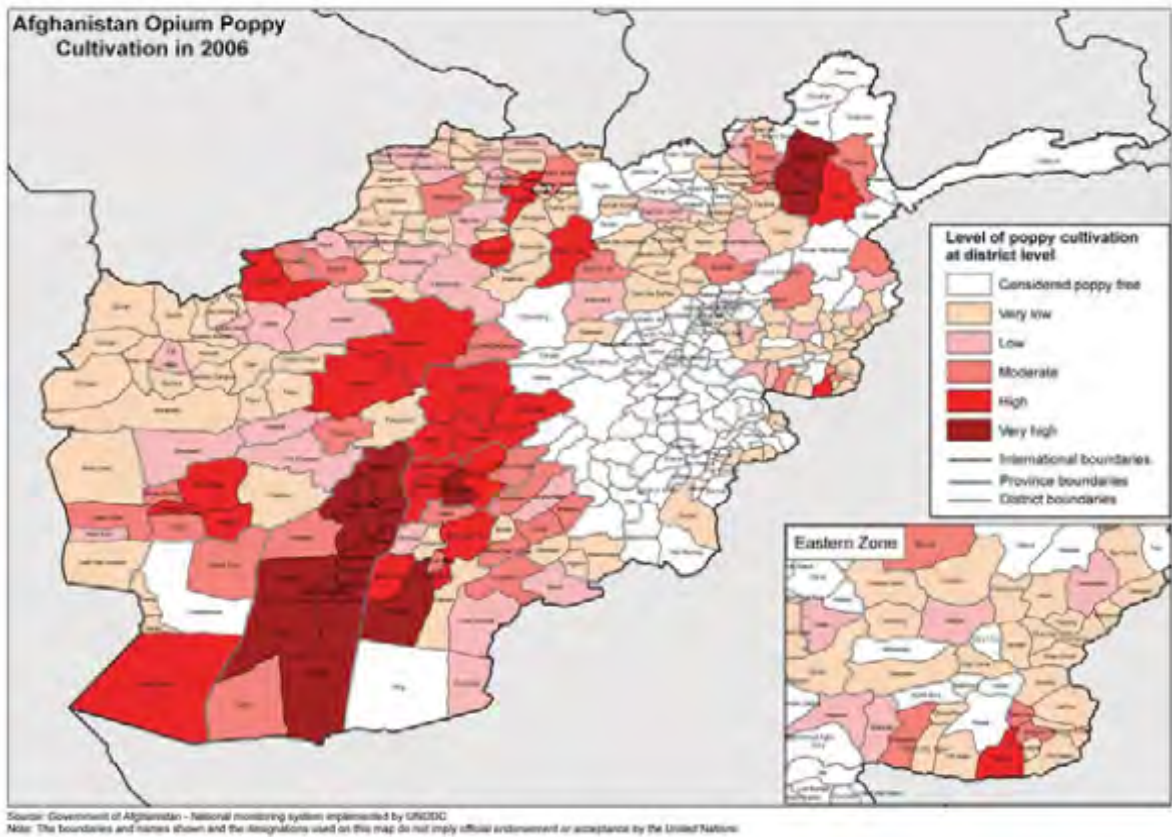
Map 1: Afghanistan Opium Poppy Cultivation in 2004



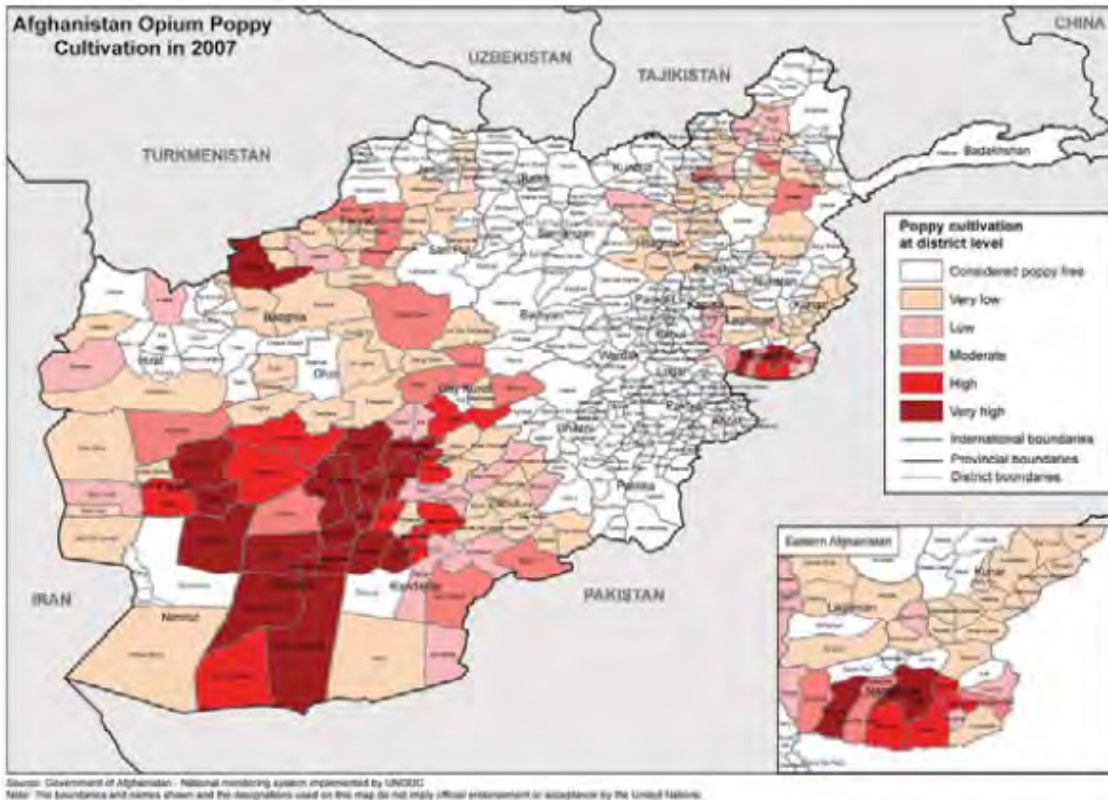
Map 2: Afghanistan Opium Poppy Cultivation in 2005



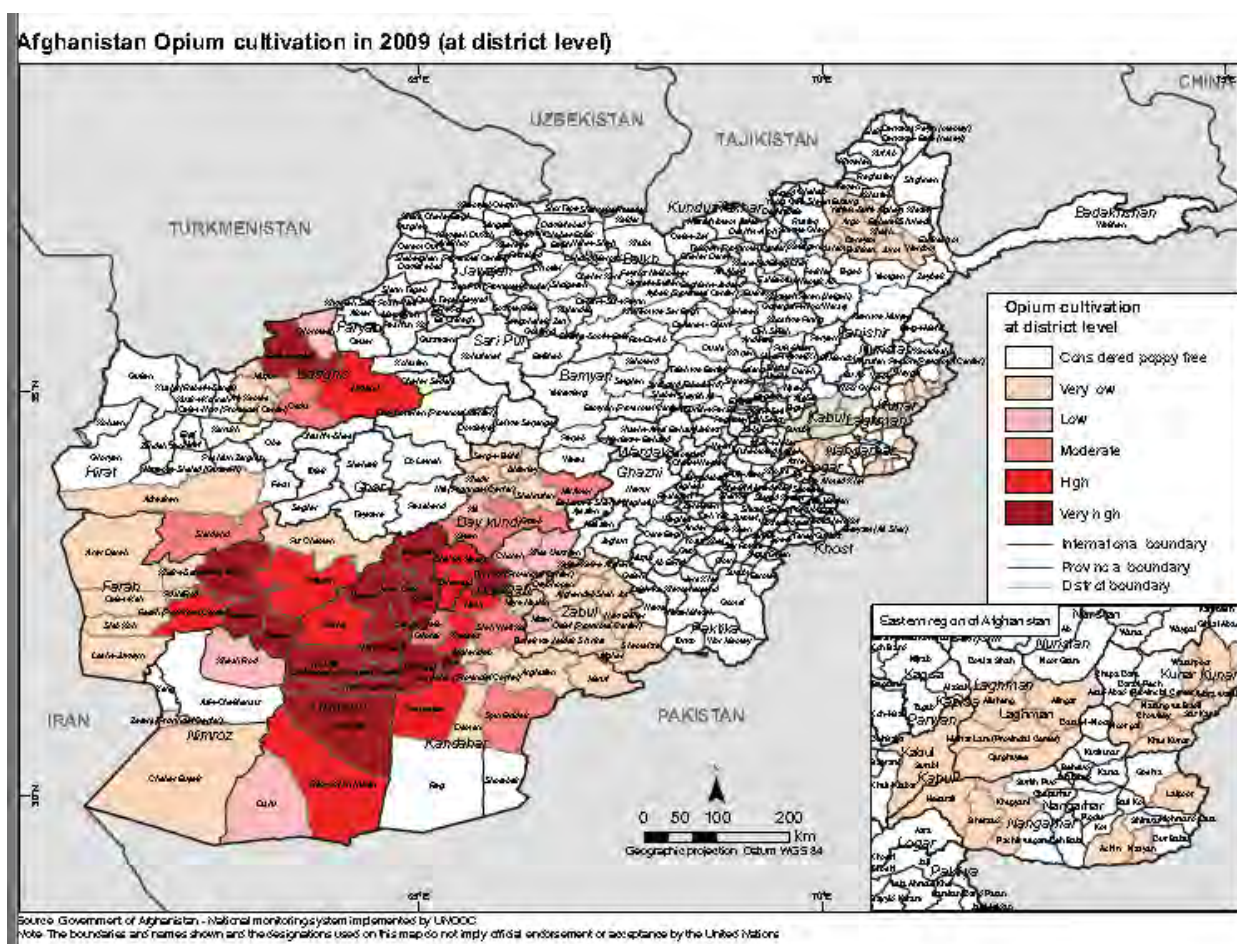
Map 3: Afghanistan Opium Poppy Cultivation in 2006



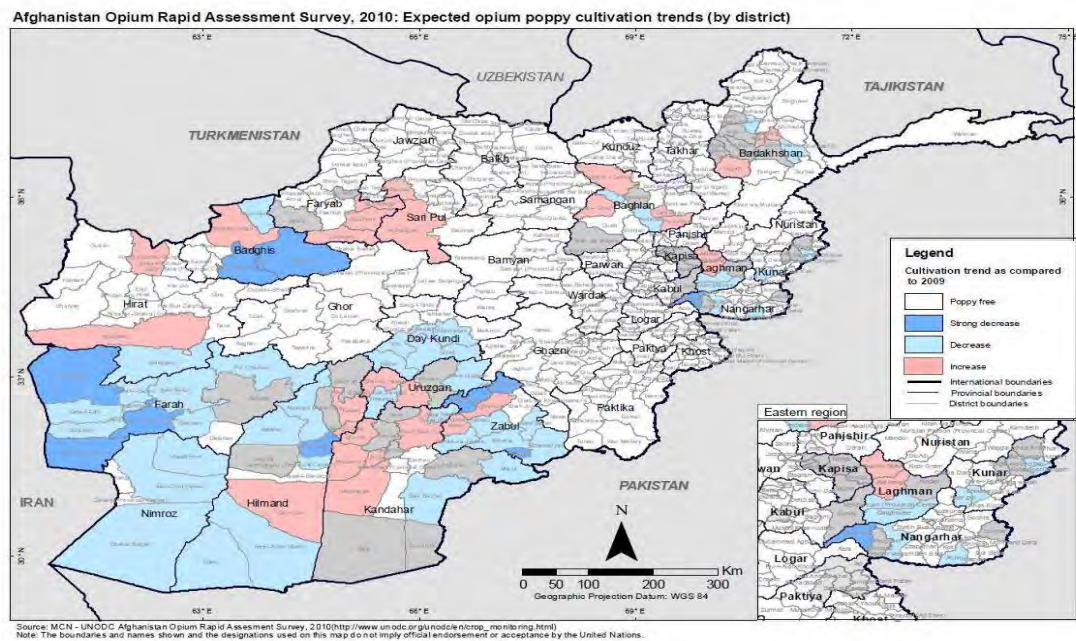
Map 4: Afghanistan Opium Poppy Cultivation in 2007



Map 5: Afghanistan Opium Poppy Cultivation in 2009

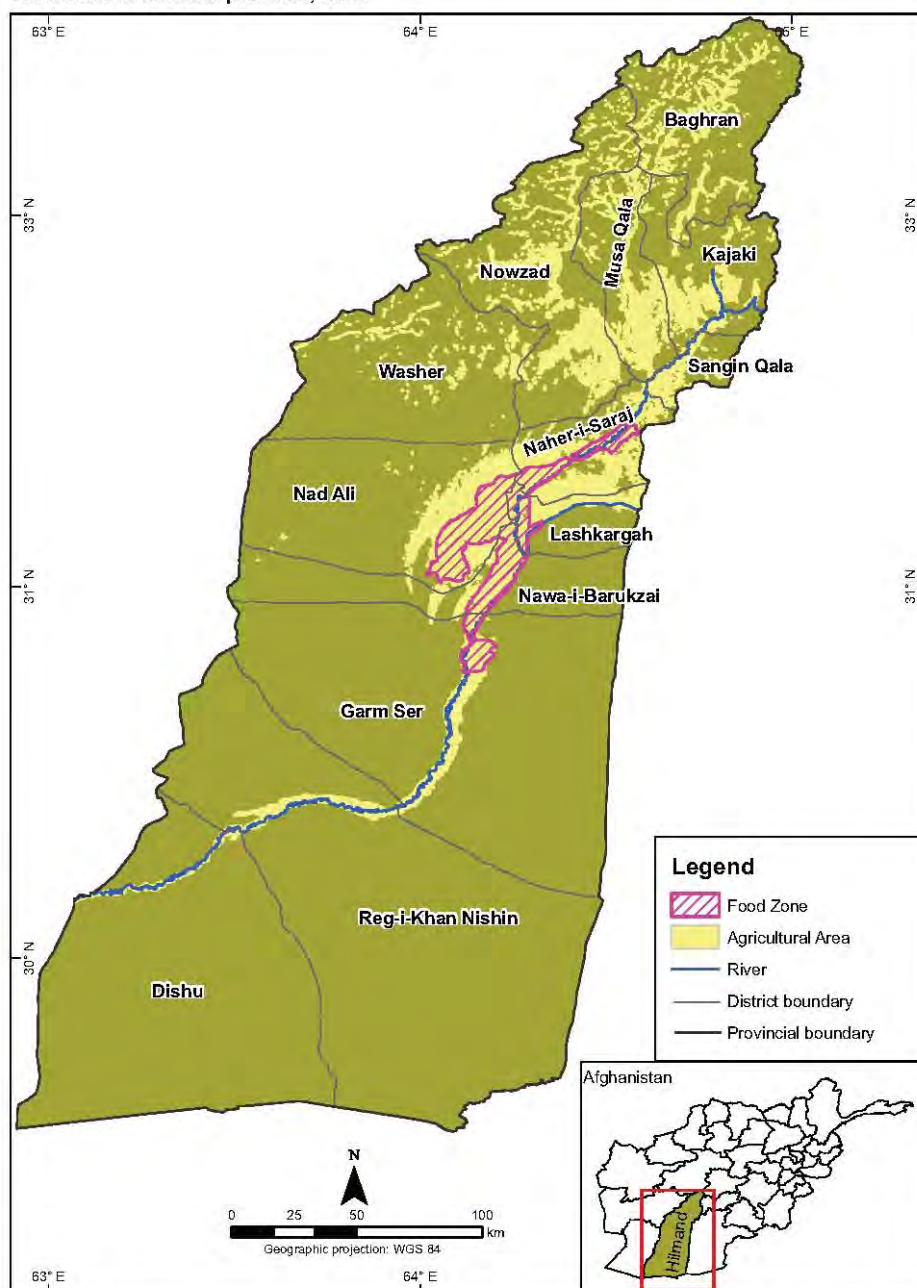


Map 6: Afghanistan Opium Rapid Assessment Survey, 2010.



Map 7: Food and Agricultural Areas in Helmand, 2009.

Food zone in Hilmand province, 2009

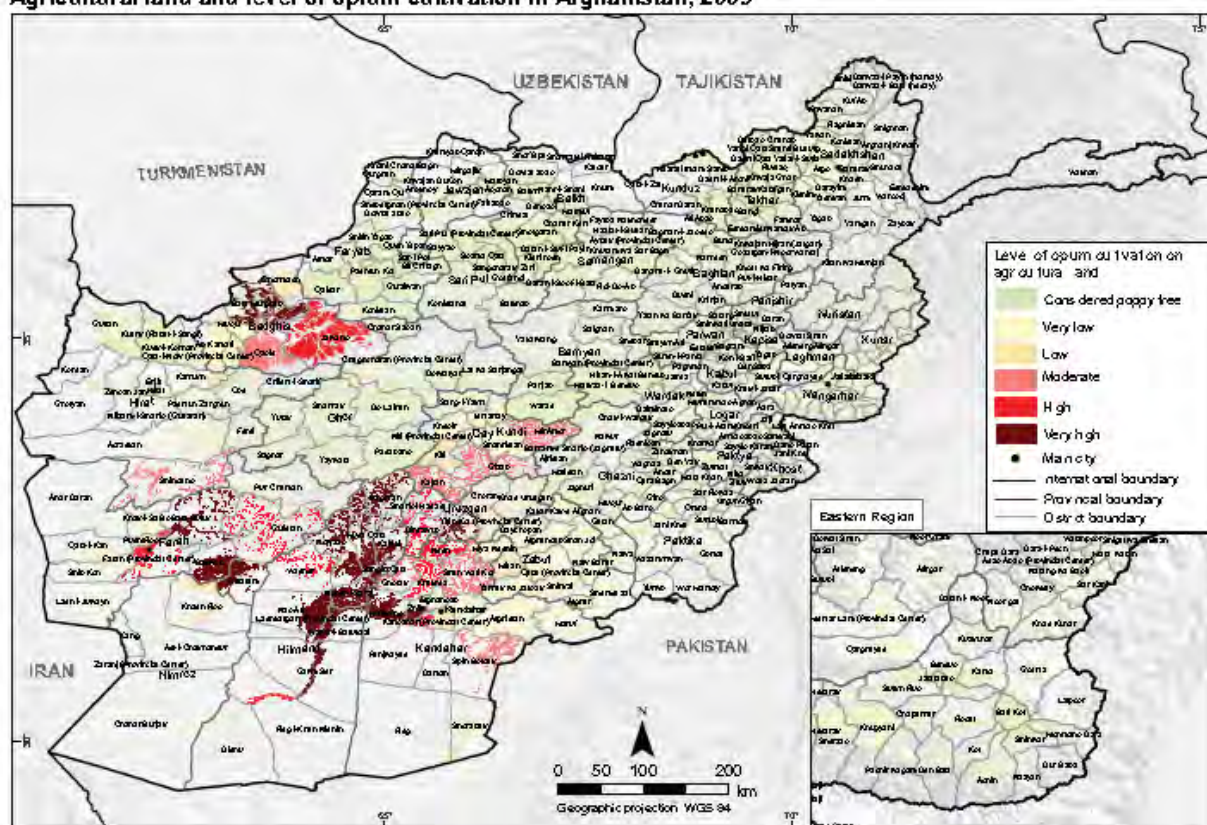


Source: cultivation :Government of Afghanistan - National monitoring system implemented by UNODC

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations

Map 8: Agricultural Land and Level of Opium Cultivation in Afghanistan, 2009.

Agricultural land and level of opium cultivation in Afghanistan, 2009

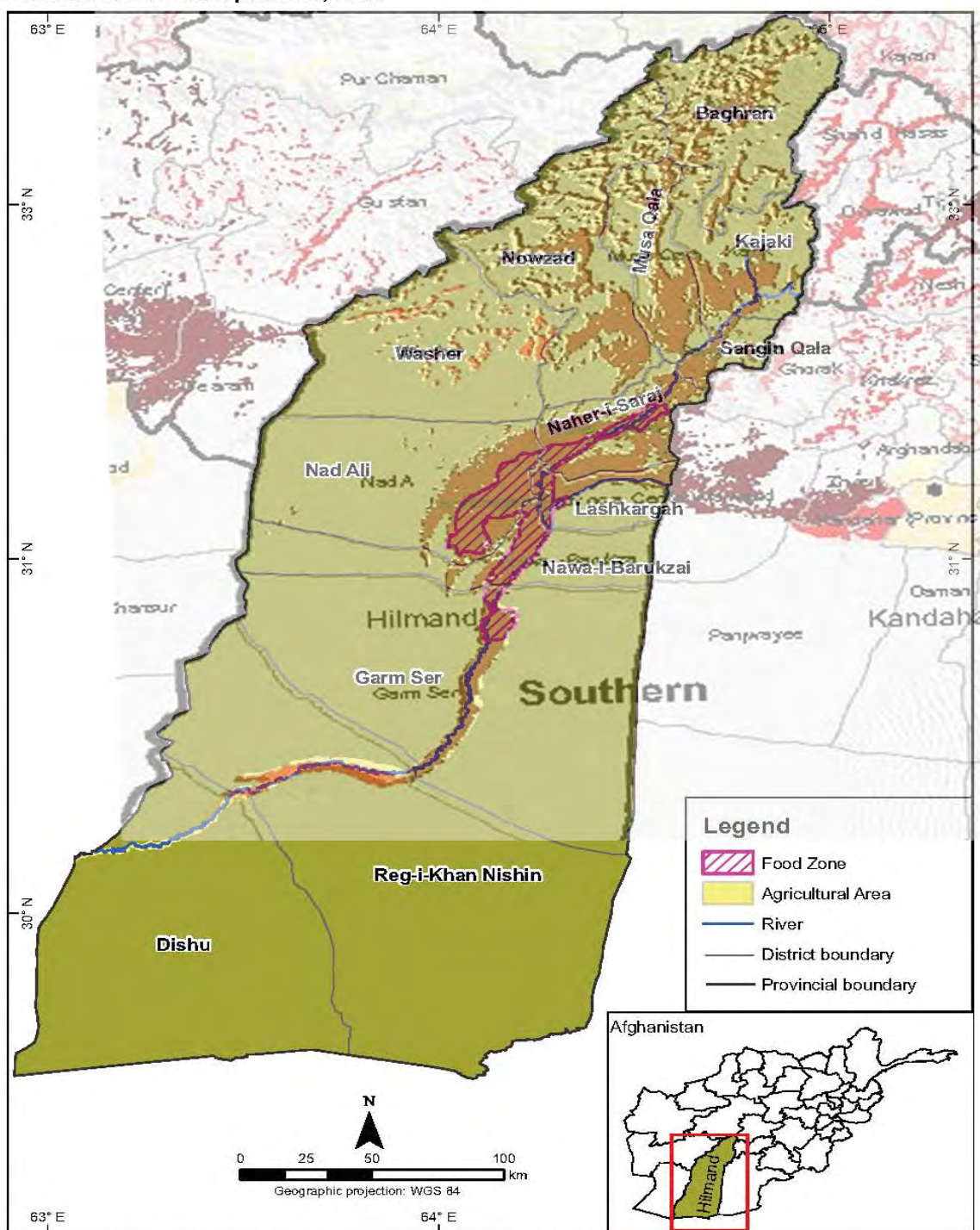


Source: Government of Afghanistan - National monitoring system implemented by UNODC

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations

Map 9: Agricultural and Opium Cultivation Areas

Food zone in Hilmand province, 2009



Source: cultivation : Government of Afghanistan - National monitoring system implemented by UNODC

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations

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Appendix IV – ADP/S Sustainability

11. Did any of the initiated activities and services such as information, training, technical assistance, demonstration farms, extension services, etc. continues after the end of external support? What actions and plans were put in place to ensure sustainability?

Did any of the initiated activities and services such as information, training, technical assistance, demonstration farms, extension services, etc. continues after the end of external support?

Actions taken during the project do not appear to have continued after the conclusion of ADP/S. ADP/s apparently did not have an implementation plan or strategy process to support the recipients after the project concluded. Even worse, there was never, as supported by interviews with managers, the idea that the project was expected to be sustainable. There was a prevailing assumption that ADP/S would establish the project and the locals would take over without any technical or financial support, which, according to them, is not going to work.

ADP/S during implementation addressed three development major variables: capital, technology, and labor. It provided the capital necessary to a livelihood program in areas of agriculture. Later, infrastructure projects were also added opening the umbrella of development to address some major problems in the area: road construction, canal cleaning, and an airstrip. This last one does not quite directly qualify as part of the project, especially when the agribusiness center was waived to build a runaway. One can say it has an indirect benefit to agribusiness but hardly any of the products will reach outside markets by air or planes flying into the area have the capacity to transport farm products. It is important to notice that the influx of capital from USAID made possible to implement a good range of project activities.

Capital alone would not help the region to grow and develop since Kandahar and Helmand also lack appropriate technology in most areas, including modern farming techniques but new equipment was brought in from the outside to support the project. For instance, poultry farms were supported by a new hatchery, new techniques introduced to grape farming such a trellising, drip irrigation, new seeds, animal clinics to support the Kuchis and their sheep herds.

Finally, ADPS/ provided training where labor did not have the technical expertise or were not familiar with new equipments or new crops. Training varied from production of garment and textile to tendering the herds, fattening the sheep, trellising grape vines, planting pomegranate trees, and changing seeding from broadcasting by hand to modern techniques unfamiliar or not practiced in the south.

ADP/s had a good start, it was well designed, and the conditions were present to grow and develop during the time of the project. Unfortunately, there was no provision for sustainability. ADP/S inclusion of capital, technology, and training during the life of the project was enough to sustain it. However, managers expected, and said during interviews that Afghans are not capable of maintain production without outside capital and technical support.

For instance, the poultry hatchery is running but the expectation is that without USAID support, technical and capital, it will collapse for lack of interest in the part of poultry producers. There is still a chance that this could occur, if the enterprise is transferred or sold to a local producer. The distribution of seeds for wheat, corn, and peanut and fertilizer stopped at the end of the project and it has no plan to continue operating by a local business.

Information regarding pomegranate trees, 500 thousands were planted, indicates that about 30% of them died due to lack of water and care, a shocking result that could have been avoided with a little planning. Worse yet, no planning were put in place to support the farmers during the years necessary for the trees to start producing fruits. Pomegranate will produce fruits only in 2013-4. Some intervention is necessary in the very near future to maintain the orchards, identify new markets and products, and support farmers until the first harvest. ADP/S left the necessary conditions to sustain the growth and harvesting of pomegranate but it needs further development to include better harvesting techniques, packing, transportation, processing and new market development.

All animal clinics, except one, necessary to support and expand the herds of sheep cared by the Kuchis are now closed. Project managers alleged that they have no condition to operate due to lack of funding or medicine. Similar fate occurred with the lamb fattening trial project, three were undertook, one failed but two were a success and even generated profit. The Kuchis were training to tend the animals. Keep in mind that Kuchis are not necessarily new at dealing with herds of sheep. Project managers alleged that they failed because it is difficulty to change custom. That is what a well-designed training intervention is expected to do: to change custom by introducing new techniques, train locals how to deal with it and see the benefits of making changes. Some sustainable action is necessary to maintain the clinics and supply medicine for the herds and benefit thousand of Kuchis working women in Kandahar.

Finally, the export of dried and fresh fruits was a success. There was an increase of exports of pomegranate to Dubai, India and other places. However, a systematic marketing and wholesalers network was not developed to support the growers. Packing was developed but the quality continues to be below international market standards. A juice maker in Kabul stated that only 5% of the pomegranate production is first grade. The rest were small and of poor quality with irregular colors and bruised. USAID needs to support these two important associations with market development and, perhaps, due to

the importance of pomegranate, the signature agricultural product of Afghanistan, create, organize and provide the initial capital for a pomegranate farmers' association.

Finally, there was the chilies experiment. Thousands of farmers were given seedlings to produce a product with no domestic demand and no market to export. The adaptability of chilies to the conditions in the South was never considered and the entire experiment collapsed. No alternative was offered or mentioned that ADP/S tried to rescue the farmers, and the project's reputation. In area where opium is king, a farmer with available land and no income does not have to think twice about another alternative. This intervention failed but development projects are never guaranteed to succeed. Some will fail. What is important is that sustainability is not, and cannot, be concentrated on the failure of one enterprise. It is a combined effort of expats and local national along with local stakeholders to maintain many successful project interventions.

ADP/S did not have a philosophy, if anything else, or did not understand, that a development projects' main goal is to transfer responsibility to the local citizens. They were successful to a point transferring capital, labor, and technology but with all these in place did not comprehend how to make the final transition. Instead, they dropped the project. Project benefits and results are still in place and operating, like pomegranate and poultry, and the next project in the region needs to take responsibility for the sustainability of all the benefits in place.

What actions and plans were put in place to ensure sustainability?

There were some actions taken by ADP/s that could, if well managed and all aspects of project development considered, sustain activities in Helmand and Kandahar. The project provided training for the farmers on new techniques to raise grapes, to plant and care for pomegranate, install drip irrigation technology, produce chicks in local hatcheries, care for herds of sheep, and lambs fattening. In addition, the project also trained urban women working for Kandahar Treasure and in Arghandab under a CADG sub-contract. There was also business training at the university level in Kandahar. For the first two groups, 700 women were training.

ADP/S organized fairs and shows for local products produced by the Arghandab and Kandahar Treasure. Some were in the United States. It made contact with importers from Dubai, India, United States and other areas in Southeast and central Asia to increase exports for fresh and dried fruits.

All these sustainability tasks were expected to provide local producers, agricultural and rural, craft and urban, with an alternative to receive supplies and find a market for their products. However, there was nothing in place to transfer the business to the locals.

ADP/s committed a serious error on two distinct fronts: supply of resources and market development. There was some attempt, and many produced results, to identified supplies to maintain the new business or farm operating. For instance, the poultry experiment tried and imported chicks from Holland successfully. It distributed fertilizer, new pomegranate trees, and seed in general. However, ADP/S never made build a bridge between the supplier and the farmer. Alternatively, it could have created conditions, such as finance a local entrepreneur, as supplier of, for instance, fertilizer. They simple bought resources necessary for the new initiatives as one time deal only.

On the other side of the spectrum, farmers and women producing garment for the market did not received any help to identify external market. This was even more serious, for instance, with the case of pomegranate. Fruits were exported to regional markets but the quality and selection process was never improved. They just tried to produce more of the same and try to export the same poor quality.

Most project implemented by ADP/S showed one problem or another of supply or market absence. The two most important aspects of business development, any business, were left open. The external markets collapsed and the supplies did not have a direct contact with the local producers or association. They tried on both sides, supply and market, but dropped it as an experiment. In the final analysis, ADP/S approached the project as an experiment. Experimental projects will do well because they have financial and technical support along with a commitment and full attention by the donor and contractor. All of these will fade away as soon as the project ends. Locals then will try to manage with the same limited resources they had before. The transition necessary to local management has to begin at the project's inception and not at the end of it. The end should serve only as a symbolic transfer for political reasons.

ADP/s left behind an impressive set of benefits to support regional development, generate economic growth, diversify the local economy, generate employment and wages' increase, and in the end replace opium as the main crop and employment sector. New projects need to address the needs of herdsmen, women, associations, growers, and farmers, rich and poor, to spring an open door to new domestic and international markets. Only the combined participation of local new (CDCs) and traditional leadership, society, and government holding hands with the private sector will make the transition necessary to sustain the benefits left behind by USAID - ADP/S to future generations.

Appendix V – Project Impact on Women

1. How effective were the projects' efforts to include women? To what extent did the ADPs contribute to women's employment, income generation, and empowerment?

ADP/S impact on women in general and in areas of employment, income generation and empowerment was very weak or nil. If there was an impact, it occurred only during the training program. It is difficult to state that ADP/S could have done more, or should have tried different aspects of women's program, but the social structure in Kandahar and Helmand is not conducive to improving women's' social, economic and political conditions without creating some serious problems. Many have tried and all have failed. Women are fighting against a social structure that exists for centuries, anchored on a code of conduct that guides men and women. This code, Pashtunwali, is one of the major blocks on the way to reform and improvement. Nevertheless, there are ways to improve women status in society without attacking the principles of Pashtunwali or the social structure, avoiding inducing men to become more defensive than they are. It will take time, knowledge of the social structure and the needs of certain segments of the population. However, economic underdevelopment, social disorder, and political

inefficiencies have created conditions for women to make important advancement in many areas without destroying family and kinship networks.

In the southwest region of Afghanistan, Kandahar, Helmand, Nimruz, Zabul and Oruzgan, there three types of women: nomad, peasant, and urban. A clear distinction in life style and behavior among these women is essential to understand their society to design successful and sustainable development programs.

Nomadic women, Kuchis, are the most free and capable in the Southwest (SW). Because their nomadic lifestyle, these women are free to work outside their home, since their homes is a tent and not very conducive to confinement. Their job, to tend the cattle, results in free movement and participation in decision-making activates in the family. Consequently, they do not face strong gender prejudice and have access to resources equally with the men. They are very productive making rugs, clothes and tents. On the negative side, they are illiterate as the men, and abide to Pashtunwali.

The second type of women in the SW are peasants living under a feudal system. These women are the most secluded and controlled by the rural social structure. There are two sub-types of women in the agricultural sector: peasants' household and landlord household. The interesting point is that women from the peasant households are less secluded, because they are expected to contribute to the family's income working the land or tending the cattle, while the landlord women are restricted to the house and expected to maintain a reproductive role.

The last type of women, the urban, also has two disticnt sub-groups: poor and affluent. The first, poor, was expected to work in factories and manufactories to improve their social status. Affluent women, on the other hand, is the most prosperous, free, and influential of all of them. They are part of the middle and upper classes, educated and hold white-collar jobs in government, health field, and schools. They are also the most influenced by western culture.

The description of the three types of women in SW Afghanistan is important because it helps not only to comprehend the social, political and economic structure in relation to gender but also to design development projects that are sustainable and capable of generating economic growth for the region and prosperity for the women. Development projects are able only to touch women on both extremes of the rural social structure: urban affluent and poor and rural nomadic (Kuchis) women.

Development projects for urban and nomadic women, eventually, will induce change in the household of landlord families and peasant women. However, attempts to influence changes in the landlord households may create serious problems for women and calcify the rural social structure.

One the projects implemented for women by ADP/S in Kandahar addressed one segment of the population that could benefit and participate in the economic growth. The project with Kandahar Treasury (KT), although not completely successful, because it lacked sustainability, addressed the needs of poor urban women successfully.

KT is a women own and operated garment business employing at the time of ADP more than 400 women part time working at home and 20 full time in the office. KT was

expected to market their products in Afghanistan and abroad, especially in the United States. The workers were paid an average of 20 dollars per month.

The broader goals of the project were to provide economic independence for women; exposed Afghanistan craftworks overseas, specially in the United States ; enhance the value of women at home ; raise their awareness of the importance of financial help at home ; and share a range of information for women : education, social events, health, hygiene, etc.

With a low budget project for only 55 thousand dollars, it was expected to run for six months but lasted a bit more than one year (August 06 to May 07). The program did not train artisan poor women; they had already acquired their skills and were working. It trained management in areas of business, especially finances and 20 full time women in color theory and quality control.

The problem is that even during the life of the project, KT did not increase its sales. As seen below, total sales had some variations during the life of the project and they were unable to grow and develop.

DATE	SALES (in USD)
December 06	790
January 07	680
February 07	900
March 07	480
April 07	1730
Total Sales	4,580

After completion of the project, KT was unable to maintain the business growing or, at least, constant and sales losses resulted in the reduction of the workforce to 200 (50%) part time women. All full time workers were maintained.

KT president said that the basic problem of the project was a lack of understanding of markets on both directions: suppliers and buyers. The structure, the skills, and the product already existed. The greatest need for the project was organization and marketing. KT continued, after the project concluded, to have problems with supplies and marketing.

Another project showed similar problems. Interesting enough, the number of people involved was almost the same. The training was in craft areas for urban poor women. The project was implemented by CADG (Central Agricultural Development Group) as a subcontractor.

Initially, CADG trained 10 women for 6months. Later the project expanded to training an additional 300 women. Training was concentrated in the area of bag making, sewing and carpet weaving. At the beginning of the training, the women were paid Afs 1.000 (USD 20) per month; later, it increased to Afs 300 (USD 6) per day for a six day week. At the end of the training, women trainees received toolboxes, which included a sewing machine.

The increase in trainees was possible because the fees paid to the students were raised. Like KT training program, sustainability was not part of the process because trainees came for the money and had some difficulties getting supplies. The trainer interviewed by ADP/S evaluation team stated that most women are not working or producing. Again, there was an estimated loss of 50 percent because of lack of supplies and market to expand. Based on the research and interviews in Kandahar, ADP/S did not contribute to women's employment, income generation, or empowerment. Some attempts made were too weak and fragmented.

The final Biweekly report submitted by ADP/S shows a much-reduced participation of women in the project. It has to be taken into consideration the fact that infrastructure project interventions, such as canal cleaning, where the major employment areas were concentrated, were not suitable for women under the present social structure in Kandahar and Helmand. The numbers listed in the gender table are clear enough. The only area that there was an attempt to address the issue of gender in the south was in business skills training, and even this effort was very low.

Table : ADP/S Gender Participation in Kandahar, Helmand and Uruzgan

Indicator	Male	female
Amount paid in CFW in all programs	43,978,054	2,960
Afghans paid through CFW salaries	86,943	32
Total labor days for CFW	8,920,677	606
Afghans trained in business skills	1,350	362
Farmers trained agricultural practices	43,030	30
Farmers receiving seeds and fertilizer	110,478	202

Source: ADP/S Biweekly Update, July 16-31, 2009.

There was also a language course in Kabul for Helmand women (SAF – Gen 002) that ran from August 1, 2006 to May 1, 2007. At this point we cannot secure any information about this training intervention. For the length of the training and location, it should include a large number of students, however no documentation was found or forwarded to us by the contractor about any training program.

We can speculate about the reasons for the project to be so absent in addressing the issue of women in the south. No one has any doubts that there are some serious problems based on the social structure and historical experience. However, we also know that during hard times, and certainly, Kandahar and Helmand are facing those, that pressing economics needs and crisis open the doors for many alternatives to take place. Changes will not and do not occur in social, especially in a tightly structure as the south of Afghanistan, during normal times. When there are plenty of resources, the status quo will prevail. ADP/S failed to understand these variables and did not try to address these issues and opportunities. To change working conditions in Afghanistan, and elsewhere for that

matter, is never easy. War and conflicts are actually good venues for change and a poor excuse for not doing anything.

Appendix VI – Available Chemicals in Afghanistan

Table#: 1 List of Common Agricultural Chemicals Available in Afghanistan					
Commercial Name	Origin of the Chemicals (country)	Usage of the Chemicals			
Ripcord (10% Ec)	Malaysia and Germany	Insecticide for control and elimination of pomegranate and other fruit trees insects and pest			
Chlorpyrifos 40EC	Malaysia	Insecticide for control and elimination of pomegranate and other fruit trees insects and pest			
Larsbin	Pakistan and China	Insecticide for control and elimination of Apricot and other Stone fruit trees insects, aphids and pest			
Dainadim 40EC	China	Insecticide for control and elimination of Apricot and other Stone fruit trees insects and pest			
Zenib	Pakistan	Fungicide for elimination of Vegetable fungi as well as fruit tree fungi			
Copper Oxychloride 50% wp	China and Pakistan	Fungicide for elimination of Vegetable fungi as well as fruit tree fungi			
Propiconazole	Iran	Fungicide for elimination of Wheat Rust and Corn Smut fungi			
Vitavax/Thiram	Pakistan	Fungicide for elimination of Wheat Rust, Vegetables and Corn Smut fungi (Seeds Treatment)			
Sulfur (Powder)	Pakistan, Iran	Fungicide for elimination of Powdery Mildew of vegetables and fruit trees			
2-4-D	Burri Agricide Switzerland, China and	Herbicide for elimination of flat leaf herbs			
Illograss, Diclofop methyle (36%)	Iran	Herbicide for elimination of needle leaf herbs			
Deptrix	Pakistan, German and China	Insecticide for elimination of cut worms and soil treatment			
Ariashimi, Petrol Oil	Iran	Fungicide and Pesticide and use in winter time on behalf of Lime Sulfur			
The most common and popular chemicals which the farmers are buying too much from Baghban Agricultural Services Company are underneath:					
Liquid chemicals: Larsbin, Chlorpyrifos and Diazinon					
Powder: Zenib which is mostly used for elimination of the powdery mildew.					
(Reported by Mr. Tawfiq Ahmad member of Baghban Agricultural Services Center (BASC))					
Add : Kot-e-Sangi Shamal Street Gulzar Hotel First Floor of Band Amir Hotel, Kabul Afghanistan					
Tel : 0799-460-305 - 0700-249-579					
E-mail : basc_kbl@yahoo.com					
Table#: 2 Other source which is give us some more information about the Agricultural chemicals available in Afghanistan.					
Name	Ingredient	Type	Net Contents	Doze	Manufacture
Arrivo 10 Ec	Cypermethrin 10.0% (w/w 11%) Inert ingredients 90.0%	Insecticide	1000ml, 250ml	Lable rate	MFC Corporation Agricultural Products group Philadelphia PA 19103
Dimethoate 40% EC	Immolation 60% LD 0.5-1.5mg/kg	insecticide	100ml	Lable rate	
Dimethoate	Active ingredient on the basis of 100% Dimethoate 400mg/Lit (39.40w/w) inter ingredient (60.60)	insecticide	400ml	Lable rate	M/S Xin Cheng Chemical Factory China
Advantage 20%EC	Ingredient w/v w/w Carbosulfan 20.0% 21.0% inert ingredient 80.0%	Insecticide	1 LITRE	Lable rate	FMC Corporation Agricultural products Group Philadelphia PA 19109
Imidacloprid 25% wp		Insecticide		Lable rate	M/S Jiangsu Yangnong Chemical Group Co. Ltd.China
Vinipur Prior	Chlorothalonil (500g/l) Contr. Fed.No.: W 4590	Fungicide		Lable rate	Burri Agricide 2555 Brugg Switzerland
Diazinon	25% Diazinon (230g/l) Contr. Fed.No.: W 1948	Insecticide	1 LITRE	For control of certain Insects on fruits,Nuts,Vegetables,Field crops,Lawns and Ornamentals Use 0.1% Melon: White fly.	Burri Agricide 2555 Brugg Switzerland
CYPEX	Cypemethrine 10% (100 g/l) Xylol Contr. Fed.No.: W 2834 OFSPT no 68810	Insecticide	1 LITRE	Lable rate	Burri Agricide 2555 Brugg Switzerland
VINIPUR SPECIAL FLUID	21% of folpet (280 g/l) 11% Copper Oxychlorure (140g/l) Contr. Fed.No: 2577	Combined	1 LITRE	Lable rate	Burri Agricide 2555 Brugg Switzerland
Mix Akin	Potassium 3% Iron 5% Copper 3%	Fertilizer EC		2cc/ Liter	
Perfekthion 40EC	Dimethoate 400g/Lw/v (370g/L w/w) Emulsifier & Solvent 600ml	Insecticide	1 LITRE	50-100ml/acre	BASF AG GERMANY. Tell: 49 621 60-79321
Chlate 238 Fe Ferrolize	Fe 12%	Fertilizer EC	1kg	Fruit trees (Apples,Cheery,Peach, Pear, Date & etc.....) small plants: 20-40g/plant. Large plants 40-60g/plants	
Talstar	Active ingredient w/v biphenthrin 10.0% (w/w 11%) inert ingredients 90.0%	Insecticide/ Miticide	250ml	0.5cc/1Lter	FMC Corporation Agricultural products Group Philadelphia PA 19109
Cascade	Flufenoxuron: a.i.100g/lw/v (94.33g/lw/w) inert material to make 1.00L	Insecticide	250ml	Lable rate	BASF AG Ger,ameu Te:+49 621 43333
Bavistin DF Carbendazim 50%	Carbendazim as a.i. =500g/kg w/w Inert material = 500g/kg	Fungicide	100mg	Lable rate	BASF Aktiengesellschaft 67056 - Ludwigshafen Germany
Cobox 50%wp	Copper Oxychloride a.i.=500mg/kg w/w inert ingredient =500mg	Fungicide	1kg	Lable rate	SPIESS URANIA CHEMICALS GMBH - Hamburg Germany
kumulus-DF		Fungicide	500g	Lable rate	BASF Aktiengesellschaft 67056 - Ludwigshafen Germany Tel:+621-60-79321/79146
20-20-20+me		Fertilizer EC	1kg	Lable rate	
TMTD Organic Fungicide against scab of pome fruits, shot hold, peach leaf curl		Fungicide	1kg	Lable rate	Burri Agricide 2555 Brugg Switzerland
Microperl	62% Copper in the farm of Hydroxide (corresponds to 40% of Metallic copper) contr.fed.No.w 5412	Fungicide	1kg	Lable rate	Burri Agricide 2555 Brugg Switzerland
Veto Top	60% Copper + 10% triflumizol No.of Federal Check w 4671	Fungicide	1kg	Lable rate	
Polyram DF 70%	Metiram as a.i. = 700g/kg w/w Inert material = 300g/kg	Fungicide	250g	Lable rate	BASF Aktiengesellschaft 67056 - Ludwigshafen Germany
Curzate M8 72%wp	Cymoxanil 80gm/kg (8%w/w) Mancozib 640gm/kg (64% w/w) inert ingredient 280gm....make 1.0kg	Fungicide	600g	Lable rate	Burri Agricide 2555 Brugg Switzerland
Wettable sulfur	80% of sulfur contr.fed.No w 1528 OFSP T NO 16779	Fungicide	1kg	Lable rate	
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Appendix VII – Training

15 - Describe the approaches to, and analyze the impact of ADP agricultural training, demonstration farms, agricultural research (introduction of new varieties), extension, technology transfer, and information dissemination programs. How was the training delivered? What was the level of quality, effectiveness, and satisfaction? What was the impact on technology adoption and on-farm yields? Disaggregate the training data by type, gender, technical area, length, province, etc.

Describe the approaches to, and analyze the impact of ADP agricultural training, demonstration farms, agricultural research (introduction of new varieties), extension, technology transfer, and information dissemination programs.

We have no indications that ADP/S had a systematic training program or plan to address several issues raised by the introduction of new technologies, techniques, and processes. Reports state that ADP/S planted 500 thousand pomegranate trees, installed many animal clinics, introduced chilies to farmers, distributed new seeds, etc. However, we were not able to secure one single training outline from any of the contractors involved with the project. Only a very few people came forward and provided some information. None of them, however, was accompanied by the usual training documentation: course outline, criteria for evaluation, instructors' qualifications, material included, duration, number of students, etc.

We were able to ascertain that some 'training' was provided to farmers in certain areas. However, we have no idea or received information about the content and duration. A case in point is the teaching of certain techniques transferred to farmers producing grapes at ground level. Some orientation was given to farmers on how to use trellising and the benefits to quality and production.

In one case in particular, a DFEAC project, ADP/S bought and supplied a machine to process almonds but no training was provided and workers continued to break the shells by hand while the machine remained at the processing plant with no one qualified to operate it. Although 2 months of training was promised, it was never provided.

In another training intervention for technical personnel to learn to vaccinate animals, candidates were selected based on personal contact, a normal procedure in developing countries and certainly in Afghanistan, but the Shuras were not contacted to select or approve it. It failed, according to the informant, because the people selected lacked qualifications and without Shuras' support, it did not get community backing.

Using the last Biweekly report presented by ADP/S to USAID, along with the usual required Performance Data, ADAG Indicators, and Accomplishments to Date Sheet, we were able to identify some results. It is important to emphasize that we have no way to verify these numbers based on the lack of documentation or the quality and efficiency of training intervention. At best, the data gives us some aggregate idea of what the project apparently accomplished with training; at worse, due to the data poor presentation and lack of documentation, we are not certain about the training level and its impact on agriculture and business development.

The final biweekly report from ADP/S indicates that there were only four training interventions during the life of the project involving all three provinces. One included English and IT for business development, two for agribusiness, and a language course in Kabul for women. The training for Kandahar Treasure and CADG for women artisans is not included, perhaps because they are inserted in the overall plan for business development. The lack of a training plan can cause this confusion.

Table : Training Activities reported by Province and Sector

Program	Activity Name	Province	Sector
ALPS-IP-2	English and IT	Helmand/ Kandahar	BDS
ALPS-IP-09	MAAFH Extension Services	Helmand	Agribusiness
ALPS-IP-16	Agr. & Coop Workshop	Helmand	Agribusiness
SAF-Gen 002	Language Course in Kabul for Women	Helmand	Gender

Source: Annex II ADP/S Portfolio Summary, Biweekly Report, July 16-31, 2009.

In another document, ADP/s reports the training for 180 veterinarian workers and 43,000 farmers in agricultural practices. It is not difficult to deduce what the training for para-veterinarians would be but 43,000 farmers trained during the life of the project is another story. No data was presented or found about the length, quality, and results from the training.

Table : Training Listed in the ADP/S Accomplishment to Date Report

Training Reported	Number of Participants
Para – Veterinarian and Basic Veterinary Workers Trained	180
Farmers trained in agricultural Practices	43,000

Source: Major ADP/S Accomplishment to Date, Biweekly Report, July 16-31, 2009.

In another table, using the data from the weekly report, we can shed some light, but not much, about some training interventions in business skills and farming.

Table : Training Reported in Annex I Required Performance Data

Indicator	Total to Date	Provinces			By Gender	
		Helmand	Kandahar	Uruzgan	Male	Women
Business Skills	1,712	1,536	136	0	1,350	362
Farmers Trained	43,060	28,122	13,661	4	40,030	30

Source: ADP/S, Annex I Required Performance Data, Biweekly Report, July 16-31, 2009.

In business skills, 1,712 people were trained, mostly were men in Helmand (only 362 women). The agricultural training involved over 43 thousand farmers with two thirds in Helmand and almost no women (30). This is the extent of the information we could assemble using the reports received from the ADP/S. It is impossible to go beyond this point and speculate based on this data.

Roots of Peace (ROP) reported training in agribusiness in their final report. This is the only report we could secure describing agribusiness training. It includes what appears to be an incomplete list of training activities and marketing trips (the latest were excluded because they are marketing and sales trips and not training).

There was a substantial training activity for fruit farmers (1970) during the reporting period. Other training in supporting areas for agribusinesses are also included but in a much reduced scale. ROP seems to have concentrated many training activities in technical, business and financials areas for two organizations, the fresh fruits (FFEUK) and the dry fruit (DFEAK) associations of Kandahar.

Table : Training activities reported by ROP from August 2006 to February 2007

Activity	Persons
FFEUK	
Technical	14
Business	15
Financials	20
Fruit farmers	1970
Pack-house workers	63
DFEAK	
Technical	8
Business	5
Financials	3
Nut plant installation	0
Install guidance	2
Technical training	0
Commercial Management	0

Source: “Final Report Aug 2006 – Feb 2007, “Perennial Crop Support Program – Kandahar, USAID/ALP-S/ROP.

We have some indication, as described in the report, that most of the training was based on observation, what they called OJT (On-the-job-training) along with some classroom interventions. However, we have no idea, how training was delivered, who participate in it, the selection process, and the results. For instance, OJT seems be treated as observation of other people working than actual training.

There was also training called extension services. These included agro inputs against diseases, and fruit quality (vineyards and orchards). Some marketing visits were also included but it can hardly be classified as training. There were a reduced number of

people, usually two, travelling to places like Holland, Dubai, and India in search of markets for exports. Only one local national went in each trip. In conclusion, some training was provided but there is no documentation available, beyond this report, describing methodology, content, results, and training materials.

How was the training delivered?

Training for the agricultural sector was delivered, in a few cases, using a very simple technique. It was only training in the strict sense of the word. For instance, showing farms how to introduce trellising to raise grapes. This is a simple but very efficient technique. However, the training was no more than a simple explanation. I have no indication that ADP/S had a systematic training intervention involving the agricultural sector. In urban areas, there was training for women working with the crafts, garment making, and textile. This training was systematic and organized.

What was the level of quality, effectiveness, and satisfaction?

In the agricultural sector, we cannot ascertain the quality of the training but considering the simple level of some interventions, there is no reason to believe that the quality, satisfaction, and effectiveness were not present.

As for the secondary sector involving craft in the garment and textile areas, two training intervention were provided to a large number of women. They were selected from poor urban families with their support, especially husbands, because it was an income supplement.

In the first intervention, training was provided for 20 full time craftswomen working for Kandahar Treasure (KT). A NGO employing part time women at home (400) and full time at the office (20). The training was provided for the full time women in areas of quality control, color theory, and design. A consultant came from the United States to provide the training for 2 weeks. The only negative aspect of the training was the instructor's lack of a craft background. Overall, KT was satisfied with the training and results.

The second training intervention was also for crafts involving basket weaving, sewing, and carpet making. It was provided for 10 Arghandab women during 6 months and later it expanded to 300 divided among 50 basket weaving, 30-carpet making, and the rest in sewing. All women were trained to work at home to supplement the families' income.

As an incentive to attend the training, and a very common approach, the women started receiving Afs 1,000 per month and later it was increased to Afs 300 per day. The training was provided six days per week during a period of six months. Attrition was very small; the stipend may have contributed to that.

All the women completed the course successfully and received a tool kit. The trainer could not say that they are working at home. He expected that half of them did not make a business use of their training but even half is a very good outcome. The only problem faced by them after completing the training is to find material to work. This is the same problem faced by Kandahar Treasure.

What was the impact on technology adoption and on-farm yields? Disaggregate the training data by type, gender, technical area, length, province, etc.

There is no data available to answer this question. None of the reports submitted by Chemonics for ADP/S shows any discriminating data for training. Intense scrutiny of biweekly and quarterly reports did not describe any training by gender or technical areas. In some case, we know that training was provided but no information beyond this point. Not a single training plan or outline was produced by the contractor or the sub-contractors. The same for a training plan for the entire project.

Appendix VIII – Cost Benefit Calculations

LASHKAR GAH AIRPORT

The project invested 11.8 million dollars on the airport at Lashkar Gah. Economic benefits are both direct and indirect. Direct benefits are the jobs at the airport and the businesses that spring up to provide services to the airport. There are indirect benefits that represent the multiplier effect of having an airport in the community. Connecting a region to the global air transport network can have profound impacts on the economic development of a community. Although Lashkar Gah is not yet realizing most of these economic benefits there will be a positive impact once the war settles down and there is political and then economic stability.

A study by the International Air Transport Association (IATA) measured the economic impact of airport traffic on 5 developing countries. The economic rate of return for airport investments for these five countries is shown below:

Kenya	Cambodia	Jordon	El Salvador	Jamaica
59%	19%	28%	16%	16%

Another study by Wilbur Smith and Associates for the Colorado Department of Transportation looked at 14 commercial airports and 60 general aviation airports in various communities. The study measured significant economic benefits from the existence of an airport in a community. Airports Council International points out that the opportunity costs of a region not having an airport can be very high.

Currently there are 3 flights per week from Kabul to Lashkar Gah and back. According to the President of the Department of Civil Aviation all flights are full. This is partly due to the poor security on the road from Lashkar Gah to Kabul.

In analyzing the potential impact of the airport investment at Lashkar Gah we lagged the benefits by one year to account for the regions insecurity, and to be conservative we estimated economic benefits for 10 years only. Utilizing a 19% return on investment from the IATA study above, and an opportunity cost of capital of 12% the returns are \$11.5 million compared to the \$11.8 million investment. Stretching the benefits on to an 11th year yields benefits that exceed the initial \$11.8 investment. Although an airport runway is an unusual activity for an alternative livelihoods project this activity can be considered a success.

LASHKAR GAH ELECTRICAL SUBSTATION

Many studies have been done on the returns to electrification in developing countries. The landmark World Bank Study “Rural Electrification and Development in the Philippines” found for every \$1 invested in rural electrification there was an economic and social return of \$3.2. The London School of Economics also studied electrification and estimated a return to invested capital to be as high as 21%.

ADP/S upgraded the electrical substation in Lashkar Gah with a new transformer and distribution lines. Interviews with beneficiaries revealed a marked improvement in the electrical service. An additional Transformer awaits the installation of one more Turbine at Kajaki dam. This will allow the substation to accommodate the additional power generated by the additional Turbine. Since this turbine is not yet installed all the benefits were estimated to occur 2 years after the completion of the project. Utilizing the same 12% discount rate the benefits were estimated to be \$6.3 million dollars. Part of these benefits are being realized now but the majority of the benefits will be realized when the Kajaki dam is completed.

Based on these numbers and knowing that there are benefits currently being realized this project came close to breaking even using a 10 year planning horizon.

BOLAN AGRICULTURAL CENTER

As of this writing the Agricultural Center is at least one or two years away from completion. Also it is not possible to predict what type of business will be located at this center which will according to DFID, be opened up to other types of business other than agriculture. Therefore we did not calculate an economic benefit from this activity which cost ADP/S \$3.5 million.

ROAD REHABILITATION

The economic importance of roads is well documented. Farmers cannot get access to markets unless there are roads. ADP/S rehabilitated 83.1km of roads in the three provinces of its operation through its CFW program. 8km of this was the Qali Bost Cobblestone road which was found in disrepair by our survey team and was not being utilized by the local people. Many vehicles were travelling alongside the road and not using it due to the difficulty of travel on its uneven surface. This leaves 75.1km of functional roads at a cost of \$4.8 million.

The RAMP project conducted an impact study and estimated benefits from road construction to be \$54,789/km from a 3 year period. This is made up of 33% reduction in vehicle operating costs, 26% savings due to reduced transportation costs for fares and freight and 40% of the benefit coming from an increase in agricultural production due to the increased availability to markets and inputs.

The evaluation team found no changes in fares as a result of the ADP/S road work. There was however a significant reduction in travel time as travel time was a third of what it had been before improvements. The 40% figure from increased agricultural production could not be measured by the evaluation team. If we accept the 33% savings from vehicle operating costs and reduce the 40% to 20% then the benefits from ADP/s are 53% of what was measured by the RAMP impact study. This results in a total benefit of \$29,038/km

of road. Using 75.1km of roads the annual benefit is estimated at \$2.2 million. This benefit stretched over 3 years and discounted by 12% is \$5.2 million which compares favorably to the \$4.8 million cost.

Sample Road Kandahar Area



IRRIGATION REHABILITATION

The cost benefit for irrigation improvements was derived from a DAI impact study for RAMP which discussed 3 types of benefits accruing from irrigation improvements: a.) horizontal intensification (cultivation additional hectares of a crop), b.) vertical intensification (improved yields due to better water access) and c.) area shift (shift to higher value crops such as vegetables). The study estimated benefits a 3.4 cost benefit ratio from irrigation improvements over a 3 year period. This ratio however was calculated on undiscounted revenue streams.

The calculation of economic benefit from the irrigation efforts of ADP/S was done using the 3.4 cost benefit ratio from the DAI study. Although the command area of irrigation improvements was 89,500, the project reported 56,600 hectares of new land brought into cultivation as a result of irrigation improvements which is 63% of the total. Assuming that 85% of the command area is undercultivating and using the 63% figure and the 3.4 cost benefit ratio, costs for this amount of land was calculated at \$5,045,319. This number is multiplied by 3.4 and spread over 3 years. Discounting this income stream by 12%, results in a net benefit of \$13,733,738 which comes to \$242/ha which is very conservative.

If you look at the net income that can be derived from irrigated wheat alone this ranges between \$850/ha and \$1,400/ha. This shows that the economic benefits from irrigation improvements, particularly if there is new land being irrigated can be very high. The table below gives a range of possibilities:

Returns to irrigated land 56,600 hectares	Net Income/ha	Total annual Income at 100% cultivation	Total annual income at 50% cultivation
Irrigated Wheat	\$1,000.00	\$56,600,000.00	\$28,300,000.00
Irrigated Vegetables	\$3,000.00	\$169,800,000.00	\$28,300,000.00

Any of the numbers shown in the table above compare very favorably to the \$8,008,443 total amount spent on irrigation improvements by ADP/S.

POULTRY OPERATION

The estimated economic benefit measures returns from the poultry business supported by the hatchery. There were 33 farms being supported by the hatchery with an average number of birds at 3,750/farm. Assuming a 10% mortality and a price of \$3.50/bird, this results in gross revenue from the sale of birds as \$11,812. Reducing this number by \$2,250, to account for the cost of the bird at \$.60/each, and \$5,568 to account for feed results in net revenue per farm of \$3,994.

The farms are on a 45 day cycle which allows for 8 cycles of birds per year for a total revenue for the 33 farms at \$1,054,416. Assuming the hatchery operates at break even (since it is not yet being operated as a business) this benefit stretched over 6 years and discounted by 12% results in a total economic benefit of \$4,333,423 which compares favorably to the 2,045,863 costs to set up the hatchery and supporting businesses.

The farms are also producing eggs at 10,000 eggs per day. If they sell each egg for 6afs that results in \$1,250/day times 365 days is \$456,250. Adding this to the net profit of selling the birds, and spreading this over a 6 year period results in a total benefit of \$6,209,252 which compares favorably to the initial investment of \$2,045,863.

KANDAHAR ORCHARD PROGRAM (KOP)

ADP/S spent just over \$9 million on the KOP program. The team estimated that 400 families benefitted from the planting of pomegranates. Each of these families has the potential to conservatively generate net income of \$6,300/year from each orchard which results in a total benefit of \$2,520,000 per year. Estimating a 10 year payback and starting the payback in the 5th year the discounted benefits are over \$10 million. This does not account for any increased access to export markets the project help to establish. This project had a good payback as these orchards have the potential to generate revenue for many years.

Many agricultural economists assign a 20 year payback to orchards. Doing this for KOP results in a payback of \$13.4 million which exceeds the cost of the KOP program by \$4 million.

HELMAND ORCHARDS (STONE FRUIT)

ADP/S planted 800,000 stone fruit trees. Based on a conservative estimate of 10kg per tree (most trees should produce 20-30kg per tree), the total fruit production would be 5,600MT with a 30% mortality rate. AFS10/kg at the farm gate would generate \$1.32 million per year. Reducing this number by 15% to account for upkeep costs, results in an annual benefit of \$1,120,000. This provides a payback of \$6.3 million in 10 years.

Assigning a 20 year payback to the Helmand Orchards results in \$9.9 million of payback which exceeds the programs \$7.9 million cost

WHEAT SEED AND FERTILIZER

The project distributed wheat seed and fertilizer to farmers at a cost of \$3.4million. The project reports a harvest of 97,500MT of wheat, 63% of this harvest was the result of ADP/S activity. At a the price of \$250/MT the resulting gross benefit is \$15.7 million dollars which is a substantial increase over the cost of \$3.4 million. Although this was not a sustainable benefit it clearly helped inject much needed licit cash into this region.

CORN, PEANUT AND MUNG DISTRIBUTION

The corn peanuts and mung bean distribution cost the project \$1.3 million dollars. This resulted in revenue of \$2,259,256. This was also a short term, one year benefit that the project could say injected a good licit source of income into the region.

CHILI PROGRAM

There was no benefit from the chili program which cost the project nearly \$6 million dollars.

VETERINARY PROGRAM

Although there were almost no paravets remaining from the project the fact that this project provided 696,000 vaccinations provided a large one time benefit into the region. Since very little detail was provided regarding the number of animals vaccinated or the survival rate after vaccination the benefit was imputed from a few assumptions. First we assumed that there was an average of 3 vaccinations per animal which results in 232,000 animals vaccinated. Next, not know what type animals were vaccinated, if we assume they were all sheep, priced at \$100/lamb the total revenue of 23.2 million dollars would be generated at a survival rate of 100%. At 80% survival rate it is \$18.56 million. This is a very favorable comparison to the vaccination costs of just over \$1 million even though this program did not sustain itself.

Overall ADP/S derives approximately \$94.9 million in benefit from its activities. This compares favorably with the size of its \$80 million implementation fund. Although the total project budget is \$166 million it should be pointed out that the implementation fund could not be implemented without the overhead and home office support.

Appendix IX – Fruit and Orchard Investments and Export

Potential income for pomegranate farmers

Assumption: one hectare (5 Jareb) farm size per farmer with a family of 10 persons looking after the farm.

Total hectares planted = 400.

Total trees planted = 444,000

Each farmer received = 1,110 trees

Base on 70 percent survival of trees per farmer = 777 or about 780 producing trees

At of 25 Kg of pomegranate per tree, total production per farmer = $780 \times 25 \text{Kg} = 19,500 \text{Kg}$

Income per farm at the rate of 20 Afs per Kg for pomegranate at farm gate= $9,500 \times 20 \text{Afs}$

Income per farm in US dollars (at 50 Afs per dollar) = $9,500 \times 20 / 50 = \text{\$ } 7,800$

Income per person = \$ 780 per year based on 10 persons per family

Note: farm gate price and dollar exchange rate may change. The calculation is based on current price and rate. The credit for farmer's contribution should be given to calculate net gain for each farmer.

Pomegranate Orchard



Marketing of pomegranate for export

Marketing of pomegranates. Kandahari pomegranate are world famous for many years. In 2007, Kandhar Orchard Project focused on pomegranate export to supermarkets in Dubai and other areas that would bring high revenue. The goal was to export 180 metric tons of quality pomegranates to international markets, which the project surpassed by helping to export more than 900 metric tons. In 2008, the project again surpassed its goal of helping to export 900 metric tons of quality pomegranates by exporting more than

1,848 metric tons with an export value of \$3.7 million (about \$2 per Kg of pomegranate). The breakdown of export by country is given below in this appendix. If these contacts are made regularly, the export figures will go up when the new expected production levels reach in the year 2012 and 2013. Proper harvesting, cleaning, sorting, grading, packaging and storage in cold storage prior to appropriate transportation are re-requisites of successful export. The export figures given below are extremely encouraging. A key factor lies in market expansion keeping pace with the expected higher tonnage of pomegranate production. Top grade export quality pomegranates can be exported for table purpose while the rest can be used in juice production in a facility in Kabul that has state of the art equipment for export of juice concentrates and nectars.

Fruit Packing Area Kandahar



Lessons learned from the planting of Chili as a newly introduced crop.

Based on the production data and observations in the field, the following points can be made for any future production of chili in southern Afghanistan :

1. Several trial productions should be done to evaluate the suitability of the variety to soil, water and weather condition at different locations.
2. Availability of irrigation water on time should be a pre-requisite prior to planting.
3. Chili requires hot and humid climate in general and with this in mind the window for planting and harvesting should be timed.
4. No efforts were made to establish the market for chilis produced by the project. The results was that farmers grew chili's but had no place to market their harvest. Efforts should be made to evaluate the entire value chain when introducing a new crop to farmers such as chili's.

Investor Selection Criteria

For Evaluation of Potential Future Owner/Operators of Bolan Poultry Farm December 2009

Potential investors who submit applications will be ranked according to the following criteria. A final selection will be made by a committee that includes representatives of USAID; Chemonics/HPP, ARD/ADPSW; and the MAIL.

1. Investment. (required to be eligible for evaluation) The applicant shall agree to place the equivalent of US\$100,000 in an escrow account for a 30 month period contingent upon:

- a. Transfer of USAID equipment, machinery and other inventory located at BPF to the investor.
- b. Signing of a MOU between the investor and the MAIL permitting rent free use for a minimum of ten years of the MAIL land and buildings located inside the Bolan Poultry Farm (BPF) compound.

2. Technical capability. (50% of evaluation score) The applicant shall demonstrate the technical capability and expertise needed to successfully operate BPF. With its application, the investor will identify well qualified, key personnel to operate and manage all critical components of BPF and shall submit CVs and “letters of commitment” for key personnel. For these purposes, key personnel include individuals qualified to fill the following or equivalent positions: General Business Manager; Parent Stock Production Manager; Hatchery Manager/Operator; Feed Mill Operator/Manager; Poultry Extensionist. A signed “letter of commitment from each proposed candidate shall state their intention to perform the duties of the indicated position at BPF for at least a one year period.

3. Business management experience. (35% of evaluation score) The applicant will demonstrate its capability to manage an integrated business consisting of a hatchery, feed mill, and parent stock production. To accomplish this, the investor shall document its relevant experience operating diverse businesses. In addition to supplying the business information required by the application for each business owned, the investor will summarize why and how they will be able to successfully operate the integrated BPF business.

4. Financial and character references. (positive references are required) Positive references will be necessary. The references supplied by the applicant shall be strongly supportive of the application. In addition to completing all of the items of the attached application form, the applicant shall provide the names and contact information for at least three banking or financial references, three business references, and three character references. These references should not be from family members.

5. Preference to Helmand applicants. (15% of evaluation score). Priority will be given to applicants who are from Helmand Province and who are currently operating businesses there.

Participatory Rural Appraisal Questions

This survey is designed to be used with individuals who are familiar with the ALP/ADP project. The project took place from February 2005 to February 2009 and was managed by Chemonics. It was first called ALP and changed its name to ADP in 2007. The location of most of these activities is around Lashkar Gah. Choose about 6 or 7 individuals once you have determined that they are familiar with this project and the activity you are asking about. Document answers on a separate sheet of paper indicating the name and the location of the person you spoke to.

Roads

Target – Business people or farmers who are familiar with the **Qalai Boat Cobblestone Road** and **choose one or two of the other roads**.

1. Have transportation costs gone down since this road was improved? If so by how much?
2. What is the quality of the work on the road?
3. Is the road in good condition?
4. Has the time to travel to town gone down? By how much?
5. Taxi costs how have they changed? Lower?
6. Are there any problems with the road
7. Approximately how many people live near this road? (2 km radius)

Road Locations Helmund

Qalai Boat Cobblestone	Sept, 06	8	Lashkar Gah
Kajaki Road	May, 05	1.7	Kajaki
Sangin Road	May, 05	11.5	Sangin
Darweshan Canal Road	June, 06	9.5	Garamser
Aynak Drain Roads	Feb, 08	4	Lashkar Gah

Canals

Target – farmers

1. What crops did you grow 2005-2009?
2. What kind of canal improvements did the project do?
 - a. Was it just canal cleaning or were water control structures rehabilitated?
3. Has additional land brought into cultivation as a result of the canal improvements?
If so can you estimate how much?
4. Has your production changed as a result of the canal improvement?
 - a. What is the difference in production with and without canal cleaning
5. How are the canals maintained now?
6. Are they in need of repairs or further cleaning?

Airport

Target – Business people in Lashkar Gah

1. How has the local economy changed as a result of the airport runway construction?
2. Has there been an improvement in Business?

3. How has your life been affected by the airport improvements?

Lashkar Gah Substation

Target – Lashkar Gah residents

1. How has electrical service changed as a result of the ADP project?
2. How is the substation working?
3. Is there a maintenance program?
4. What is the location of the additional electrical service?
 - a. How many additional houses were impacted?

Horticulture

Target – pomegranate, stonefruit or grape farmers

1. Where were the trees planted?
 - a. What type of tree was planted?
2. How are the trees doing?
3. How is water and soil?
 - a. Do you have enough water?
 - b. Is the soil fertile enough?
4. Have any of them died?
5. When will they bear fruit? (How many years?)
6. How large is your orchard? (jerubs?)
7. How many farmers are sharing this?
8. Have you seen any greenhouse tunnels?
9. How are they doing?
10. Did you receive any training
 - a. If so how long?
 - b. What new skills did you obtain from the training?
 - c. Did the training help you with your work?
11. Are there any stonefruits trees planted by the project? If so where?

Grapes

1. Where were the grape trellises placed?
2. Are any additional farmers trellising their grapes?

Wheat

Target – farmers

1. How did the wheat harvest do as a result of the seed and fertilizer given to you?
2. Did you plant winter wheat?
3. Was the wheat seed better than what you usually use?
4. Did you fertilize?
5. Where do you normally get your wheat seed and fertilizer?

Corn and Peanut

Target – farmers

1. Did you plan corn and peanuts?
 - a. Which one (corn, peanuts or both)
2. How did the crop do?
3. What would you have planted had you not obtained corn and/or peanuts?

4. Did you notice any improvements?
5. Are you planting corn or peanuts now?

Poultry

Target – Poultry farmers

1. How is your poultry business?
2. Is it a profitable business?
 - a. Do you sell eggs or Chickens, if so what quantities?
3. Are you buying chicks from the poultry operation?
4. Did you receive any training from USAID?
 - a. Was the training beneficial to you?
5. How did you find out about ADP?
 - a. Who contacted you?
6. Has the project helped you to maintain your business?
7. Are you earning more profit?
8. How many people do you employ?
 - a. Has this number increased due to the project?
9. How have wages changed as a result of ADP?
 - a. Has there been any affect?

Veterinarian Paravets

Target – Paravets (Veterinarian Technician)

1. Are you still working as a paravet?
2. How many people who went to the training are doing this work?
3. What type of training did you get and how good was it?

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