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EDITED CONSULTANCY REPORT
for
CENTRAL ASIA DEVELOPMENT GROUP (CADG)
STEVE SHAULIS, EXECUTIVE DIRECTOR
COTTON & ALTERNATIVE CROPS PILOT PROJECT
7 APRIL – 20 MAY 2002

This report describes and analyzes some of the events and my observations during the subject assignment. I make recommendations for change of project procedures, for relationships and for further information gathering. I recommend actions beyond the Scope of Work. Included is some historical background of organizational structures and events to promote a better understanding of current events. Much of what is in this report has been delivered orally to you in the field. (Note: Several of the dates noted in this report are "on or about" because my calendar accidentally was left behind in Kandahar).

BACKGROUND and TIMING

POPPY BAN: I arrived in Lashkar Gah with Rahmatullah on 5 April 2002 and immediately witnessed a low flying jet provide a non-lethal air-blast explosion to break up a farmer demonstration-march on the Bost hotel. The government had just announced (o/a 4 April 02) a poppy ban that was to eradicate the poppy crop just at harvest time. This hotel housed the British group organizing and funding this operation. The air-blast had the desired effect: to remind farmers to behave. The poppy ban announcement and demonstration had the potential for generating a negative mindset about this project and its personnel. This did not occur.

The farmers had apparently delayed fall planting of wheat and poppy in anticipation of a strong government statement on the continuation of the Taliban poppy ban. The statement never came - there was no effective government at the time. In the absence of a government statement, many farmers gambled that the present government would be too weak to respond to renewed poppy cultivation. The farmers lost this gamble but the government's delay until harvest time to take any action (other than a January 2002 late announcement that the farmers should not plant poppy) did not win many friends. To take out any farmer's crop, what

ever crop, just before harvest is unacceptable to most even with promises of payment. And with poppy, farmers and sharecroppers in Helmand commonly take a form credit with advance partial payment for the crop planted. The poppy eradication action placed an unknown number of farmers in the position of being unable to repay such debts.

The apparent late planting of poppy did result in some very poor crop stands in some areas, e.g., north Shamalan and eastern Nad-I-Ali. Many of these farmers must have been happy with the government announcement that they would be paid \$250 to \$350 per *jerib* (.4784 acre) of poppy taken out. However, the poppy eradication action was flawed and will be described in more detail later in this report.

PROJECT FUNDS: The timing for the release of start-up funds for this project was unfortunate in terms of project goals and initial impact. Farmers had already made decisions and choices about Year 2002 crop planting based on recent experience. The cotton-planting season for 2002 started about 15 March on lands held out of winter crop production. This is a traditional cropping pattern for cotton, peanut, melon and vegetables that results in greater production. Wheat harvest began about 15 May. Although cotton can be double-cropped with winter wheat, the delayed planting reduces overall cotton production. The Agriculture extension teams went into the field around 18 May. This was too late to establish the necessary working relationships with the farmers to influence some of the key farming practices needing change, e.g., row planting cotton rather than broadcast planting.

COTTON PAYMENTS: The start of project payments to farmers for cotton from the 2001 crop season on about 16 May 02 is perhaps the most significant event for the cotton industry in Helmand in recent times. Farmers began to harvest and deliver cotton to the Lashkar Gah cotton gin about the time of the demise of the Taliban government in Fall 2001. As the cotton gin had no funds, the farmers received chits for the value of cotton delivered. The political uncertainties and lack of government funds for anything resulted in a loss of confidence in the cotton gin as a market, in cotton as a viable cash crop and farmers stopped bringing additional cotton to the gin. The farmers sold some cotton to the small local privately owned cotton gins in the region, looked for other markets or just stored harvested cotton in their homes.

With the start of payments to farmers holding the 2001-02 chits, confidence is being restored. Farmers are beginning to bring more cotton to the gin for payment and processing. The rate of farmers picking up the free cottonseed for planting has increased. Before the payments started, the rate of seed collection from the gin was well below average. Although much of this year's cotton will be planted late

for the reasons noted above, I am hopeful there will be something approaching the average in cotton production.

Engineer Payenda told me that there are farmers still holding cotton chits from the pre-Taliban era. When the Taliban came to power, they rejected all past debts. But these chits are well documented by both the farmers and the cotton gin. They represent cotton delivered to the gin and at some point sold. Farmers may have difficulty sorting out the differences in policy within the same cotton gin when it comes to the cotton they delivered to the gin.

RECOMMENDATION: At some point in the future, these chits should be honored.

INITIAL CONTACTS

MERCY CORPS INTERNATIONAL (MCI) RELATIONS: On 4 April I visited the MCI offices in Kandahar and met briefly with Alex Jones, the apparent regional coordinator. I introduced myself as a past MCI employee but now working with the CADG Cotton Project. His response that abruptly ended the meeting was that since CADG had hired all ex-MCI employees, we should expect no support or cooperation from MCI. The meeting was so short and hostile I did not have the opportunity to understand the basis of the hostility.

HELMAND VALLEY AUTHORITY (HVA): During the week following our 5 April arrival, we met with the head of HVA, Engineer Dawari (graduate: Kabul University Engineering Faculty) to explain and discuss the pending Cotton Project and the Irrigation Rehabilitation Project. He was very supportive of both projects but was somewhat distracted by his direct field involvement with pending actions of poppy eradication.

AGRICULTURE DEPARTMENT: On several occasions we met with the head of agriculture, Abdul Samad Barak (graduate: Kabul University Agricultural Faculty) who was also very supportive of the two projects. We described to him the importance of the involvement of his department in the Cotton Project. He indicated that he had several General Directors of departments but very few personnel to do anything. The current 8 a.m. to noon workday included little to do and no recent salary payments. He also indicated that the Agriculture Department had been separated from HVA and reports directly to the Ministry in Kabul rather than to HVA. But the department still occupies office space in the HVA building and has a close working relationship with HVA. This administrative arrangement will be discussed below.

In the discussions on cooperation with the cotton project, Mr. Barak offered about a 1-1/2 acre plot of land for our project's use in what was the Bolan experimental

farm just outside Lashkar Gah. Most of this experimental farm has been leased out to local farmers and provides some income for the government. Mr. Barak was also distracted by his involvement in the coming poppy eradication program. But even during the time of his involvement in this activity, he took us to the Bolan farm to view the fields.

IRRIGATION DEPARTMENT: On several occasions we met with the head of the Irrigation Department, Haji Obaidullah (graduate: Kabul University Agricultural Faculty; not a trained irrigation engineer) who was also very supportive of the two projects. Later he indicated that he wanted to join the staff of the Cotton Project, along with his many friends, most of whom had worked together for various Mercy Corps International (MCI) projects. The demands of his present job for which he is not trained and the potential of a job with the Cotton Project working in extension on a job with a salary likely contributed to his desire to join us.

O/a 8 April, accompanied by Haji Obaidullah, we visited the Okra Project field, perhaps 5 *jeribs*, in Aynak/Shamalan. He is in charge of this project on a part-time basis. Since this visit, a second field of okra, perhaps 5 *jeribs*, has been added to the project in the Khalaj area of Shamalan.

Haji Obaidullah kept us informed on a regular basis of the status of Kajaki Lake water levels that are crucial for Helmand agriculture. The level was 65 meters on 22 April as compared with 58 meters one year earlier. It was at 69 meters by 10 May. The dam spills at 72 meters but it did not reach this level before my departure. The 69-70 meter level was considered adequate for a normal hot season crop for central Helmand.

COTTON GIN: In these opening days of the project, I met on several occasions with Engineer Payenda, head of the cotton gin (graduate: Kabul University Engineering Faculty in mechanical engineering; has worked most of his working life in the Lashkar Gah cotton gin). I had worked with him in the past and the working relationship could not have been better. We discussed the present situation with cotton being brought in by the farmers (virtually none) and the levels of free cottonseed distribution to the farmers. Seed distribution was well below past patterns. By 17 April 02, at what should have been the height of the cotton planting season, only 159 tons of cottonseed had been distributed as compared with some 466 tons of seed having been distributed by this date last year. Cotton planted by this time would have the highest yields.

An examination of the seed distribution data, combined with discussions with some of the cotton gin staff, suggested that a focus on the Garmseer/Darwishan area as one of the project sites required re-thinking, at least for Phase I of the project. Presently it is not one of the key cotton producing areas of Helmand and it is somewhat distant for effective project management in this start up phase. The area of Babaji had higher rates of cottonseed distribution than even Marja and its

location makes for easier and more frequent contact with field staff. Babaji became one of the project sites replacing Garmseer/Darwishan.

Our early discussions with Eng. Payenda resulted in CADG being given two well located offices on the cotton gin grounds, previously being used as the President's office with attached toilets, shower and guest rooms. At the same time, the cotton gin was having major problems with the cotton baler. Eng. Payenda provided a short list of spare parts needed on a priority basis, which was forwarded to you in Singapore after some communication delays.

RECOMMENDATION: Continue to press the Head of the cotton gin for the complete list of needed spare parts. Work had started on this list under Eng. Payenda but I had the impression the he was the only one knowledgeable enough to finalize this list. It is likely that he will have to take the lead role in developing the parts list.

PRIVATE COTTON GIN: On 6 April, I met with the brother of Haji Mohammad Rahim, owner of several independent cotton gins in the Nad-i-Ali area. This is a family that I have been in contact with since 1998 and who have been providing me information about the private sector of the cotton industry since that time. He said that the government had ordered him to close down 2 of his small gins. One remained in operation near his home in Askari village of Nad-i-Ali. More detail will be discussed on this subject under "Cotton," below.

GOVERNOR: We met with Governor Sher Mohammad on several occasions during this pre-project period. We explained the Cotton and Irrigation Projects to him in some detail. He was very supportive of both projects and saw them as a likely political counter to the poppy eradication program then under way. When asked, he agreed to give us request letters to USAID for both projects, which he did quickly. The Cotton Project was approved by USAID before we could get this letter to you. The Irrigation Project request letter was forwarded to Washington after some weeks of communication delay.

BRITISH NARCOTICS STAFF: I met with Charles Farr and his associate from the British embassy o/a 12 April to discuss their recently started opium poppy eradication program. They understood the problems associated with the eradication at harvest time and the potential for graft and for people manipulating the rules. Apparently they agreed with the government not to be directly involved with the process but they did maintain a presence in Lashkar Gah. The staff had a daily meeting at 7:00am in the Bost Hotel with all the key officials involved in the eradication program including the head of HVA and Agriculture. I do not know if the Governor attended the meetings (I doubt it) but his deputy did attend. In my initial 2 hour meeting with Mr. Farr, I answered a barrage of questions about the region. A positive working relationship was well established.

ADMINISTRATION

PROJECT PAPER: Documentation is important to USAID. Administratively, the Cotton & Alternative Crops Pilot Project needs a complete Project Paper. It is surprising that USAID approved a project without a Project Paper. While the available Executive Summary outlines in general terms the project's goals and some of the methodology, more detail is required for project personnel guidance. What are they supposed to accomplish, when and how? What did the project set out to do? A project Work Plan is based on the Project Paper. Eventually there will be a project evaluation and the starting point for evaluation is the project paper.

PROJECT MANAGEMENT: Key administrative staff members are mature, bright and personable Afghan men with years of experience with NGO projects. But their management skills are limited as they relate to effective management of time, resources and personnel in the context of a USAID-funded project and could affect the extension of the project. CADG has a capable, strong Afghan staff but the management skills should be developed and re-oriented in the direction of more western concepts of management.

RECOMMENDATION: CADG should bring in a short-term management trainer. It would be a project expense that would be agreeable to and welcomed by USAID. There are some noted management institutes in Pakistan that could be used or someone from the U.S. It is not clear at this time what reactions a Pakistani management trainer might generate. Such a training program could and should also include Afghans from Helmand Valley Authority (HVA), other government units, as well as project staff.

Prior to your arrival, I suggested to CADG staff in Kandahar the possibility of contacting the International School for Water Resources at Colorado State University about short-term training programs. While they could provide programs on about anything needed, their specialty is irrigation operations. This is a school I have been contacting over the past 5-7 years. It has over 20 years experience in Pakistan. Eng. Jawed and I met with them in 1998 to discuss Helmand needs. The initial Afghan staff reaction to this suggestion was negative although Jalil expressed positive interest. Additional training from reliable sources is always important and beneficial to staff growth and project success. The CADG staff should be more receptive to such opportunities.

It is easy to fall into the pattern of justifying ineffective Afghan management skills in terms of traditional orientations, but this will not improve project operations. One of the goals of any development project should be the improvement of management skills of project staff, government officials and private sector managers. Ineffective management of time, resources and personnel is one of the most common problems in 3rd world countries. The addition of Engineer Payenda as project manager in Lashkar Gah is a positive note. Through his years of

involvement with the British-established management procedures at the cotton gin, Eng. Payenda has acquired many of the needed management skills.

PERSONNEL MANAGEMENT: Related to the above, personnel management among the Afghan staff is apparently and commonly based on friendship, kinship or intimidation of those that do not fit the first two categories. These techniques of management are commonly used in much of central Asia and date from at least the time of the writing of the Arabian Nights. However, they do not prove to be the most effective management tools in the modern world and can result in staff dissatisfaction. Personal qualifications and a cooperative effort (as opposed to intimidation) must be elements in good management. Smiles and hugs in this society do not necessarily mean a positive relationship.

COMMUNICATIONS: Effective time management is not possible without an effective system of communications - missing at this time. The field staffs, presently in 5 different locations, need some means of communication other than wheels with the central office, in Lashkar Gah not Kandahar. Periodically project field needs may require immediate action from management. Effective field communications also would help address potential security problems.

THE CADG MAIN OFFICE in Afghanistan is located in Kandahar, some 3 hours drive from the area of focus of the project activities in Lashkar Gah. The satellite e-mail system is located in Kandahar rather than in Lashkar Gah where virtually all project information will be generated. The main office is in a large and impressive building that could meet most needs of the project - but it is in the wrong location. This building with its facilities will likely have the effect of keeping project personnel in Kandahar rather than in the field and in close contact with project field staff, a pattern with MCI. A series of satellite telephones will not likely make up for the distances involved. The main project office with its satellite communications should be located where the work is - in Lashkar Gah.

WORK WEEK: Initially the work week plan for the 15 extension agents was 6 work days on and one off, with a staff meeting once a month. Experience from the past suggested that, with travel time, the effective work week becomes about 4 days of work under this schedule. A 12-day work period with 2 days off plus a staff meeting before returning to the field is an effective schedule. The more frequent staff meeting is a better management tool to generate team unity. Individuals tend to get lost with once-a-month staff meetings. These men are the primary contacts between the project and the farmers. They must listen carefully to the farmers and their concerns, and pass this information on to project management. They must never develop the view that their views are more important than those of the farmers they are there to serve...the farmers are the key to project success.

STAFF MEETINGS: One of the most effective means of communication and means to develop a positive working relationship among staff members is through

regular, if short, staff meetings. In situations like we had in Lashkar Gah in the pre-project phase, such meetings could have been scheduled for early morning before the workday starts, e.g., 7:00 a.m. Each staff meeting must have a specific agenda with points being made by the team leader on what needs to be done during the coming work period. The role of the extension agents in the context of this project are not specific over the long term so the team must be reminded with new goals defined. The issue of the poppy ban must be a continuing point of discussion at staff meetings and between the field staff and farmers. The team leader's presentation would be followed by open discussion on issues raised by the field staff based on recent experiences.

Intra-project communications start with staff meetings, staff meetings, staff meetings.

TRAINING: The Ag Extension training was underway upon my return from Kabul in early May. The Ag Extension team was selected without my involvement. I am not certain what criteria were used in the selection process but it is clear that all have worked with MCI in the past. The entire team appears to be mature, knowledgeable individuals with mostly rural backgrounds and an interest in the job at hand. With motivation and guidance to keep them focused and facing new challenges, they can become a very strong extension team. I would have liked to have worked with them in the field.

There was no training plan that outlined the topics covered. For the files, a copy of the training plan should be developed. Documentation is important to USAID. I discussed this with Jalil and Mohammad Karim. Jalil agreed to produce the document in English.

In the training, I raised the subject of Aphis infestation with this class. The most common problem in Helmand cotton relates to a condition of black smut and gooey slime developing on the curling leaves late in the season as the result of Aphis (a sucking insect) infestation. The condition reduces quality and quantity of cotton produced or kills the plant. The insect must be identified early, before the soot/slime stage. If we can identify one infestation of this insect early enough for treatment, our extension team will be justified. If we do not identify this apparently common insect in the cotton before it is too late, what are we doing? Aphis is a subject to be repeatedly discussed in staff meetings. Aphis is not a new problem in Helmand but one requiring attention and treatment. It will not go away and needs continuous focus.

It is not clear to me how much time was spent on the subject of farmer-extension agent relations and communications but it is probably the most critical element for the success of the project. This should be one of the primary topics for discussion during the bi-monthly staff meetings.

During another training session I raised the issue of the difference in water use between row and broadcast planting of cotton and got an exchange going between Jalil and Mohammad Karim. This is a key point the extension agents should focus on with the farmers for improved farming practices. It is another point that needs to be stressed continually in staff meetings.

At some point in this training period, discussion shifted to the project land at the experimental farm in Bolan. Tom Brown indicated that some cottonseed was being brought in from Pakistan for use in the demonstration plot. I pointed out that in 1998-99, FAO agriculturalist Abdul Rahim Shinwari had indicated that it would be best not to bring cotton seed in from any of the ex-Soviet Union republics or from Pakistan because of the incidence of various endemic cotton diseases and viruses. This discussion with Shinwari occurred in the context of an MCI plan to import a few hundred pounds of upgraded cottonseed. Mr. Shinwari has some level of expertise in cotton and was involved in the 1992 FAO cotton initiative when they imported some 17 metric tons of cotton seed from the U.S. Tom instructed the staff that if any disease became apparent in the cotton, that the plants should be immediately destroyed.

RECOMMENDATION: I suggest that if the Pakistani cottonseed has been brought in that it be destroyed, not planted. With the very possibility of introducing a new disease into the Afghan cotton industry in Helmand, we must not gamble. Plant diseases, once introduced, tend to remain.

The Ag extension team did not get into the field until my last two days in the region. I visited briefly two of the five field offices in Marja and Shamalan. The facilities are very adequate and well furnished. Both teams were already busy collecting the wheat samples for the wheat production survey. Wheat harvest had begun about 2 days before their arrival. They had not yet sorted out the areas of their responsibility so mapping their districts was not possible. Maps of the different areas were ordered from the archives section of HVA. Some maps had been delivered but none paid for. (We owe HVA archives keeper, Abdul Rahman, some money.) I found no adequate map in the archives for the Babaji area.

GOVERNMENT ADMINISTRATION: Government administration in Helmand province has always faced problems of over-lapping responsibilities. Just before the coup of 1973, one man, Governor Reza, an engineer out of M.I.T, filled the roles of Governor and President of HAVA. After 1973, the two roles were filled by two men, and there was frequent conflict because of the two roles and the overlap in responsibility and power. Even under the Taliban there was a power struggle between the two men and the President of HAVA "lost" although I considered him to be the most forceful and influential. Under this man, Mullah Khojandi, the Arghandab river basin, located in Kandahar province, was brought back under the control of HAVA, (Helmand Arghandab Valley Authority). The HCU (Helmand Construction Unit) was also brought under the control of HAVA. HCU had been a semi-government organization with a great deal of independence before the war.

Under the present government, there appears to be a move to reduce the HVA domain. Arghandab is again under the control of Kandahar although there is little water in the river. HCU is again independent. And many of the Departments that once reported to HAVA now report to ministries in Kabul: Education, Health, Agriculture and Electric Power (that includes the operation of the Kajaki dam). HVA maintains control of the Irrigation Department but it is not clear how they will coordinate the overlapping responsibilities with Agriculture Department to whom they supply water, and Power Department with whom they share control of water from Kajaki. Presently the system appears to be functioning effectively - which may relate to the personalities involved. While only time and observations of events will tell the full story, foreign donor-funded projects must be aware of the past and the potential for administrative conflict. The recent conflict between the Ministry of Small Industry and the Governor about who will name the head of the cotton gin is an example. In this case the ministry won.

CROP INFORMATION

WHEAT

Afghanistan is generally in a state of drought and many regions are not producing even below average yields, but nothing at all. The central Helmand region with the Boghra canal irrigation system is probably producing an average annual yield. Most of the wheat fields looked good before harvest began o/a 15 May. And it is clear from discussions with farmers that a lot of high yielding varieties of wheat are being used. FAO, through MCI, has had a high yielding varieties (HYV) wheat seed program in the region for some years.

I did a wheat survey for USAID in central Helmand in 1971 when MexiPak was just being introduced. There was a lot of resistance to acceptance of this early HYV to replace local varieties. By the time of the 1975 Farm Economic Survey, it was difficult to find farmers growing local varieties, as it is today. But during this assignment, 2002, I found the farmers talking by name of the different varieties of wheat and which one they had bought in Lashkar Gah and planted. There were at least two new varieties of HYV wheat unofficially introduced this year from Pakistan and Iran.

During my first visit to the Lashkar Gah wholesale wheat bazaar, o/a 14 April, I found dealers complaining about the drop in wheat prices. Over a 3 month period the price dropped from 17,000 Afs per mon to some 14,000 Afs. (35,000 afs.=\$1.00; one mon = 4.416 kgs or 9.736 pounds). They blamed the drop in wheat price on the Disaster Relief Program distributing free wheat in this wheat producing area. This program was put in the field in this region by MCI with wheat supplied by the World Food Program (WFP).

Mohammad Karim and I collected wheat prices from two different wheat bazaars in Lashkar Gah beginning 8 May. This is to be a weekly data collecting process.

RECOMMENDATION: Hire and train two young data collectors to perform this job. Two bright high school students, working together for moral support, can do the job and the experience might give direction to their lives in the present context. Opportunities are limited and young people are looking for new direction. Mohammad Karim, as head of the Agriculture Extension element of the project with 14 staff members in the field, has more demanding activities to accomplish than the collection of wheat prices.

Free wheat should not be distributed in a successful wheat-growing region even during the drought. Rather it might be more effective to buy wheat from the region for distribution in other parts of the country. A more effective method of dealing with the problem of disaster relief would be to start up labor-intensive work projects. In this region rehabilitating the irrigation system, the largest in the country, would be a suitable project. I proposed such a plan to USAID in October 2000.

In early April, I discussed this issue of free wheat distribution in Helmand with the regional WFP Director, Mr. Iskender, in Kandahar. He indicated that WFP rules did not allow wheat to be bought in countries where wheat is being distributed. Given the wheat I saw in bags in the Lashkar Gah wheat bazaar marked "Gift of the U.K.", I understand the logic.

There is a need to have some estimates of wheat production in Afghanistan. Through the 1970s, the Research Section of HAVA did an annual wheat survey of production based on a random sampling technique across the area, pitching 1 meter square hoops onto random wheat fields and measuring the results. In mid-March 2002, I suggested to Prof. Dick Tinsley of Soil & Crop Sciences at Colorado State University that they should propose to USAID a national wheat survey so that they might have some idea of the magnitude of the effects of the drought in this wheat producing country. CSU was looking for projects for Afghanistan at the time. I suggested CSU could start in Helmand. Apparently nothing happened.

In one of our meetings in Kabul o/a 1 May, the subject of wheat production came up again, and, as I remember, I suggested we repeat the old HAVA survey although we do not know the total land under wheat cultivation. HVA probably has an estimate of land with wheat. On our return to Lashkar Gah, I contacted the Agriculture Department and the Extension Service section to see if anyone knew the location of the original wheat survey hoops. I did not find the hoops and some new ones were made. The cotton Project Extension teams took the hoops to the field as my assignment ended and wheat samples were being collected.

As I understand it, the extension teams were instructed to select wheat fields in their regions that were both good and bad stands of wheat and the samples would be averaged. This method does not necessarily result in a true picture of wheat

production in the region. Most of the stands of wheat I saw in the region looked quite good.

RECOMMENDATION: When doing a random wheat (or any other crop) survey, the samples should be chosen at random. For example, pins could be placed on a map across the irrigated areas, insuring complete coverage, without reference to what may be seen on the ground. The survey teams would go to the approximate location of each pin, locate the nearest wheat field and throw the hoop into the field. Collect the grain inside the hoop and move to the next randomly selected location.

I would have been happy to be more involved in this survey that I suggested but my contract period concluded.

COTTON

Cotton has the greatest potential for becoming the primary cash crop to replace poppy in Helmand Province although it will not, it cannot equal opium poppy income. Cotton is a crop known and understood by the Helmand farmers. The infrastructure is present to process the cotton, and there is an international market for the produce. The present Lashkar Gah cotton gin was build in about 1964 by the British. Although the U.S. built and supported the central Helmand irrigation system between 1946 and 1979, the foreign aid bills restricted USAID from being directly involved in cotton production - a result of cotton lobby pressures. The CADG cotton project diverts from this old policy and can only be the result of newer considerations: the move against the opium poppy industry.

Between 1964 and 1973, farmers in central Helmand were given a cotton quota requiring them to plant. This policy was possible because the central Helmand irrigation system (the Boghra canal) was built and controlled by the government and most of the farmers on the system had been given land and settled there under government programs. Cotton was not a popular crop because of the low government price paid for the cotton. They could make more money with other crops. In 1973 a more enlightened government began paying a higher price for the cotton, and cotton production exploded with an increase from some 3,000 units of production to some 30,000 units of production in about 3 years. The new British built cotton gin at Girishk completed in 1979 was a result of this increase in production. By 1979, cotton was the primary and increasing cash crop in central Helmand. We bombed the Girishk cotton gin to rubble in 2001.

The Soviet invasion and the anarchy that followed reduced but did not end cotton production. But it did introduce a new competitive cash crop to central Helmand: opium poppy. In agreements between the U.S., the Afghan governments and the farmers in central Helmand before the Russian invasion, narcotics production was not allowed. Although there was one brief lapse in about 1971-72, this policy was honored through the years.

A recent USAID contractor document presented a thinly veiled criticism of cotton as a viable cash crop in Helmand. The criticism was not inaccurate in statement but not complete in presentation, i.e., misleading. In the context of the drought, the document noted that cotton was both water and fertilizer intensive and compared irrigation of cotton with that of wheat. But wheat is a winter crop and cotton is a summer crop. They do not compete for water. In winter the irrigation system can be shut down for repairs because wheat goes into a dormant stage and it is a time when the weather is periodically overcast and the minor rain showers fall. Average annual precipitation for Lashkar Gah is some 3.52 inches. By mid-May, when the wheat is being harvested and cotton planted, the weather is well into the 110s and the evaporation rates are very high. Average annual evaporation for Lashkar Gah is some 115.9 inches.

The most productive cotton farmers row plant their crop on ridges, a technique they learned in the 1970s. These row/ridges are mostly hand sculpted with a two-man shovel rather than with a ridge-making plow. Fertilizer is placed at the base of each plant rather than broadcast as with wheat. This is a relatively labor intensive operation but cotton production is considerably higher. The less productive cotton farmers broadcast plant their cotton, along with fertilizer and sometimes corn seed, in much the same manner as wheat in irrigation patties. When the corn is some 20 inches tall, the farmers cut the stalks for animal feed. This intensive use of land reduces cotton production and requires much more water. It is said to take some 10-20% more time to irrigate the patties than it does to row irrigate. This means more water. In short, it may be somewhat inaccurate to compare a wheat crop with a cotton crop planted at different times of the year and with a variety of techniques used for cultivation.

One of the goals of this project is to get more farmers to row plant their cotton. It is a more efficient method of cultivation, uses less water and fertilizer than the alternative and production is higher. But it does involve more work. A variety of sources have indicated what can be seen on the ground: most of the farmers in Marja and Nad-I-Ali row plant cotton while most of the farmers in Shamalan (Nawa) broadcast plant cotton. The reason for this difference is not clear but the farmers in Shamalan are mostly indigenous while the farmers in Marja and Nad-I-Ali are settlers. And it appears that most of these farmers in Nawa broadcast plant fields in both corn and late planted cotton, after a winter crop of wheat. As the corn stalks develop, they are cut for forage for their animals, and the cotton is left to mature. This must reduce cotton production but it is an interesting multi-use of fields. We need more information on this cropping pattern. Unfortunately the farmers were well into the most productive early planting season for cotton (beginning about 15 March) before the project extension agents could be hired, trained and put in the field. But they will be well established and connected by next year's planting season. And they can use this year's cultivation and production as the basis for discussions with the farmers.

PRIVATE SECTOR GINS: There are perhaps 10 –12 privately owned small cotton gins scattered through the Marja and Nad-i-Ali prime cotton producing areas. One man apparently owns 3. The government has already announced that it intends to close down these gins that compete with the government gin in Lashkar Gah. Public announcements have been made in at least the Nad-i-Ali bazaar and I was told that 2 had been closed. The justification is that the farmers receive cotton seed free from the government. The officials in the Ministry of Small Industry stated a similar no-competition-with-government line. But Ashraf Ghani, advisor to the President, offered an opposing view. It will be interesting to see what happens on the ground.

RECOMMENDATION: On every occasion possible in meetings with members of the central government, this issue should be raised and protective action requested. Contact should be maintained with these small gin owners to monitor any local government actions against the gins.

These small private gins actively compete with the government gin. They pay much less for the cotton they buy although they say they buy only the best quality. They pay some 30,000 Afs per mon as opposed to 46,000 Afs per mon paid by the government gin. But the private gins pay in cash at the time of delivery while the government gin has been giving chits for later payment. The question is, what will happen in this competition now that the government gin has funds to pay for the cotton soon after delivery?

The private gin owners have indicated that they sell a considerable amount of top quality seed back to the farmers. Since there have been several small projects bringing fresh, top quality cotton seed into the country from the U.S. (FAO in 1991 and MCI in 1999) it is possible that the seed being sold is from cotton introduced in those times. The farmers are very much aware of the results from quality seed. The gin owners have been selling the rest of the seed they process to markets in both Herat and Kabul where there are small presses for making cooking oil. Two gin owners have indicated that they had made requests to the government to allow them to import small seed presses for making cooking oil but had been refused. They would like to broaden their involvement in the cotton industry but can not under the present restrictions. So they sell to existing seed presses outside the region.

RECOMMENDATION: CADG should help organize the small gin owners into an association and help draft a petition to the central government (Ashraf Ghani's office) requesting a reduction of government restrictions on their businesses and the clearance to import more cotton gin machinery including cotton seed presses.

Government cotton gin personnel have indicated that the private gins undersell the government gin on the local and regional markets. The private cotton gin owners indicated that the government cotton gin does not sell on the local market but waits for the higher prices of the export trade. Virtually all the cotton sold in the

Lashkar Gah bazaar is from the private gins. But the private gin owners have indicated that their export markets have dried up. There has been an apparent restriction on the export of cotton through Iran so the buyers from Herat have stopped coming. In the recent past, cotton was sold to a textile factory in Miran Shan in North Waziristan in the Pakistani Tribal Areas. This year these buyers did not come and the private gin owners did not connect this with the bombing and fighting along this segment of the Afghan border. This market may return. Most goods moving from Afghanistan into the Tribal Areas do not go through customs.

In discussions about quality of the finished processed cotton, the small gin owners indicated that although their cotton had more leaves and stems remaining in the finished product, the quality of their fibers was better than the government cotton gin; less broken fiber.

LASHKAR GAH COTTON GIN PROCEDURES: The process for receiving, grading, weighing and paying for cotton brought to the gin by the farmers is one introduced by the British at the time of the establishment of the gin and is nearly tamper proof. It involves getting 12 signatures along the way, including the farmer's thumbprint at time of actual payment.

- 1) When the cotton arrives at the gate of the gin and is driven to the scale usually on the farmer's tractor, two people grade the cotton: one from the factory; one from the Agriculture Department representing the interests of the farmer. There are 3 grades.
- 2) The cotton is weighed by the scale-master, monitored by two other persons and the gross weight recorded by the store-keeper.
- 3) The tractor goes to the appropriate storehouse. Each quality has a different storehouse with a keeper. As the cotton is unloaded, the keeper monitors the quality of the load to insure consistency and signs off on quality and delivery.
- 4) The tractor returns to the scale for weighing and calculation of cotton's net weight. Another signature. The farmer is given a chit at this time with reference number for cotton gin files.
- 5) The paper work goes to the Director of the cotton department who calculates the price of the cotton delivered and signs off.
- 6) The Controller checks all details of paperwork: name, father's name, village, grade, net value, and signs off. There is also a check of the files to see if the farmer has any outstanding debts with the gin. This was an important point at the time when there was a credit program associated with fertilizer for the cotton.
- 7) This paperwork is then approved by the Head of the cotton gin.

- 8) Paperwork goes to the accounting department that contacts farmer for payment. Payment is normally made on the 3rd day after delivery, when there are funds.
- 9) There are commonly 4 people involved in the payment: accounting, 2 clerks and the treasurer who dispenses the money.
- 10) The farmer presents his chit and his ID documents for the group to examine. Three people and the farmer sign off on the payment. The farmer retains a copy of the processed payment document.
- 11) The original paperwork goes to file in the accounting office. Thus, each farmer has a file.

This process of accepting and paying for cotton would appear to be over-done, overly cautious by western standards but in a culture noted for systems of bad management and some level of corruption it probably meets the needs.

This is an example of one of the cotton gin operations or procedures as established by the British technical assistance team in the 1970s and earlier. Except where equipment has broken down, delaying operations, we might expect similar over managed processes through out the gin.

COTTON PROCESSING: The data I have collected over the past few years from the cotton gin records, e.g., 1996-98, indicate that about 27% of the raw cotton purchased becomes finished lint cotton in bales. The official figure given during this visit (not related to any particular crop year) was 29%. Some 66% was said to be seed and some 1.7% was trash. The missing 3.3% was said to be lost in the processing.

In seed processing, some 44% ends in seed cake (animal feed). After pressing this is the meat of the seed, plus a bit of hull. Some 33% is cotton seed hull, and 18% oil. An additional 2% is short lint removed from the seed and sold on the local market as low grade cotton for pillows. Again there is some 3% weight lost in processing.

In oil processing, some 89% of the oil actually becomes cooking oil and 10% becomes soap material. About 55% of this soap material actually becomes soap. The rest is waste.

Before the Soviet invasion, farmers benefited directly from the by-products of the cotton processing. They received free a quota of the cooking oil, soap and seed cake produced from the cotton they brought in. By the time of the Taliban, I was told, the government kept all the by-products and some were used in support of the army. Presently, the by-products are sold to government employees at subsidized rates and on the bazaar at 10-15% higher prices.

RECOMMENDATION: At some later time, cotton production could be increased by again sharing the by-products with the farmers.

OPIUM POPPY

In crop year 2000, as much as 50% – 60% of winter cropland in central Helmand was under poppy cultivation. This was the last crop year before the Taliban banned poppy. Production was good. It was a bumper crop year. In crop year 2001, poppy was banned and farmers obeyed. In crop year 2002, the farmers delayed fall planting, waiting for some indication from the government if the poppy ban was to continue. They waited to see if there was to be a government with power outside Kabul. Much of the poppy was planted late and, in the areas that I have been monitoring since 1997, only about 10-15% of the land was in poppy. And apparently because of the late planting, many of the fields I saw were of poor quality. Some farmers indicated that they were gambling when they planted that there would be an ineffective government.

The central government announced in January 2002 a continuation of the poppy ban but the crops already had been planted. In early April, near the beginning of harvest, the central government gave orders to the provincial governments to eradicate poppy fields. The British government appears to have taken the lead in supporting this action and placed a group of advisors and observers in Lashkar Gah. It was announced on the local radio that the government was contracting local tractor owners for plowing poppy fields, and that the farmers would be paid some \$250 per *jerib* of poppy field. This was later increased to \$350 per *jerib*. The farmers were also told to stop cultivation of their poppy fields, stop putting down fertilizer and stop irrigating. Given the poor stands of poppy in many areas, the farmers should have been happy with the payments. But the program was flawed.

Apparently the British had agreed to let the Afghan government have complete control of the eradication program. I do not think the British went into the field during the eradication period. They did have daily morning meetings with the key Afghan government people to keep informed and offer guidance. The program began in Marja and moved on to Nad-i-Ali and Shamalan, perhaps the centers of poppy cultivation in Helmand. Poppy fields were measured and plowed or otherwise destroyed. Farmers received chits for payment of their fields. And there were literally hundreds of vehicles (cars, trucks, tractors and minibuses) and thousands of farmers arriving daily for payment at the HVA building. Clearly the payment process was not very well thought out and badly managed. In addition to the farmers who had lost their fields, it was said that many other people without fields received chits for payment from friends on the eradication teams. And in the system of payment there was no way to cross check fields taken out against actual farmers with chits.

Several weeks later, I checked many intact poppy fields in these areas. Both farmers and sharecroppers indicated that they had stopped irrigating their fields and awaited the eradication teams...that never came. They had lost their crop but received no payment chits. For these farmers, the crop was a total loss. Given the credit system commonly associated with poppy, where you receive advance part-payment from the buyer for the crop planted, these farmers are in deep debt.

One sub-tribal leader in Nad-i-Ali indicated that in his group of 70-80 families, for which he was responsible, all had let their fields die and that the eradication teams never came. He speculated about who got the money.

It was also said that many farmers, when the eradication announcement was made, began lancing their poppies. Others said that when the eradication teams did not come and their crops were dying, that they attempted to lance their poppies. I saw examples of this last but it appeared that the farmers were getting little gum from the nearly dead plants. The plant juices had stopped flowing. But the regular, massive farm labor force necessary to harvest the opium gum was missing. We were told that when the eradication announcement was made, the regular migratory laborers that come in for this harvest went elsewhere looking for work.

In short, the poppy eradication program was flawed. The government policy was announced late. The eradication effort was put in the field at the last moment that probably resulted in poor planning and bad management. The assumption that the Afghan government could organize and manage the program effectively was wrong. The assumption that the field teams would be completely honest without close supervision by outsiders was wrong. There is no way to evaluate the program on its effectiveness without detailed field studies. And now that the summer crops are planted or in the process of planting and the poppy fields are gone, the results of a survey would be questionable.

But this flawed program has made a point: the central government has banned poppy cultivation and has taken action to eradicate the crop. This will not be lost on the farmers of central Helmand that produced some 30-40 percent of Afghanistan's opium gum in the past. Central Helmand is not an isolated area. The farmers cannot hide poppy fields in this flat desert area with the raised irrigation system service roads criss-crossing their irrigated land. They will not plant poppy in this area next year. But they need encouragement and help with their agricultural economy.

The CADG cotton project will play a key role in support of the poppy ban.

The project has already started payment for the 2001 cotton crop, putting needed cash into the farmers' pockets. Some of the 2000 cotton crop has already been sold on the international market. The cotton farmers will learn of this innovative action. There are no secrets in Afghanistan. Confidence is

being restored in the cotton gin and in cotton as a viable cash crop. They do and will understand they do not need poppy.

VEGETABLES

Vegetable production has somewhat exploded in central Helmand since at least the crop year of 2000, perhaps in part because of the Taliban ban on opium poppy production. For some years the farmers have known and said that poppy cultivation was on its way out and they were looking for and experimenting with alternatives. Observations in north and central Shamalan this spring suggest that there is at least as much okra planted as poppy. And there appears to be about as much melon, tomato and cucumber as there is okra. In the 1970s there were only a handful of farmers producing vegetables on a commercial basis.

The 1970 Farm Economic Survey recorded only 1% of the land in vegetables. And the 1975 Farm Economic Survey recorded a jump to 2%, mostly double-cropped. Most of this production was in Shamalan and Marja and most was melon for the Kabul market. Vegetables like onion, tomato and cucumbers were primarily found in home kitchen gardens. Okra was not mentioned then as a crop. Times have changed.

Melons remain an important vegetable cash crop in central Helmand. This includes both local melons and watermelon introduced in the '50s or '60'. As the melons mature this year, the markets should be monitored carefully for future development. Some 150 pounds of fresh Texas watermelon seed was introduced into the area under an MCI project in the spring of 1999. This seed has been multiplied locally and provides an abundance of produce, according to local information. The complaint was the drop in price as the crop matures.

Onion is apparently a winter crop but there were many onion seed plots in both Shamalan and Marja. The Texas Grano onion is a popular onion although it has a very short shelf life of about 6 weeks. Farmers discussed this onion by name. They know the advantage, size, and the disadvantage, shelf life. It is not clear where the seeds originated. Relative to shelf life of the Grano onion, one farmer said that his family slices the onions very thin and dries and crushes them for winter use.

RECOMMENDATION: The project should bring in several varieties of both winter and summer onion seed for test and demonstration. Perhaps the best method to do this is to distribute the seed to known individuals with a good track record with vegetables. I have found that these individuals respond well to new ideas and seed...to try them. Many farmers in Helmand are well ahead of us in terms of responding to potential markets.

On this trip, I hand-carried in and distributed 4 pounds of two varieties of winter and summer onion seed to known, good vegetable farmers. But 4 pounds will not have major impact.

Lashkar Gah Vegetable Wholesale Bazaar: Seeing the level of okra production to be realized in Shamalan alone led me to the subject bazaar. Like most middle-east/central Asian bazaars, the sellers tend to be located in one place and specialize in produce. There are 4-5 vegetable wholesalers who specialize in cucumber, tomato, okra, and eggplant. But one local man probably in his 30's, Mir Ahmat, seems to be the dominant force in this bazaar. He indicated that he both buys vegetables and takes them on consignment with a commission.

In early April, the eggplant, tomatoes and okra were coming from Pakistan but the cucumbers were coming from Farah. The condition of the eggplant was a bit battered and dehydrated because they were packed in woven plastic bags and shipped in the backs of trucks. By early May, okra was also coming from Farah. In early to mid-June, okra, cucumbers, eggplant and tomatoes will be coming in large quantities from Helmand and shipping directions will shift. Mir Ahmat ships vegetables to Farah, Nimroz, Heart, Kandahar, and to all districts in Helmand province. He says he can sell all the produce he can get because of the drought. Helmand as a vegetable producing area has the advantage of water from the Helmand River. But a farmer standing near by during this discussion added that the prices for Helmand farmers' vegetables drop when they come into full production. Kandahar is a good market because it is a big city and the Arghandab River is dry and many of the past vegetable growers there are out of business. Farah is using wells and pumps but their vegetables mature earlier than Helmand. Lashkar Gah and the surrounding districts are also good markets because even in the rural areas, people have money. The top quality onions and potatoes found in the Lashkar Gah wholesale bazaar are found in the smallest cross-roads bazaars in at least central Helmand. The origin of this rural "wealth", by Helmand standards, is probably opium poppy. But the economy has developed and new sources of income have developed...like vegetables and peanuts. In short, the drought is seen as a boom for many Helmand farmers.

There are some farmers in central Helmand that have picked up on the concept of "green houses" for early production. Several farmers planted okra in early February and stretched strips of plastic sheeting over sticks for the green house effect. One man had 200 cucumbers on the Lashkar Gah market by 10 May. Another man in Bolan grew eggplant seedlings in plastic bags in his compound in January to be later transplanted in a half-acre plot. He came on the market with his third picking by 14 May, at least a month before his competition. Next year there will be many more farmers using these techniques aiming for the higher prices of the early market.

There are 4-5 other vegetable wholesalers in the same enclosure as those noted above but who specialize in onions and potatoes. In April these came from Pakistan. In May, good quality onions began to appear in the Lashkar Gah bazaar from Iran. Periodically melons from Pakistan would appear in small numbers in both the green vegetable bazaar and the onion bazaar.

The documentation of the activities and prices in this bazaar is important. But as noted earlier, I am not convinced that this responsibility should be placed on Mohammad Karim. Among other things, the significance of some of the changes may be lost on him. It is the domain of an ag economist.

Vegetable Export Markets: The potential that you mentioned of the U.S. military purchasing vegetables from central Helmand could be a break for Helmand farmers. The organization and management of the process would be key. I am sure the wholesalers in the Lashkar Gah bazaar could respond quickly and efficiently. Organizing farmers to respond would be more problematical and it would be perhaps less random in the distribution of benefits.

One of the original justifications for building the Kandahar airport was for the airfreight export of fruit and vegetables to the Gulf States. The market did not develop at that time because of the restrictions placed on airlines. Under the Taliban there was a reported attempt to re-develop this market, but it apparently died when some opium was found in one of the first shipments. The market is there and the farmers can produce the needed quantities of good quality vegetables. The Lashkar Gah airport is a dirt strip but with a reasonably good surface. Loaded C-130s have been landing there on a regular basis recently.

RECOMMENDATION: CADG should make initial enquiries in the Gulf States about the market potential for vegetables. The starting point would be with the people that made the attempt under the Taliban. The vegetables could be shipped directly from Lashkar Gah, reducing the potential shipping losses that result from the seasonal heat, shipment delays, and the bad roads to Kandahar.

Peanuts: Peanuts have been a developing cash crop in central Helmand for some years. The market was well established by 1998 and Herat buyers would come at harvest time to purchase the crop to sell at the major market in Herat, according to local growers at that time. Initially the center of peanut production was the village of Nakilabad in Nad-i-Ali near Shovel siphon on the Boghra canal. But peanuts are now being grown by a wider group of farmers in greater quantities, and there are a group of 8-10 peanut wholesalers in the Lashkar Gah bazaar. The peanut wholesalers do not specialize only in peanuts but are part of the larger "Bean Bazaar", buying and selling a wide variety of locally produced and imported beans, along with cumin.

The wholesalers indicated that peanuts are a great crop producing some 2 plus *harwar* of peanuts per *jerib*, more than wheat. (one *harwar*=100 *mon*=973.6 pounds) They indicated that the Afghan market for peanuts was small and that Helmand was the only area producing them. The main buyers of peanuts come from Ghazni for trans-shipment to Pakistan via Miran Shah in North Waziristan (smuggled). They thought some of the peanuts went to the Kabul market. The secondary market was to Herat for probable shipment on to Iran.

It was said that 45-50 *harwar* in one buy was normal and some buyers made 4-5 buys in the season. But this year the Ghazni buyers did not come and the wholesalers still have bags of peanuts well after the normal buying season of October-November just after harvest. They did not relate the lack of buyers to the war occurring on the Afghan-Pakistan border at buying time but to the change of value of the Afghani (Now \$1. = 35,000 Afs; Last year under the Taliban \$1. = 80,000 Afs). But the wholesalers always discussed money in terms of the Pakistani rupee, not dollars. In their minds the Afghan economy is clearly tied to the Pak rupee.

RECOMMENDATION: CADG should visit the area of primary peanut production, talk to the farmers and research the markets in more detail. Assign someone the task of monitoring the peanut market on a regular basis to catch the peanut buyers when they arrive in October-November. Assuming we have not turned Habibullah completely off, he could make the contact with the buyers in the fall. His son is one of the peanut wholesalers. The goal: to determine if the market can be expanded. More information is needed on the larger local markets like Kabul, Herat and Kandahar.

CENTRAL HELMAND WEALTH:

As noted, central Helmand has clear indications of accumulated wealth probably and initially originating with the opium poppy trade. But with farmers and town's people broadening the focus of trade, the wealth has grown beyond that. "Wealth" is a relative term. I do not think that the wealthy in central Helmand are "rich" in western terms but they are very well off in comparison to much of the rest of the society of small farmers, sharecroppers and day laborers, most of who are in debt continuously.

In Lashkar Gah there are at least two major used car lots and two tractor sales lots. The most popular vehicles on the market are used right-hand drive Toyota Corollas, from Japan, mostly with the names of Japanese companies still painted on the sides. Purportedly these vehicles were imported through the Gulf States and then to Iran. It is not unusual to see one of these vehicles parked in a shed at a Khan's residence in any village in central Helmand. The new tractors are Massey-Ferguson 240's from Pakistan and 280's from Iran. Plows and other attachments are readily available by special order from Pakistan. In the 1975 Farm Economic Survey, there was an estimated 1000 tractors in the province. In 2002 tractors are a common sight in the region and plow animals are rare in the flat fields of central Helmand. A small industry for building trailers for tractors has developed in Lashkar Gah. There are at least 9 new gas stations with gas/diesel pumps that have been built in the "greater Lashkar Gah" area since the spring of 2000. This does not include the numerous stations that simply pour the fuel into your tank from 50-gallon drums. New wheat threshing machines and water pumps are readily available in Lashkar Gah. Several residences I visited in the villages of Nad-I-Ali, Marja and Shamalan were wired for electricity with their own generators. And, as noted above, there are 8-10 small local cotton gins competing with the

government gin. And at least two of them want to bring in oil seed presses to increase their profits from their cotton businesses. All of this suggests a market with money.

In the early 1970s, flour mills were a common means of investment for the wealthier farmers. There were 48 flour mills in Shamalan in 1972. There must be more now. Tractors were beginning to be an investment mode as the wealth associated with the acceptance of MexiPak wheat grew. In a recent visit to Marja, I witnessed a new twist in competition: a mobile flower mill serving the villages - mounted on the back of a truck. Along with a developing economy, no doubt boosted by the opium trade, broader ranges of investments are possible along with an increase in consumer goods.

The drought has also increased investment in water pumps. There must be several thousand in central Helmand. There is less water in the canals. The water short areas in the lower reaches of the system have dug wells to meet their agricultural needs. In lower Shamalan they are hand-dug wells up to 8 meters deep. In Nad-I-Ali and Marja there are drilled tube wells some 30 meters deep. In lower Marja there are scores of water pumps pulling water from the deep drains. The pumps are an investment in agriculture. Some are powered with small diesel engines, some by tractors. If your field is near, you can buy water from a pump for some 50.000 Afs. an hour, enough to irrigate a jerib. And agriculture thrives with pumped water.

Before I left Lashkar Gah, I developed a schedule to have the extension agents collect data on the number of tractors in their regions. By the time Mohammad Karim and I finished, we had nearly completed a broader schedule to include a variety of machines to be found locally, e.g., flour mills, tractors, threshing machines, corn shellers, water pumps, etc. This will be easy information to collect through secondary contacts. The results, to include the locations of the owners, will be interesting.

The significance of this is that there is some level of wealth in this region looking for an outlet, an investment that will increase the wealth. Many of the men involved learned the lessons of capitalism on visits or exile in Pakistan. The banks are gone and the value of their Afghanis generally decreases daily and the price of goods always increases. When we discuss new initiatives in the context of the cotton industry or those related to alternative crops, we must keep in mind the potential of involving these wealthier individuals that are searching, given the recent developments, for new business opportunities.

KANDAHAR SPINNING AND WEAVING MILL

You and I visited this huge, impressive, nearly unused, and immediately functional factory together, so I will be brief. Except for discussions with Jalil who had a great deal of information about the facility, I was given the impression that it had never been used and had little potential. We found a massive amount of spinning and

weaving equipment in near new condition, hooked up to the Kandahar electric system and ready to use. The staff, although limited, were well informed and eager to demonstrate the potential. Apparently built by the Russians, along with a complete housing and office complex, it had survived mostly unused through the war and anarchy years. Under the Taliban, the facility had been contracted out to some Pakistanis who put about 10% of the spinning machines to work but not the weaving mill. The contractors were said to have made off with some of the high quality Swiss and German test equipment, but I did not notice any blank spots where equipment had been removed. Perhaps I missed it.

In the late 1990s, the buyers of the Lashkar Gah cotton gin cotton were all Pakistanis buying at cut rate prices. One or some of these were also likely to have been the contractors for the spinning mill. The records at the spinning mill and the cotton gin should tell us who the individual(s) was.

RECOMMENDATION: Contact the individual(s) involved in Pakistan and discuss the past arrangement with him. Such a discussion would perhaps suggest potential directions for development. It would at least increase our knowledge of past events.

The factory is hooked up and functional. Experienced personnel are apparently available in Kandahar. Cotton is readily available in Lashkar Gah. Some knowledge of the market at least in Pakistan should be readily available. The government owns the factory and needs income. CADG could be instrumental in bringing all the ready pieces together to make a quick start.

Irrigation infrastructure

I inspected much of the Boghra canal and Shamalan canal structures, channels and drainage system. Except for Marja where the Taliban cleaned perhaps 20-30 kms. of main drain with the cooperation of the farmers who paid for the fuel, the central Helmand drainage system is mostly silted up from 20 years of no maintenance. It is difficult to see the level of silt in the Boghra canal but it appears to be in reasonable condition given the work in winter 1998-99. When the system is shut down this winter, a better inspection can be made.

The first 10 km of the Shamalan canal requires de-silting, especially in the area near where the water slows for the intake of the S-10.7 lateral.

There are still two breaks of some 500m in the Shamalan canal at about Km12, near Wasteway #1. The International Organization for Migration is considering an attempted repair of this section of the canal but they apparently only visited one of the breaks and clearly underestimated the magnitude of the job to be done. This is a major riverbank erosion reconstruction project and the Helmand River was seen at low water season during a major drought. A gabion structure at an estimated cost of some \$75,000 is not likely to divert the Helmand River in flood.

The 40 km of the S-10.7 lateral and outlet drain needs de-silting after 20 years of neglect.

The counter balance weight of intake gate #1 at the Boghra canal intake broke loose from its suspension cable and dropped onto the gate. The amount of damage to the gate is not clear but it cannot be opened in its present condition. The concrete weight is about the size of a large telephone pole and about 20 feet long. It will take a dragline to lift the weight off the gate for reattachment and repairs.

These appear to be the main problems with the central Helmand irrigation system at this time. More will occur when we have the first flood season after the drought.