

ACCELERATING SUSTAINABLE AGRICULTURE PROGRAM (ASAP)

MAZAR FOODS ENVIRONMENTAL SCOPING STATEMENT

June 22, 2008

ACCELERATING SUSTAINABLE AGRICULTURE PROGRAM

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It was prepared by Chemonics International Inc.

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The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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Introduction

In November 2006, the United States Agency for International Development's Mission to Afghanistan (USAID/Afghanistan) selected Chemonics International to implement the Accelerating Sustainable Agriculture Program (ASAP). Its purpose "is to accelerate broad-based, market led agriculture development capable of responding and adapting to market forces in ways that provide new economic opportunities for rural Afghans."

One of the largest initiatives undertaken by ASAP is the Mazar Foods Project. While administered as part of ASAP, the scale of Mazar Foods warrants a stand-alone Scoping Statement and Environmental Assessment. A separate Scoping Statement and Programmatic Environmental Assessment will be prepared covering all other ASAP activities.

This Environmental Scoping Statement for the Mazar Foods Project covers activities identified as of June 2008.

Initial Environmental Examination Findings

Prior to contract award, USAID completed an Initial Environmental Examination (IEE) for the program portfolio under its Strategic Objective Agreement with the Government of Afghanistan, entitled "A Thriving Economy Led by the Private Sector." This portfolio includes ASAP. The IEE and Environmental Threshold Decision (no. ANE 05-242) were approved by the USAID Bureau Environmental Officer on September 19, 2005.

The following activities were found to have a "positive determination" in the IEE, per §216.3(a)(2)(iii), signifying that an Environmental Assessment (EA) would be required prior to implementation: construction or repair of irrigation supply systems, roads, and sanitation facilities; increasing the productivity of livestock, agricultural production, land leveling, and increasing access to water supplies.

The following activities were found to have a "categorical exclusion" in the IEE, signifying that no further assessment would be required prior to implementation: exports of fresh and dried fruits, increased markets for horticultural crops, leveraging funds from other programs, and providing technical assistance, training, and capacity building pursuant to:

- a) 22 CFR 216.2(c)(2)(i), for activities involving education, training, or technical assistance;
- b) 22 CFR 216.2(c)(2)(iii), for activities involving analyses, studies, academic or research workshops and meetings; and
- c) 22 CFR 216.2(c)(2)(v), for activities involving document and information transfers.

The following activities were found to have a "negative determination with conditions" in the IEE per 22 CFR 216.3(a)(2)(iii), signifying that USAID or the contractor will develop and implement design criteria to minimize potential adverse environmental impacts: small and medium enterprise development, small-scale construction, and distribution of agricultural production materials (food, seeds, tools, fertilizer).

Scoping Statement Requirements

This Scoping Statement is the first step in the Environmental Assessment (EA) process. In accordance with U.S. Code of Federal Regulation §216.3(4), it includes: (a) a determination of the scope and significance of issues to be analyzed in the EA, including direct and indirect effects; (b) identification and elimination from detailed study of the issues that are not

significant or have been covered by earlier environmental review or approved design considerations; (c) a description of the timing of the preparation of environmental analyses, variations required in the format of the EA, and the tentative planning and decision-making schedule; and d) a description of how the analysis will be conducted and the disciplines that will participate in the analysis.

Summary of Environmental Assessment Activities to Date

In December 2007, Chemonics subcontracted The Cadmus Group, Inc. to prepare a joint Scoping Statement and Environmental Impact Assessment (EIA) for the Mazar Foods Project. The document was subsequently submitted to USAID and the Overseas Private Investment Corporation (OPIC) in early February and posted on the OPIC Web site for public comment. The standard 60-day public comment period for OPIC passed with no comments.

USAID subsequently informed Chemonics that the original Mazar Foods EIA does not fulfill USAID EA requirements. In mid-April 2008, Chemonics prepared a program-wide Scoping Statement covering all ASAP activities, including but not limited to Mazar Foods. USAID reviewed the Scoping Statement and provided feedback to Chemonics in early May. USAID requested a number of revisions and directed Chemonics to generate separate Scoping Statements for the Mazar Foods Project and core ASAP activities. This Scoping Statement covers the Mazar Foods project.

A program-wide Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP) covering both ASAP core activities and Mazar Foods was submitted to USAID in mid-June.

Mazar Foods Project Description and Environmental Setting

At the request of USAID, Chemonics is providing technical assistance for the establishment of the Mazar Foods Corporation and the Mazar Development Foundation. This includes designing the project, preparing a Project Information Memorandum and a Financial Model to secure an \$80 million loan from OPIC to the corporation, and fielding a team to implement the project. USAID is providing \$40 million under the ASAP contract to support this effort. The corporation is expected to employ up to 8,000 people.

As a large-scale commercial farming operation, the Mazar Foods Project is a major initiative to enlist the private sector as the key driver in accelerating agricultural growth, productive employment, and incomes in Afghanistan. The objective is to create a commercially viable farming operation based on production and processing of fruits, vegetables, and nuts that would be sold domestically for import substitution, as well as for export to neighboring countries, re-establishing Afghanistan as a major exporter of horticultural products in the region and beyond.

The Mazar Foods Corporation, to be incorporated in Afghanistan, will be the primary vehicle for the development and operation of the farming venture. The Mazar Development Foundation, a U.S. tax-exempt organization, will work alongside the Corporation, investing in community economic development initiatives to bring improved quality-of-life, health, education and other basic services to communities living near the farming operation.

The proposed site is located west of the town of Khulm in Khulm District, Balkh Province, Afghanistan. The proposed project area is uncultivated. In the area to the east and south of the site there are scattered homesteads and villages. Other land-uses include traditional free-range grazing and some harvesting of wild plants for fodder. Refer to Figures 1 and 2.



Figure 1. Map of Balkh Province, Afghanistan



Figure 2. View of Mazar Foods Project Site

Afghanistan is located in southern Asia, to the north and west of Pakistan, and east of Iran. Its population is 32 million. Despite the progress of the past few years, Afghanistan is extremely poor, landlocked, and highly dependent on foreign aid, agriculture, and trade with neighboring countries. Much of the population continues to suffer from shortages of housing, clean water, electricity, medical care, and jobs. Criminality, insecurity, and the inability of the Government to extend the rule of law to all parts of the country pose challenges to future economic growth.

The climate is typical of an arid or semiarid steppe, with cold winters and dry summers. Precipitation generally fluctuates greatly during the course of the year in all parts of the country. Surprise rainstorms often transform the episodically flowing rivers and streams from puddles to torrents.

The plate-tectonic activity in Afghanistan has produced frequent earthquakes; around fifty are recorded each year. Although most are relatively mild, the most severe earthquake in recent history occurred on 29 July 1985 (7.3 on the Richter scale at its epicenter in the Hindukush).

Mountains dominate the landscape, traversing the center of the country in a northeast-southwest direction. More than 49 percent of the total land area lies above 2,000 meters. These mountainous areas are mostly barren, or at the most sparsely sprinkled with trees and stunted bushes. True forests, found mainly in the eastern provinces of Nuristan and Pakiya, cover barely 2.9 of the country's area.

The semi-arid rangeland is characterized by various species of grasses and low-lying shrubs. Ephemeral vegetation grows in the sandy semi-deserts, and halophilous vegetation is found in the salt semi-deserts. The most common trees on the more humid soils are oaks (*Quercus* spp.), ashes (*Fraxinus* spp.), willows (*Salix* spp.), poplars (*Populus* spp.), and fruit trees in orchards.

Mazar Foods Project-Related Community Consultations



Photo 1. Village representatives were assembled to discuss the potential impacts of the Mazar Foods Project on local communities and to outline possible mitigation measures. Community feedback was generally positive.

A number of community forums have been organized to address potential public concerns and recommendations for the Mazar Foods Project. Initial EIA activities undertaken for OPIC relied heavily on community consultation. The assessment team facilitated meetings throughout January 2008. The Khulm District Commissioner assisted this process, gathering village representatives at his office to discuss the project (Photo 1). At these meetings community members were informed of the nature of the project and its potential impacts, and advised on possible mitigation measures. In general, community representatives expressed appreciation for the project, which has a strong poverty reduction component. The team also met

on-site with representatives of Khulm District villages to gather more detailed information on local agricultural production and land and water management practices.

In order to consult with local women, an all-female community meeting was conducted in late January 2008 at an area high school (Photo 2). This meeting yielded a summary of farming practices and crops, as well as feedback on social issues, such as the desire for assistance to improve the quality of education for girls and employment opportunities for women of Khulm District.

More recently, the Mazar Foods Project implementation team met with various community leaders and the Director of the Mazar Development Foundation began a preliminary assessment of community needs, interviewing local leaders in areas surrounding the farm site.

Refer to Annex III for a more detailed description of community consultation meetings and findings.



Photo 2. An all-women community meeting held at a local high school gathered information on surrounding villages and livelihoods, and obtained unique perspectives on the Mazar Foods Project.

Issues Considered to Be Significant for Mazar Foods

Table 1 presents a list of potentially adverse environmental and social impacts related to proposed Mazar Foods activities. It specifies the project component/activity and briefly describes the scope and significance relative to potential impacts. In most cases, cost-effective mitigation measure can be easily identified and incorporated into an Environmental Mitigation and Monitoring Plan (EMMP).

All potential adverse impacts in this Table will be addressed in the EA. However, not all potential impacts are equally significant. Impact significance is indicated using a star system: one star meaning “least significant” and four stars meaning “greatest significance”.

Key issues that require additional detailed analysis include: selection of farm/non-farm water supply, including hydrological analysis to determine ground water quality and sustainable sources and withdrawal rates; determining soil characteristics; and assessing potential stakeholder impacts.

Chemonics is in the process of obtaining aerial photography and associated mapping to support an adequate historical baseline for vegetation, soils, and topography. Detailed specifications for the farm are also in preparation. Findings will be incorporated into the forthcoming Mazar Foods EA.

Table 1: Potential Issues for Mazar Foods Project

Program Component(s)/Activities	Scope	Potential Impact and Significance
Design and Pre-construction		
<p>Site delineation Select farm/non-farm water supply Determine soil characteristics Assess potential stakeholder impacts</p>	<p>Up to 5,000 ha of open land will be irrigated. Potential water sources are:</p> <ol style="list-style-type: none"> 1. up to 96 new on-site production wells; 2. 10 or more new off-site wells in the foothills area south of the Hairatan Road Junction (for supply of greenhouses); and 3. shallow line source recharge along the Amu Darya River, approximately 40 km from the site. (Accompanying pipeline would follow established utility corridor along the Hairatan Road and a 220 Kva transmission line.) <p>Water consumption: agricultural consumption in 2008 and 2009 will be about 20 percent of peak levels – rising to 83 million m³/year by 2014, plus 7 million m³ for non-farm uses.</p>	<p>No direct impacts but site selection can have a major bearing on environmental and social impacts.</p> <p>Initial studies indicate that groundwater under the site may contain unsuitably high concentrations of total dissolved solids (TDS). This has generated greater interest in extracting shallow line source recharge along Amu Darya River, a potential source of higher quality water that could supply up to 80 percent of the needs of the project.</p> <p>On-going hydrological and soil studies will determine exact site locations.</p> <p>Stakeholder interviews and public participation forums will assess impacts on water-use rights, and potential land-use disputes among local populations. The latter issue is not considered significant because the land is not currently under cultivation. Grazing use needs to be addressed.</p> <p>Aquifer Depletion and associated conflicts over water rights A groundwater study will be completed in July 2008 to assess:</p> <ol style="list-style-type: none"> 1. sustainable groundwater extraction rates at the three potential locations; 2. water quality, and; 3. current water use in the general area. <p>Impact significance: ♦♦♦♦</p>
<p>Crop selection</p>	<p>A commercially viable farming operation is planned based on irrigation of up to 5,000 ha of land with associated greenhouses for the production and processing of fruits, vegetables, and nuts</p>	<p>Crop selection must be carried out taking into account USAID rules for management of Genetically Modified Organisms and biosafety both for seed and fruit stocks. In the crops chose will affect water demand and irrigation technology, energy requirements, and IPM/Pest Management planning. All these potential impacts are to be addressed and mitigated in the design phase.</p> <p>Impact significance: ♦♦</p>

Program Component(s)/Activities	Scope	Potential Impact and Significance
Pest management	White flies, aphids, and other pathogens pose risks to crops, creating opportunity for build up of pesticide/herbicide/fungicide residues in soil.	<p>Potential exists for incorrect application and use, inadequate worker safety protection, improper storage, and unsafe disposal of unused pesticide product.</p> <p>The Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP) recommendations and mitigation and monitoring measures and training will be designed with adequate budget for follow-up.</p> <p>Impact significance: ♦♦♦</p>
Irrigation system design	Up to 5,000 ha of open land will be irrigated, plus 150 ha of greenhouse production; proposed irrigation technologies include a combination of drip and sprinkler systems.	<p>Impacts may include potential soil salinization, inadequate drainage and water-logging, and increased potential for water-borne disease transmission. Soil characteristics will determine system design and technology used to flush soils, prevent salinization and maintain long-term productivity with flushing during and after cropping cycles. System design can also mitigate against contamination from human waste and spread of water-borne disease vectors.</p> <p>Soil and crop characteristics will also govern design of the drainage system following best engineering practice.</p> <p>Sound engineering design will also focus on reducing potential surface water contamination and ecological impacts.</p> <p>Impact significance: ♦♦♦</p>
Energy source selection	Generators or diesel-powered motors will initially meet all of the farm's power needs, including requirements of on-site processing activities,	<p>Potential exists for fuel and oil spills or leakage and soil contamination. Standard mitigation measures will be used in design for safe storage and handling of fuels. Farm operations will be reliant on a connection to the electrical grid after 2009, greatly reducing the soil contamination potential of fossil fuel consumption for energy needs.</p> <p>Impact significance: ♦♦♦</p>
Road siting	Main access road from site entrance to the office compound will be 3 km long x 8 m wide. Several private on-farm roads will also be constructed totaling 190 km long x 5 m wide.	<p>Inattention to siting can affect sensitive biological or cultural resources, increase dust pollution to future work areas and housing, increase soil erosion and runoff, create road hazards, and impair site aesthetics. Cost-effective environmentally sound road design can avoid or minimize these impacts.</p> <p>Impact significance: ♦♦♦</p>

Program Component(s)/Activities	Scope	Potential Impact and Significance
Road material selection	Main access road from site entrance to the office compound will be 3 km long x 8 m wide. Several private on-farm roads will also be constructed totaling 190 km long x 5 m wide.	<p>A quarry/borrow-pit management plan will be developed to mitigate impacts associated with road material procurement</p> <p>Construction materials will be purchased from established dealers.</p> <p>Impact significance: ◆◆◆</p>
Building site selection and design	Buildings will be in a compound area of up to 50 ha and include offices, dormitories, packing facilities, warehouses, and asphalt or concrete pads for heavy use.	<p>Climatic effects including wind and temperature extremes may potentially adverse effects on energy use and human health and welfare. Design should incorporate passive solar and energy-efficiency including attention to site orientation, building materials, and window placement. Design should also take into account wind direction and management of water supply, safe sanitation and solid waste disposal.</p> <p>Impact significance: ◆◆◆</p>
Building material selection	Extraction of earth materials (soil, gravel, etc.) and selection of building materials will be for an up to 50 acre compound that includes offices, dormitories, packing facilities, warehouses, and asphalt or concrete pads for heavy use. Construction materials will be purchased from established dealers. Foundations will be excavated and the material will be used on site.	<p>Potential adverse impacts from building materials section can include high non-renewable energy use associated with brick-making or long distance transportation of materials. There may also be the potential for unmanaged borrow-pit and quarry extraction, and poor construction waste disposal. These impacts can be mitigated at low cost by using locally available construction materials where feasible; and developing a management plan for disposal of construction waste</p> <p>Impact significance: ◆◆◆</p>
Green house technology selection	Multiple greenhouses covering 150 ha.; unknown portion will be equipped for hydroponic production, using soil-less troughs that circulate water and nutrients.	<p>Hydroponic production in greenhouses allows for more efficient use of water, agro-chemicals, and energy than open field cultivation and traditional greenhouses. In addition, greenhouses substantially reduce risk of crop failure associated with adverse weather conditions. Management plans will ensure adequate budgets for long-term energy supply and materials replacements.</p> <p>Impact significance: ◆◆◆</p>
On-site processing	Washing, packing, and processing, including an individually quick frozen (IQF) plant.	<p>Significant adverse impacts from poor handling of processing wastes can occur, but impacts can be avoided or minimized by design that is in accordance with international standards.</p> <p>Waste removal will conform to a Waste Management Plan.</p> <p>Impact significance: ◆◆◆</p>

Program Component(s)/Activities	Scope	Potential Impact and Significance
Human waste disposal	Buildings will be in a compound area of up to 50 ha and include offices, dormitories, packing facilities, warehouses, and asphalt or concrete pads for heavy use.	<p>Adequate sanitary facilities with septic systems and drainfields will be designed, with provisions for pumping and use of human waste as an agricultural field soil amendment.</p> <p>Alternatively, approved ventilated improved pit (VIP) latrine technology will be used and a management plan developed and implemented where water supply is too limited to justify septic system use.</p> <p>Impact significance: ♦♦♦</p>
Threatened and Endangered species	No protected or endangered species listed by CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) are known to occur or have been reported in proposed project area.	<p>The potential impact of project activities on endangered species will be addressed in the forthcoming EA.</p> <p>Impact significance: ♦♦</p>
Construction		
Land leveling	Up to 5,000 ha will be leveled for agricultural production.	<p>Standard dust control measures will be implemented during land leveling activities. Leveling will have a beneficial impact by reducing water consumption and minimizing salinization; soil analysis at site is ongoing and will determine silicon content of soil affected by leveling activities.</p> <p>Impact significance: ♦♦♦</p>

Program Component(s)/Activities	Scope	Potential Impact and Significance
Road construction	Main access road from site entrance to the office compound will be 3 km long x 8 m wide. Several private on-farm roads will also be constructed totaling 190 km long x 5 m wide.	<p>Wind erosion and dust associated with road construction are short-term potential impacts; standard mitigation norms will be followed (i.e., roads will be compacted; use of heavy machinery will be minimized); soil analysis at site is ongoing and will determine silicon content of soil affected by road construction.</p> <p>Water erosion and run-off associated with road construction are short-term potential impacts. Standard mitigation norms will be followed (i.e., roads will be crowned and have drainage based on historical precipitation data. Earth will be moved and vegetation cleared during dry periods).</p> <p>The quarry/borrow pit management plan will be implemented to ensure restoration to pre-existing conditions or stakeholder approved alternative uses.</p> <p>Workers will be provided suitable safety gear, trained on safety measures, and supervised to monitor compliance.</p> <p>Impact significance: ♦♦</p>
Building construction	Buildings will be in a compound area of up to 50 ha and include offices, dormitories, packing facilities, warehouses, and asphalt or concrete pads for heavy use.	<p>Wind erosion and dust associated with building construction are short-term potential impacts; standard mitigation norms will be followed (i.e., use of windbreaks/fencing and plastic sheeting); soil analysis at site is ongoing and will determine silicon content of soil affected by building construction.</p> <p>Water erosion and run-off associated with building construction are short-term potential impacts. Standard mitigation norms will be followed (i.e., use of plastic sheeting and hay bales to prevent run-off).</p> <p>Locally available construction materials will be used where feasible.</p> <p>Workers will be provided suitable safety gear, trained on safety measures, and supervised to monitor compliance.</p> <p>A management plan will be followed for disposal of construction waste.</p> <p>Impact significance: ♦♦</p>
Irrigation system construction	Up to 5,000 ha of open land will be irrigated, plus 150 ha of greenhouse production; irrigation technologies include a combination of drip and sprinkler systems.	<p>Land-leveling will minimize run-off and soil erosion.</p> <p>Impact significance: ♦♦</p>
On-site processing	Washing, packing, and processing, including an individually quick frozen (IQF) plant.	<p>Construction of these facilities will incorporate sound waste management design in accordance with the Waste Management Plan.</p> <p>Impact significance: ♦♦</p>

Program Component(s)/Activities	Scope	Potential Impact and Significance
Operation and Maintenance		
Crop irrigation	Up to 5,000 ha of open land will be irrigated, plus 150 ha of greenhouse production; irrigation technologies include a combination of drip and sprinkler systems.	<p>Inadequate irrigation canal maintenance, fuel shortages, excessive water use, equipment breakdowns can all have significant adverse impacts on the agricultural environment. Workplans will address this potential impacts and include sufficient budgets for monitoring and maintenance over the life of the project.</p> <p>Similar management plans will be employed to prevent salinization and soil water-logging</p> <p>Impact significance: ♦♦♦♦</p>
Open field cultivation	3,500 ha row crops (annual fruits and vegetables) and 1,500 ha of grape vines and perennial fruit and nut trees (5,000 ha total).	<p>Cultivation will likely reduce natural airborne dust levels by enhancing vegetative cover on this wind-swept, silty/sandy, almost barren desert. In addition, windbreaks will be planted along the farm perimeter following approved agro-forestry methods for the region. Soil analysis at the farm site is ongoing and will determine soil composition, including silicon content.</p> <p>All workers will be trained on safe use of equipment and provided with suitable safety gear.</p> <p>Impact significance: ♦♦♦</p>
Green house operation and maintenance	Multiple greenhouses covering 150 ha.; an unknown portion will be equipped for hydroponic production, using soil-less troughs that circulate water and nutrients.	<p>Hydroponic production in greenhouses allows for more efficient use of water, agro-chemicals, and energy than open field cultivation and traditional greenhouses. In addition, greenhouses substantially reduce risk of crop failure associated with adverse weather conditions. The management plan for operation and maintenance and long-t</p> <p>Impact significance: ♦♦</p>
Pest management	White flies, aphids, and other pathogens pose risks to crops, creating opportunity for build up of pesticide/herbicide/fungicide residues in soil.	<p>Potential exists for incorrect application and use, inadequate worker safety protection, improper storage, and unsafe disposal of unused pesticide product.</p> <p>The Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP) training recommendations and mitigation and monitoring measures will be implemented with adequate budget and follow-up.</p> <p>Impact significance: ♦♦♦♦</p>

Program Component(s)/Activities	Scope	Potential Impact and Significance
Fossil fuel consumption	Generators or diesel-powered motors will initially meet all of the farm's power needs, including requirements of on-site processing activities, creating potential for fuel and oil spills or leakage and soil contamination.	<p>Adverse impacts may occur through fuel spillage and potential contamination of soil and water supplies, as well as health and safety risks for fuel attendants. Standard mitigation measures for safe storage and handling of fuels will be used. Suitable technology will be used to ensure compliance with air quality standards. Farm operations will be reliant on a connection to the electrical grid after 2009, greatly reducing the soil contamination potential of fossil fuel consumption for energy needs.</p> <p>Impact significance: ◆◆◆</p>
Road maintenance		<p>The quarry/borrow pit management plan will be implemented to ensure restoration to pre-existing conditions or stakeholder approved alternative uses.</p> <p>Road maintenance personnel will continue to be provided suitable safety gear, trained on safety measures, and supervised to monitor compliance.</p> <p>Impact significance: ◆◆</p>
Building maintenance	Buildings will be in a compound area of up to 50 ha and include offices, dormitories, packing facilities, warehouses, and asphalt or concrete pads for heavy use.	<p>The building management plan will include adequate provision for use of energy efficient equipment and its maintenance as well as replacement of materials needed to maintain the facilities in accordance with international standards.</p> <p>Construction waste disposal will conform to an approved Waste Management Plan.</p> <p>Impact significance: ◆◆</p>
On-site processing	Washing, packing, and processing, including an individually quick frozen (IQF) plant.	<p>Waste removal will conform to a Waste Management Plan.</p> <p>Impact significance: ◆◆</p>

Program Component(s)/Activities	Scope	Potential Impact and Significance
Human waste disposal	Buildings will be in a compound area of up to 50 ha and include offices, dormitories, packing facilities, warehouses, and asphalt or concrete pads for heavy use.	<p>Adverse impacts may occur from inadequate management of human wastes and poor water and sanitation and hygiene practices. Mitigation will include adequate budgeting for maintenance of sanitary facilities with provisions for pumping with use of human waste as an agricultural field soil amendment.</p> <p>Alternatively, approved ventilated improved pit (VIP) latrine technology will be use and a management plan developed and implemented where water supply is too limited to justify septic system use.</p> <p>Hygiene education for all employees will also be incorporated in the management plan</p> <p>Impact significance: ♦♦♦♦</p>

Issues Considered to Be Not Significant for Mazar Foods

Based upon assessments of the Mazar Foods Project to date, the following issues do not appear to require detailed further study: unexploded ordnance (UXO), floodplain impacts, light emissions, and noise emissions. Table 2 summarizes the issues considered to be not significant for Mazar Foods.

Some potential environmental impacts are considered not significant due to the existence of readily available mitigation measures. These include UXO and floodplain impacts. Table 2 also presents those readily available mitigation measures that qualify the potential environmental and social impacts as “not significant.”

Table 2: Environmental Issues Considered to be Not Significant for Mazar Foods

Potential Impacts	Not Significant Given Mitigation Measure	Justification	Mitigation Measures (if applicable)
Unexploded ordnance (UXO)	✓	Limited UXO present on the 6,250 hectare site.	If needed, a qualified mine clearance organization will be subcontracted to remove UXO.
Floodplain impacts	✓	The project is not likely to affect or modify existing floodplains.	Any flood-prone areas will be identified in order to prevent placement of agricultural support facilities and ensure proper crop management.
Light Emissions		Project is agricultural and will not produce significant light pollution.	
Noise Emissions		Project is agricultural and will likely depend primarily on manual labor; proposed project activities are not anticipated to generate significant noise emissions.	

Description of How Further Environmental Assessment Will Be Conducted

Chemonics International will subcontract one or more firms and/or independent consultants to complete the following:

- 1) a Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP) for all ASAP Project activities, including Mazar Foods; and
- 2) an EA for Mazar Foods that presents new findings and refinements in project design.

The PERSUAP will be prepared by a consultant with PERSUAP experience.

Detailed Scopes of Work (SOWs) will be prepared, specifying the required expertise, level of effort, deliverables, and schedule. Refer to Annex III for a proposed outline for the Mazar Foods EA.

Proposed Schedule for Environmental Assessment and Decision-Making

Date	Milestone
Early Feb 2008	Scoping Statement and EA for Mazar Foods submitted to USAID and OPIC and posted on the OPIC Website for 60-day public comment period.
Mid-April 2008	Abbreviated ASAP Program-wide Scoping Statement submitted to USAID (including Mazar Foods).
Mid-June 2008	Revised, stand-alone Mazar Foods Scoping Statement submitted to USAID.
Mid-June 2008	Program-wide PERSUAP submitted to USAID
TBD	USAID approval of Mazar Foods Scoping Statement and PERSUAP
June – Aug. 2008	Further environmental investigations conducted for Mazar Foods ¹
August 2008	EA for Mazar Foods prepared to incorporate findings of studies as well as refinements in project design
TBD	USAID approval of Mazar Foods EA

Table to be completed in consultation with USAID.

¹ Per instructions from the Mission Environmental Officer, it is not necessary to obtain approval of the Scoping Statement prior to commencing PEA activities. To expedite the PEA, a PEA subcontract will be issued by the end of June and work on the PEA will begin immediately thereafter. The scope of the PEA will be modified as needed to reflect any changes to the Scoping Statement that arise during the approval process.

Annex I: Credentials of Scoping Team

Preparation of USAID Scoping Statement for Mazar Foods

Weston Fisher (Associate Team Leader): MS Geology (1966), BS Geology (1965), and AB Biology (1964), all from Stanford University.

Mumtaz Ahmad (Environmental Specialist, on loan from Afghanistan FEWSNET project): MSc Environmental Science, University of Montana (2007), BSc Civil Engineering, Nangarhar University, Afghanistan (1997).

Lorene Flaming (Director of Performance Monitoring), BA Environmental Studies, University of California, Santa Barbara (1987), Master of Public Policy, Harvard University (1995).

John Priest (Infrastructure and Resources Specialist, Mazar Foods): BS Civil Engineering, Missouri School of Mines and Metallurgy (1952), MA Managerial Economics, University of Oklahoma (1993), a Registered Professional Engineer (PE) in Missouri since 1958.

Preparation of OPIC Scoping Statement and EA for Mazar Foods

Ali Azimi (Team Leader): PhD Environment Studies, American University in London (2004), MS Environmental Science, University of New Haven, CT ((1980), BA BioChemistry, California State University, San Francisco (1974).

Weston Fisher (Associate Team Leader): MS Geology (1966), BS Geology (1965), and AB Biology (1964), all from Stanford University.

Mumtaz Ahmad (Environmental Specialist): MSc Environmental Science, University of Montana (2007), Bsc Civil Engineering, Nangarhar University, Afghanistan (1997).

Michael Gaglio (Biologist and Natural Resource Specialist): BS Biological Sciences (1998) and MS Biological Sciences (2000), both from University of Texas, El Paso.

Hafizullah Rahmani (Agronomist and Socio-Cultural Specialist): BS Agriculture, Kabul University (1986).

Annex II: Proposed Outline for Mazar Foods EA

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List of Acronyms

Executive Summary

1. Introduction

1.1 Purpose and Need for the Project

1.1.1 Purpose

1.1.2 Need for agricultural/irrigation

1.2 Objectives of the EA and Policy, Legal and Administrative Framework

1.2.1 Summary description of proposed project activities

1.2.2 Regulatory considerations (Host Country, USAID, OPIC, including relevant international agreements)

1.2.3 Requirements of potential investors, lenders and insurers

1.2.4 Relationship of this EA to other environmental documentation

1.3 EA Scoping Process

1.3.1 Narrowing issues for consideration

1.3.2 Public and stakeholder participation

1.4 EA Methodology

1.4.1 Team composition, responsibilities and technical approach

1.4.2 Schedule of meetings and site visits

1.5 EA Consultation and Review

1.6 Public and Stakeholder Comment

2. Proposed Action and Alternatives

2.1 Description of Proposed Actions

2.1.1 Land preparation and clearing, ancillary road development, construction camps, etc.

2.1.2 Water abstraction

2.1.3 Water distribution systems development, construction, operation and maintenance

2.1.4 Energy provision – types and impacts of energy needed for irrigation, operations, processing, transport

2.1.5 Soil preparation and agrochemical use

2.1.6 Crop and seed selection

2.1.7 Crop management, planting, harvesting, storage and transportation

2.1.8 Pest management

2.1.9 Crop processing (e.g., cold chain, washing and packaging, waste generation and disposition)

2.1.10 Building construction and operation

2.1.11 Provision of labor and housing, social services, etc.

2.1.12 Equipment selection, maintenance and repair

2.2 Alternatives to Proposed Actions and Comparison of Alternatives

- 2.2.1 No Action Alternative
- 2.2.2 Deep borehole water supply versus other sources of irrigation water
- 2.2.3 Alternative design strategies for irrigation (pivot, sprinkler vs drip systems, etc.)
- 2.2.4 Linkages of alternatives to USAID/OPIC and host government objectives
- 2.2.5 Proposed alternatives
- 2.2.6 No Action Compared to Proposed Actions

2.3 Identification of Preferred Alternative and Actions

3. Affected Environment – Baseline Situation

3.1 Local and Regional Context and Designation of Project Area under Consideration

3.2 Physical Environment

- 3.2.1 Physical geography: climate, geology, topography, historical precipitation records, soils
- 3.2.2 Agro-ecological zones
- 3.2.3 Hydrology
- 3.2.4 Water quality
- 3.2.5 Natural events history (earthquakes, floods, fires, etc.)

3.3 Biological Environment

- 3.3.1 Biodiversity and threatened or endangered species
- 3.3.2 Proximity to protected areas and forest resources or unique or sensitive natural habitat
- 3.3.3 Proximity to sensitive cultural or archeological sites
- 3.3.4 Renewable or non-renewable resources
- 3.3.5 Vegetation and vegetative cover loss

3.4 Socio-economic (Human) Environment

- 3.4.1 Description of residential and occupational population in or near the project area
- 3.4.2 Description of previous, current, and planned land use activities and ownership in or near the project area (e.g., agriculture, agribusiness, livestock and fisheries), including use or habitation by indigenous peoples
- 3.4.3 Other existing or proposed agriculture/irrigation, agribusiness projects in the region
- 3.4.4 Local/regional cultural and institutional setting
- 3.4.5 Sites of archeological, historical or cultural importance (cemeteries, mosques, etc.)
- 3.4.6 Socio-economic characteristics

4. Environmental Consequences

4.1 Impact Analysis Framework

4.2 Potential Adverse and Beneficial Impacts of Mazar Foods Agricultural/Irrigation Actions during Design, Construction, Operation & Maintenance

- 4.2.1 Water hydrology, demand, quantity and quality, and aquifer abstraction impacts
- 4.2.2 Water management issues demand management, distribution system construction,

- operation and maintenance, use of equipment and equipment maintenance
- 4.2.3 Potential salinization issues
- 4.2.4 Potential pesticide related impacts
- 4.2.5 Impacts of fertilizer use
- 4.2.6 Seed selection and genetically modified organism issues
- 4.2.7 Potential impacts on soil conditions, including soil erosion
- 4.2.8 Impacts on vegetation
- 4.2.9 Other potential impacts on natural and biological resources
- 4.2.10 Potential effects on biodiversity and threatened or endangered species
- 4.2.11 Potential impacts on parks, reserves or other protected areas
- 4.2.12 Potential adverse and beneficial human impacts:
 - 4.2.12.1 population and settlements (including impacts on adjacent communities – health, water, waste)
 - 4.2.12.2 sensitive cultural, historic, or archaeological resources
 - 4.2.12.3 potential health and disease impacts in the project area and regionally
 - 4.2.12.4 potential occupational and safety hazards in the project area and regionally
 - 4.2.12.5 other socio-economic considerations, with emphasis on conformity with ILO standards and destination market requirements (e.g., GlobalGAP, IFS, BRS, etc., if export oriented)
- 4.2.13 Energy and other resource commitments
- 4.3 Impacts of No Action Alternative**
- 5. Recommendations for Mitigation and Monitoring of Potential Environmental Impacts**
- 5.1 Mitigation Alternatives**
- 5.2. Review and Analysis Procedures**
- 5.3 Recommendations for Development & Implementation of Mitigative Measures**
- 5.3.1 Mazar Foods project-specific mitigative measures (design, construction, operation, decommissioning)
- 5.3.2 Mitigation in design and pre-construction (Mazar Foods site selection, irrigation technologies)
- 5.3.3 Construction phase mitigation
 - 5.3.3.1. Construction materials acquisition and transport
 - 5.3.3.2 Access roads
 - 5.3.3.3 Land preparation and biological impacts
 - 5.3.3.4 Erosion, dust and noise control
 - 5.3.3.5 Materials storage
 - 5.3.3.6 Energy and water provision during construction
 - 5.3.3.7 Construction camp operation and maintenance
 - 5.3.3.8 Worker and community health and safety
 - 5.3.3.9 Waste and materials disposal
- 5.3.4 Operations phase mitigation
 - 5.3.4.1 Water conservation
 - 5.3.4.2 Salinization
 - 5.3.4.3 Erosion control and soil conservation
 - 5.3.4.4 Energy conservation and management

- 5.3.4.5 Waste minimization measures
- 5.3.4.6 Waste treatment and disposal measures
- 5.3.4.7 Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP) requirements and process.
- 5.3.4.8 Natural resource management (e.g., sustainable management of biological Resources)
- 5.3.4.9 Mitigation of impacts on cultural resources
- 5.3.4.10 Mitigation of human impacts: compensation, training, etc.
- 5.3.4.11 Occupational safety and health measures
- 5.3.4.12 Major hazard prevention and emergency response
- 5.3.5 Decommissioning measures
- 5.3.6 Mitigative measures for indirect, induced and cumulative impacts

- 5.4 Recommendations for Development & Implementation of Monitoring Procedures**
- 5.4.1 Mazar Foods project-specific environmental monitoring for construction, operation and maintenance
- 5.4.2 Monitoring of induced and indirect impacts

- 6. Environmental Mitigation and Monitoring Plan (EMMP)**
- 6.1 Introduction**

- 6.2 General Mitigation Approach**
- 6.2.1 Mitigation measures linked to specific impacts with specific assigned responsibility for implementation
- 6.2.2 Costs

- 6.3 Monitoring Approach**
- 6.3.1 General monitoring framework
- 6.3.2 Recommended information requirements, potential sources of information, proxies and indicators
- 6.3.3 Specific monitoring plan activities (when, where, how often, who (specific responsibilities)
- 6.3.4 Temporal bounding (how long should monitoring continue)
- 6.3.5 Costs

- 6.4 Mitigation and Monitoring Budget**

- 6.5 Annual Mitigation and Monitoring Plan Review Process**

- 7. Public Stakeholder and Comment**

- 8. Conclusions**

- 9. List of Preparers**

- 10. Author information**
- 10.1 Names, affiliations and qualifications of project team**

10.2 Relationship of authors to project sponsors

11. Appendix (Scoping and Other Documents)

11.1 Record of meetings held as part of EA, including public hearings and consultations

11.2 Persons and organizations contacted

11.3 Documents consulted

11.4 Technical Data not included in text

Annex III: Public Consultations

The team that prepared the initial Mazar Foods Scoping Statement and Environmental Impact Assessment for OPIC facilitated a range of discussions to gather public and stakeholder comments. Discussions were held in a variety of settings, from private meetings with individual stakeholders, to community forums eliciting broad feedback from local residents. Summaries of all of these meetings — referred to as Key Informant Interviews — are included at the end of this Annex.

The net was cast wide to identify key parties who may be affected by—or may be able to influence—the project's outcome in an adverse or beneficial manner. These included individuals owning land or assets both on- and off-site; persons using agricultural land in or near the project area; village development associations; a women's group of Khulm; and a Khulm farming cooperative.

Other stakeholders were contacted including: (i) local government authorities; (ii) Afghan government agencies, including the Director of the National Environment Protection Agency; (iii) local developmental entities and nongovernmental organizations (NGOs); Balkh University staff; and (iii) focus groups consisting of elders and community leaders

The following narrative describes the team's meetings and site visits from late December, 2007 through January, 2008.

On December 23, 2007, Mumtaz Ahmad (EA team Environmental Specialist) conducted meetings with staff of the Afghanistan Ministry of Agriculture, Irrigation and Livestock (MAIL) and the National Environmental Protection Agency (NEPA) in Kabul, Afghanistan.

Meeting Participants included:

- Mr. Haidar Haidari, Director of Environmental Division, Natural Resources, MAIL;
- Mr. Hashem Barakzai, General Director, Natural Resources, MAIL; and
- Mr. Obaidullah Ztenikzai, Environmental Officer, NEPA.

The following items were discussed:

- Host country (Afghanistan) environmental procedures;
- Groundwater potential and capacity in the Khulm area;
- Annual precipitation rate in Northern Afghanistan;
- Earthquake record over last 100 years; and
- Historic flood records and patterns.

On December 24, 2007, Mr. Ahmad conducted meetings with agricultural experts in the Kabul offices of the Accelerated Sustainable Agriculture Program (ASAP) and the United Nations Food and Agriculture Organization (FAO).

Meeting Participants included:

- Mr. Ehsanullah Ehsan, Agriculture, Research and Extension advisor, ASAP;
- Mr. Sayed Naeem, Operations Officer, FAO Afghanistan; and
- Mr. Ibrahim Sultani, Director Infrastructure, ASAP.

The following items were discussed:

- Soil quality, chemical contents, and erosion;
- Plant diseases and use of pesticides;
- Quality and quantity of water, both surface and groundwater;
- Heavy metals (arsenic, cadmium, lead) in water; and
- Aquifer consistency in various locations in and around the proposed project area.

On December 31, 2007, the EA Team, along with Chemonics/ASAP staff, met with USAID staff at the USAID offices in Kabul.

Meeting participants included:

- Carol Wilson, Cognizant Technical Officer, USAID;
- Robert Hanchett, Mission Environmental Officer, USAID;
- David Scott, Environmental Officer, USAID;
- Kari Goetz, Mazar Foods Start-Up Coordinator, Chemonics; and
- Lou Faoro, Chief of Party, ASAP/Chemonics.

The following items were discussed:

- Application of U.S. NEPA and USAID regulations in Afghanistan;
- USAID guidelines and procedures for the EA;
- Utilizing Afghanistan NEPA resources and building their capacity; and
- Plant diseases and use of pesticides.

On January 4, 2008, the EA team traveled to Khulm and met with Sayed Ibrar, Khulm District Commissioner, and various community personnel in the offices of the District Commissioner.

The following items were discussed:

- Traditional irrigation systems in Khulm District;
- Land use and tenure issues;
- Local resources available in the area;
- Main source of income for livelihoods;
- Water distribution procedures;
- Nearest markets for their products;
- School going children; and
- Major health issues.

Throughout January 2008, select members of the EA team conducted a variety of public consultation meetings with various community members, including village elders, women, and government officials in Mazar-i-Sharif, Khulm, and surrounding villages that would be affected by the project. A questionnaire was developed to elicit descriptions of the social and cultural baseline in the project area, including data on local communities: the economy and livelihoods, land, and social organization. A copy of the questionnaire is found in Section 13.6 of the OPIC EIA. Meetings were hosted in order to collect inputs from the affected public, as well as to collect data from people knowledgeable about the project area. Individual summaries of these meetings, referred to as Key Informant Interviews, are included at the end of this Annex. The following table provides a summary of the persons and entities interviewed during the development of this EA:

	Name	Position	Village- Guzar	Date
1.	Mr. Haidari	Director of Environment Department, MAIL		23-Dec-07
2.	Mr. Hashem Barakzai	General Director of Natural Resources, MAIL		23-Dec-07
3.	Mr. Obaidullah	Environmental Officer, NEPA, Kabul, Afghanistan		24-Dec-07
4.	Mr. Ehsanullah Ehsan	Research and Extension Advisor, ASAP		24-Dec-07
5.	Mr. Sayed Naeem	Operations Officer, FAO Afghanistan		24-Dec-07
6.	Mr. Ibrahim Sultani	Director Infrastructure. ASAP		25-Dec-07
7.	Sayed Ebrar	Khulm District Governor	Char Sooq	5-Jan-08
8.	Janbar Khan	Head of the shura	Baghacha Dawlatzai	5-Jan-08
9.	Eshan Tahir	Head of the shura	Jalqi	5-Jan-08
10.	Yosuf	Head of the shura	Sultan-dah Marda	5-Jan-08
11.	Gul. Mohd	Head of the shura	Da Mullah Lashkari	5-Jan-08
12.	Zakhil	Head of the shura	H. Ali. Afghania	5-Jan-08
13.	Aimal Maiwand	Regional Manager North for AIMS		6-Jan-08
14.	Khalil	Head of the shura	Rozi Bi	8-Jan-08
15.	Ab. Wahab	Head of the shura	Da Mullah Mohamad	8-Jan-08
16.	Ab. Sabor	Head of the shura	Teli	8-Jan-08
17.	Habibullah	Head of the shura	Shorabi	8-Jan-08
18.	Ubaidullah	Head of the shura	Alimardan Big	8-Jan-08
19.	Nematullah	Head of the shura	Awimahot	8-Jan-08
20.	Gul Nazar	Head of the shura	Khanaqa-kahlifa Ashali	8-Jan-08
21.	Habibullah	Head of the shura	Kohna Bazaar	8-Jan-08
22.	Ab. Khaliq	Head of the shura	Sartrashy	8-Jan-08

	Name	Position	Village- Guzar	Date
23.	Mohd. Nazir	Head of the shura	Tapa-e-shikhi Afghania	8-Jan-08
24.	Mohd. Yasin	Head of the shura	Merza Shams	8-Jan-08
25.	Mohd. Tahir	Head of the shura	Jolqi	8-Jan-08
26.	Gul. Mohd	Head of the shura	Negaran District 3	8-Jan-08
27.	H. Hamidullah	Head of the shura	Kaenja Bi	8-Jan-08
28.	Habibullah	Head of the shura	Esmail Khayl	8-Jan-08
29.	M. Sharif	Head of the shura	Ganda Baghat	8-Jan-08
30.	Mohamadi	Head of the shura	Chochman Qala	8-Jan-08
31.	Hayatullah	Head of the shura	Namazga	8-Jan-08
32.	M. Eshaq	Head of the shura	Sert Bala	8-Jan-08
33.	Mr. Kazim Shams	Director of Agricultural Dept., Mazar Province		9-Jan-08
34.	Mr. Ah. Zia Aria	Regional Seed Coordinating Office		9-Jan-08
35.	Professor Qayum Ansori	Agriculture Faculty of Balkh University		9-Jan-08
36.	Abdul Aziz	Head of the shura	Deh-now	10-Jan-08
37.	Mr. Abdul Salam	Community elder	Uljato	10-Jan-08
38.	Mr. M. Taib	Head of Agriculture Extension Section, Provincial MAIL Dept.		10-Jan-08
39.	Sharafullah	Head of Khulm Agriculture Section		10-Jan-08
40.	Mr. Omran Khan	Head of Agriculture Plant Disease Section, Agriculture Dept.		10-Jan-08
41.	Mr. Mohd Nabi	Professional member of Plant Disease Section, Mazar		10-Jan-08
42.	Aimal Maiwand	Regional Manager North for AIMS		14-Jan-08
43.	Abdul Wakil Ahmad Zai	Operations Assistant for United Nations Mine Action Center for Afghanistan (UNMACA)		14-Jan-08
44.	Eng. Ab.Jamil	Director of Water and Canalization, Mazar		15-Jan-08

	Name	Position	Village- Guzar	Date
45.	Mr. Gh. Nabi Khurami	Environment Department Director of Mazar		16-Jan-08
46.	Nasrudin	Farmer	Amin Hosain	17-Jan-08
47.	Edi bi	Farmer	Deh Marda Hosain	17-Jan-08
48.	Amanudin	Head of the shura	Amin Hosain	17-Jan-08
49.	M. Dawod	Farmer, cashier for National Solidarity Program (NSP) projects	Deh Marda Hosain	17-Jan-08
50.	Mawludin	Mason	Amin Hosain	17-Jan-08
51.	Rahmatullah	Shopkeeper	Deh Marda Hosain	17-Jan-08
52.	Asadullah	Student	Deh Marda Hosain	17-Jan-08
53.	Ab. Hakim	Shopkeeper	Deh Marda Hosain	17-Jan-08
54.	Hyatullah	Mason	Deh Marda Hosain	17-Jan-08
55.	Ghyasudin	Gardener	Deh Marda Hosain	17-Jan-08
56.	Gh. Ali	Farmer and head of the farmers shura	Deh Marda Hosain	17-Jan-08
57.	Sadat	Mahasti high school teacher	Guzar Samadi	20-Jan-08
58.	Fahima	Mahasti high school teacher	Guzar Samadi	20-Jan-08
59.	Muzda	Mahasti high school teacher	Alchin	20-Jan-08
60.	Aliya	Mahasti high school teacher	Alchin	20-Jan-08
61.	Sangimah	Mahasti high school teacher	Guzar Samadi	20-Jan-08
62.	Suraya	Mahasti high school teacher	Guzar Samadi	20-Jan-08
63.	Zahra	Mahasti high school teacher	Guzar Samadi	20-Jan-08
64.	Malalay	Mahasti high school teacher	Guzar Dehwardagiha	20-Jan-08
65.	Dawar	Mahasti high school teacher	Ata Big	20-Jan-08
66.	Wahida	Mahasti high school teacher	Chochman	20-Jan-08
67.	Zahra	Mahasti high school teacher	Mirza Qasem	20-Jan-08
68.	Safia	Mahasti high school teacher	Mohd. Big	20-Jan-08
69.	Wahida	Mahasti high school teacher	Guzar Samadi	20-Jan-08
70.	Zarin	Mahasti high school teacher	Guzar H. Rostam	20-Jan-08
71.	Nafisa	Mahasti high school teacher	Guzar Chuchman Qala	20-Jan-08
72.	Monisa	Mahasti high school teacher	Guzar Chuchman Qala	20-Jan-08
73.	Sadiqia	Mahasti high school teacher	Guzar H. Naser	20-Jan-08
74.	Fazela	Mahasti high school teacher	Guzar H. Naser	20-Jan-08

	Name	Position	Village- Guzar	Date
75.	Kamela	Mahasti high school teacher	Guzar H. Naser	20-Jan-08
76.	Pari	Mahasti high school teacher	Guzar Sert	20-Jan-08
77.	Yasamin	Mahasti high school teacher		20-Jan-08
78.	Zarin	Mahasti high school teacher	Guzar Aqshikh	20-Jan-08
79.	Nafas gul	Mahasti high school teacher	Guzar Gandabaghat	20-Jan-08
80.	Gulshan	Mahasti high school teacher	Guzar Sayed Khan	20-Jan-08
81.	Najiba	Mahasti high school teacher	Guzar Mieza Qasim	20-Jan-08
82.	Rokshana	Mahasti high school teacher	Guzar Qalander	20-Jan-08
83.	Faozia	Mahasti high school teacher	Guzar Mirza Sharif	20-Jan-08
84.	Raihana	Mahasti high school teacher	Guzar Shir Ali Khan	20-Jan-08
85.	Habibia	Mahasti high school teacher	Guzar Qalandarha	20-Jan-08
86.	Parigul	Principal of Mahasti high school	Guzar Yar Mohd. Khan	20-Jan-08
87.	Shafiq	Mahasti high school teacher	Guzar Abdar	20-Jan-08
88.	Koko jan	Principal of Mahesti high school	Guzar Mirza Sharif	20-Jan-08
89.	Sohiala	Mahasti high school teacher	Guzar Sufi Rahmanqul	20-Jan-08
90.	Sharafat	Mahasti high school teacher	Guzar Rozi Bi	20-Jan-08
91.	Homaira	Director of Mahesti high school	Damulla lashkari	20-Jan-08
92.	Nadia	Mahesti high school teacher	Namazgah	20-Jan-08
93.	Anisa	Principal of Nahid Shahid school	Guzar Yaqub Bi	20-Jan-08
94.	Moqadas	Nahid shahid high school teacher	Guzar Deh Wardagi	20-Jan-08
95.	Amena	Nahid shahid high school director	Guzar Sayed Motahar Khan	20-Jan-08
96.	Torpikai	Amin Hoain high school teacher	Guzar Abdar	20-Jan-08
97.	Laila	Director of Amin Hosain high school		20-Jan-08
98.	Breshna	Amin Hoain high school teacher	Mazar city	20-Jan-08
99.	Zoya	Amin Hoain high school teacher	Mazar city	20-Jan-08
100.	Mah Gul	Amin Hoain high school teacher	Mazar city	20-Jan-08
101.	Afghan Gul	Amin Hoain high school principal	Guzar Haq Nazar	20-Jan-08
102.	Latifa	Khanaqa Abulkhair school teacher	Guzar Mutahar	20-Jan-08
103.	Moqadas	Amin Hosain female school teacher	Guzar H. Rostam	20-Jan-08

	Name	Position	Village- Guzar	Date
104.	Dawar	Amin Hosain female school teacher	Guzar H. Rostam	20-Jan-08
105.	Shafiq	Amin Hosain female school teacher	Guzar H. Rostam	20-Jan-08
106.	Kamela	Sardar khan school teacher	Guzar H. Nasir	20-Jan-08
107.	Fahima	Woljato school teacher	Guzar Mirza Qasim	20-Jan-08
108.	Norya	Woljato school teacher	Guzar Mirza Qasim	20-Jan-08

KEY INFORMANT INTERVIEWS

The following are summary transcripts of public and stakeholder comments derived from meetings held as part of the OPIC EIA public consultation process.

Key informant interview

Date: Dec. 23, 2007

Venue: Ministry of Agriculture

Participants: Mr. Haidari, Director of Afghanistan Environment Ministry of Agriculture

Main points raised:

Mr. Haidari was asked for background information and environmental documents on the northern region; specifically Khulm District of Balkh Province. According to Mr. Haidari, the Afghanistan environment in the north is quite fragile and susceptible to potential risks from large stocks of dangerous or illegal pesticides used in the past to control insects, including annual infestations of Moroccan locusts.

He noted that Khulm District's economy is based on agriculture and that farming is the main occupation of the residents. According to him, farmers make up more than 80 percent of the population in Khulm. He questioned the use of pesticides and chemicals for pest management. He stated that traditional/cultural pest management practices have been quite effective in the past. Pest damage was reported from Khulm District in Balkh Province and from parts of Samangan, but estimates of crop losses were not available. As in previous years, grasshoppers were a problem in rice fields. Water scarcity is a significant issue, especially during summer and fall. A shortage of labor for harvesting is expected to be a major problem in 2008. The transplanting of rice is also being hampered by a labor shortage. Tractor diesel fuel is in limited supply and may delay harvesting.

Key informant interview

Date: Dec. 23, 2007

Venue: Ministry of Agriculture, Kabul

Participants: Mr. Hashem Barakzai, General Director of Natural Resources, Ministry of Agriculture, Afghanistan

Main points raised:

Mr. Barakzai provided background to the team on the existing water resources in Khulm District, emphasizing what he believes is the rich potential of the aquifer in Khulm District. He mentioned the quantity might not be constant and may vary from location to location, and that the water table varies from 30-40 meters to 150 meters below ground surface. Mr. Barakzai was unable to

provide reliable data on the quality of the underground water in Khulm, its salinity, or the potential for contamination, but he is optimistic that most of the underground water in Khulm is potable. When asked whether there is sufficient water in Khulm for irrigation, he described this as a serious issue and added that the Hayat spring (chashma) is insufficient to meet domestic and commercial water demands in the Khulm area.

Key informant interview

Date: Dec. 24, 2007

Venue: NEPA office, Kabul

Participants: Mr. Obaidullah Environmental Officer

Main points raised:

Mr. Obaidullah was contacted in order to learn of standard EIS/EIA regulations and policies in Afghanistan. According to him, the policy is under consideration by the Cabinet and will be available for public reviews.

Key informant interview

Date: Dec. 24, 2007

Venue: ASAP office, Kabul

Participants: Mr. Ehsanullah Ehsan, Agriculture, Research and Extension advisor, ASAP

Main points raised:

Mr. Ehsanullah was contacted to provide information concerning the results of soil samples taken by the ASAP team. According to him, the purpose of the testing is to determine the quality of soil for agriculture and for the use of any fertilizers in the area. Currently work is being done to identify laboratories in Afghanistan or nearby countries with the necessary expertise and equipment to conduct laboratory analyses of soil samples.

Key informant interview

Date: Dec. 24, 2007

Venue: FAO office, Kabul

Participants: Mr. Sayed Naeem, Operations Officer, FAO Afghanistan

Main points raised:

Mr. Naem was contacted to find out if FAO has pesticide or insecticide programs in Khulm District. He indicated that insecticide use is not a big issue in Khulm, though there have been reports of a locust problem in the district. Regarding the type and nature of crops and fruits in Khulm, Mr. Naem mentioned wheat and barley.

Key informant interview

Date: Dec. 25, 2007

Venue: ASAP office, Kabul

Participants: Mr. Ibrahim Sultani, Director Infrastructure, ASAP

Main points raised:

Mr. Ibrahim designed/implemented numerous medium and large irrigation projects in the north and is exceptionally aware of various hydrological and water quality issues in northern Afghanistan. He seemed reluctant to provide any kind of information regarding the project site before water testing results become available; however he said the water in many locations is salty. Results will be available in a few months' time.

Key informant interview

Date: Jan. 5 & Jan. 8, 2008

Venue: Khulm District office, Balkh Province

Participants: Sayed Ebrar, District Governor and community members noted below:

Main points raised:

For the purpose of this planning study, a key issue related to the current status of the Khulm River mirab system is recognizing that traditional respect for mirab bashi and mirabs is still maintained among canal communities. They continue to play an important role in the operation and maintenance of individual canals, annual clearing, repair from flood damage, etc. Farmers' respect for—and acceptance of—the traditional mirab system, however, has been undermined during the years of conflict due to its inability to counter flagrant abuse of water rights by powerful, armed local landowners, militia commanders, and warlords. This situation has been compounded by the inability of local government to support the mirab bashis and mirabs in the resolution of disputes over abuse of water allocations between upstream canal users of the network and downstream users along individual canals.

The mirab bashi, mirabs and chak bashis are appointed to their positions through a system that is accepted by the canal communities they serve, and appointments are made broadly without manipulation of vested local interests by the majority of those appointed, some of whom have been performing their duties for many years.

Many of the older mirab bashi and farmers interviewed during this study referred to the time of king Zahir Shah, commenting that there were relatively few problems with water allocation and irrigation (with the exception of excessive and illegal use of water in Khulm). At that time it seemed the traditional mirab system was able to effectively manage the Khulm irrigation network; mirab bashis were well respected and generally effective in resolving disputes between users. Large amounts of irrigable land were often held by influential Khans and Maliks (leaders) who supported the traditional irrigation system. This likely made conflict resolution easier than it is today as land holdings are at present much smaller. Up until the 1980s one mirab bashi was always appointed as head mirab bashi and spoke on behalf of all mirab bashis. This is likely to have facilitated the resolution of conflicts and disputes between canals.

Discussion of water resources, effects of water shortage in the area: A spring is located at Joe Barzoi Dheqan, which may begin from Qala-e-Zall. In the past this spring had a very significant quantity of water used by the population of Mazar-i-Sharif, but not at present.

Participants' requests: The community and District Governor emphasized the potential of using the Amu Darya River to supply water for the project, believing it would be more cost effective than wells drawing from the aquifer. It would also encourage additional development in the area by other NGOs and government entities.

Land issues: Individuals in the area have official documents from three different sources: the Dr. Najib, Burhanodin Rabani, and Taliban eras. Land amounting to 42,000 jiribs in the South of Khulm District were allocated through bribery. Similarly, under the governorship of Osman Salikzai, an additional 5,600 jiribs of land were allocated through bribery. One community in Khulm District is in the process of developing an application for 20,000 jiribs of land to build houses.

Key informant interview

Date: Jan. 6, 2008

Venue: Afghanistan Information Management Services (AIMS) office at UNDP compound

Participants: Aimal Maiwand, Regional Manager North

Main points raised:

Topographical and district maps were procured from AIMS.

Key informant interview

Date: Jan. 9, 2008

Venue: Ministry of Agriculture office, Mazar Province

Participants: Mr. Kasim Shams

Main points raised:

Mr. Shams explained that the Mazar area consists of 12,8000 km² total area: 115,000ha forest, 138,200 ha pasture, 25,000 ha gardens, 27,2000 ha irrigated land and 150,000ha rain-fed land with 14 districts. Two land conflicts exist. The first involves 42,000 jiribs of fertile land located to the South of Khulm District purchased by local people. These lands are productive, but because of water shortages, currently uncultivated. Individuals have official documents from three different sources: the time of Dr. Najib, Burhanodin Rabani, and Taliban. The land has been distributed to more than 150 people through issuance of official documents during the time of Osman Salikzai representing the provincial governor of Mazar. Different people have built on part of this land, and some have sold their land or houses to the other people. The second dispute involves 5,600 jiribs of fertile land distributed to other people through issuance of official documents (Qabala) from the Nahri Shahi District Justice Department.

The meeting was also held to discuss the project objective: to create a major commercial farming operation that provides substantial employment and income in the area, and to demonstrate that there are commercially viable alternatives to the opium poppy economy. Also, that it will create a large, commercially viable farming operation in Mazar Province based on production of fruits and vegetables that would be sold domestically and exported to neighboring counties. Mr. Shams was informed by the team that project proponents also estimate the creation of approximately 7,000 – 8,000 additional jobs in the region.

Key informant interview

Date: Jan. 9, 2008

Venue: FAO office, Mazar

Participants: Mr. Ah.Zia Aria, FAO Regional Seed Coordinating Officer

Main points raised:

Integrated Pest Management (IPM) was the main agenda point as FAO had recently prepared a proposal related to IPM assessment and capacity building for donor financing.

Key informant interview

Date: Jan. 9, 2008

Venue: Faculty of Agriculture Mazar University.

Participants: Professor Qayum Ansori, OIC of Agriculture Faculty, Mazar University

Main points raised:

The director indicated the cooperation of the Agriculture Faculty by extending support of his staff and students in agriculture science.

Key informant interview

Date: Jan. 10, 2008

Venue: Deh-now and Uljato villages, Khulm District.

Participants: Abdul Aziz, Head of the shura and Mr. Abdul Salam, community elder

Main points raised:

Key water resource issues and potential impacts of the project on the aquifer were explained to them by Dr .Azimi, and they were made aware of the potential for possible adverse impact of the proposed project on the underground water resources in Khulm. At the same time they were assured that proposed measures of mitigation are foreseen for minimizing these impacts. Abdul Aziz, the community elder from Uljtu village, described water as the most precious substance for

sustaining their lives in Uljatu. According to him, they don't have rights to Chashma-e-hayat water, except for drinking. This water becomes extremely dirty and polluted in summer, and there are certain waterborne diseases associated with this. The water table in Uljatu is typically at 120 m depth; however, this is not a constant level because the quantities of water in wells of such depth are not sufficient or sustainable. Mr. Aziz, believes the ideal well depth in Uljatu should be no less than 130 m, which would make them sustainable.

In response to a question regarding current water quality in Deh-now, Mr. Salama described the water as salty at shallow levels, but that it could be drinkable if abstracted from a deeper level. All kind of crops can be grown in Deh District, but water has always been the issue, he said. According to him, most of the childhood diseases in Deh can be attributed to unsafe drinking water.

Monthly income of a single family (the average family size in Khulm is 7-8 people) is not more than \$100 per month, and regular trade involves bringing brush from the nearby mountain and selling them in Mazar City (Abdul Aziz).

Mr. Aziz said that the agricultural potential for growing all kinds of crops (wheat, barley, melons, etc.) in Uljatu Village was high, but the major problem is water.

The total population of Uljatu is 2,200 people, with 300 school-going children. Multiple issues were discussed with the team, including the potential socio-economic impacts, concerns over the degradation of existing water resources, and employment opportunities. Mr. Abdul Salam, the community elder, provided a quick snapshot of his village: Deh-now is the most isolated and poorest village of Khulm District. There is a clinic in the village, but it has the highest child mortality and maternal death rate in the district. Like other villages of Khulm water is the most daunting issue. The village has a small school that accommodates 80 students, but the number of school-aged children far exceeds the school's capacity. The total population of Deh-now is 700 – 800 people and the daily income is hardly 100 Afghanis (\$2).

Key informant interview

Date: Jan. 10, 2008

Venue: Agriculture Department, Mazar Province

Participants: Mr. M. Taib, Head of Agriculture Extension Dept. and Sharafullah, Head of Khulm Agriculture Section

Main points raised:

Irrigated land in Khulm totals 144,000 jiribs. Of this, 48,000 jiribs are cultivated each year and the other three parts are left uncultivated because of water shortage. The rain-fed area is 500 jiribs. Fruit trees are grown in 42,000 jiribs and include various nut trees, such as pistachio and wild almond. Pasture land totals 18,000 jiribs.

The Mazar Agriculture Department sends quarterly reports to the Ministry of Agriculture, Irrigation and Livestock (MAIL), which include total sowing and harvesting for different crops. (See Table A)

**Table A: Balkh Agriculture Department Extension Section: Agriculture Production—
Yearly Report 2007**

	Crop	Sowing area (ha)	Yield (ton)
1	Improved wheat seed	58,759	130,000
2	Irrigated local wheat seed	23,227	20,000
3	Lalmi local wheat seed	73,865	7,000
4	Paddy (Rice)	5,000	2,688
5	Maize	1,200	1,063
6	Irrigated barley	19,400	5,187
7	Lalmi barley	7,500	2,330
8	Pea	800	500
9	Cotton	9,500	15,000
10	Zegher irrigated	778	4,228
11	Zegher lalmi	538	2,000
12	Sesame irrigated	884	9,129
13	Sesame lalmi	214	900
14	Watermelon	570	2,800
15	Melon	930	6,000
16	Apple	120	6,000
17	Almond	280	1,357
18	Walnut	50	700
19	Grape	150	350
20	Apricot	170	3,350
21	Peach	50	6,250
22	Plum	40	440
23	Other fruits	150	50
24	Pomegranate	403	9,900
25	Onion	482	5,506
26	Potato	215	4,000
27	Tomato	385	2,280
28	Egg plant	230	1,675
29	Turnip	150	1,018
30	Carrot	300	90,000
31	Other vegetables	900	5,280
32	Alfalfa	713	50,617
33	Clover	320	10,016

The improved wheat seed that farmers in Khulm and other districts are using include: (1) Ghori-99; (2) PBH-154; (3) Bakhtawar-92; (4) Roshan-96; (5) Sulha-2000; (6) Daima-96; (7) Rona-96; (8) Takhar-96; (9) MH-97; (10) Heart-99; (11) Lalmi-1; (12) Aamo-99; (13) Godalof Franch; (14) Andlof Franch; and (15) Parwa.

Key informant interview

Date: Jan. 10, 2008

Venue: Agriculture Department, Mazar Province

Participants: Mr. Omran Khan, Head of Agriculture Plant Disease Dept. & Mr. Mohd Nabi, professional member of plant disease section, Mazar.

Main points raised:

The most significant plant diseases in the Mazar area are Covered Wheat Smut and Loose Smut. Historically, these two diseases were only common in rain-fed areas and did not typically affect irrigated crops. However, due to cultivation of different varieties of seeds in the area and the lack of any institutionalized governmental inspection and disease prevention measures, these diseases spread to irrigated crops several decades ago. Wheat and maize crops were most significantly affected by these diseases, resulting in losses of 25–30 percent of the harvest in Khulm, Marmul, Shurgara, Zare, and Keshen Deh districts. The primary chemical pesticides used to control these diseases are Vitavax and Thiram. The following list includes some of the other major pest species in the area:

- Anthracnose (leaf blight)
- Grape powdery mildew
- Crown spot
- Crop rust
- Downy Mildew
- Leaf roll
- Soft rot
- Aphids
- Boll worm
- Bulb mite
- Cut worms
- Weevil (several species)
- Locust
- White fly
- Sun pest
- Tomato fruit worm
- White grub

Soil in Mazar Province is generally clay loam, with a pH above 8.5. Soil quality is very low—only 9 percent productive. The major problems with the soil are lack of fertility, the presence of disease, and the high pH of the soil. There are areas of productive soil in Khulm District stemming from the flood cycle, when nutrients are carried from other lands.

Key informant interview

Date: Jan. 14, 2008

Venue: United Nations Mine Action Center for Afghanistan (UNMACA)

Participants: Abdul Wakil Ahmad Zai, Operations Assistant for UNMACA

Main points raised:

Mr. Ahmad Zai clarified the UNMACA procedure for evaluating land for mines and the certification process. He stated that coordinate locations are surveyed for mines upon request. The survey area includes a 100 meter radius around the coordinate point. In response to a request by the Mazar Foods Security director, Mr. Zia provided the EA team and Mazar Foods Security Coordinator with a map showing areas known to have mine contamination and certified the corner points of the aerial survey boundary. He stated that one location in the southwest corner of the project was contaminated with mines. He also stated that the entire area of the site had not yet been surveyed, and that a special request and contract for surveying would need to be arranged in advance of the surveys. Based on this information, it is recommended that a prioritization schedule for site development areas needing mine clearance be developed in coordination with UNMACA.

Key informant interview

Date: Jan. 15, 2008

Venue: Office of Water and Canalization Director, Mazar Province

Participants: Eng. Ab.Jamil, Director of Mazar Water and Canalization

Main points raised:

There are two water resources in Mazar: surface water and aquifer. Although there has been no research on the topic, surface water has historically been the primary source for both the government and local populations. Many parties, including NGOs, companies, factories, and local people are building wells and fixing pumps without approval from the Office of Water, which is responsible for these matters. He also expressed his opinion that water is one of Afghanistan's most vital natural resources and that it is the right of people, government, and others to use water, but according to the law and regulation.

There are a number of water use regulations in Mazar that the office is applying. Regardless of Afghanistan's water regulations, however, people are building wells and fixing pumps at depths of 100-130 m. Because of these problems (in Mazar and other provinces), he suggests the establishment of new water use laws.

The Office of Water is also responsible for providing water for a range of users, including the Municipality Department, the Fire Department, and drinking water for local residents, NGOs, and businesses.

He agrees with the option of providing the project area with water from the Amu Darya River. Eng. Ab. Jamil stated that groundwater levels measured in wells in the Mazar area have receded approximately 3% in the past three years.

Key informant interview

Date: Jan. 16, 2008

Venue: Office of Environment Director, Mazar Province.

Participants: Mr. Gh. Nabi Khurami, Environmental Department Director, Mazar

Main points raised:

Introduction of the project and the EA team. Nabi Khurami explained the Environmental Department as the following: (1) Environmental Shura for Mazar; (2) Environmental volunteers for Mazar; and (3) Environmental Protection Shura of Mazar. Through these Shuras and volunteers the Office has done many activities related to environmental issues, such as removal of a diesel pump station, transferring mechanics and their shops from the city center, maintenance and repair of green areas, planting of saplings, nursery establishment, and pistachio forest rehabilitation. The Environment Department of Mazar is working on a proposed project to provide water from the Amu Darya River to the Hairatan road.

Key informant interview

Date: Jan. 17, 2008

Venue: Guzar Amin Hosain village & Deh Marda Hosain village

Participants: Nasrudin, Edi Bi, Amanudin, M. Dawod, Mawludin, Rahmatullah, Asadullah, Ab. Hakim, Hyatullah, Ghyasudin, and Gh. Ali

Main points raised:

Hydrology and water quality: Floods occur April – June in this area and damage agricultural land, houses, mosques, gardens, shops, bridges, streams, pools (for collecting water for irrigation), roads, and springs. Amanudin, one of the villagers, said, "There are a number of springs which we are using, but these are not sufficient for all communities such as: Cheshma Hayat, Chetgari, Hazrat Sultan, Shor Qul, and Mangqala." Water levels fluctuate during summer

and winter, and in summer the supply is insufficient. In winter he stated that they had too much water.

There are often conflicts over water during the summer and fall seasons. The water table has dropped in the last 10 years, and there are many wells in the area at 50–60m, but after a few years they are dry. For depths of 40–50m they are using hand pumps, and for deeper wells generators are used. The main water resources for their community are springs and rivers, which do not provide safe drinking water. This results in health problems such as diarrhea, fever, and skin diseases. There are no wetlands. The most sensitive plants to saline water are melon, watermelon, and various vegetables.

Biological Impacts: there are many types of wild animals and birds in the remote areas of Khulm District. Wild animals include deer, dog, fox, horse, jackal, leopard, mule, nanny (wild goat), rabbit, ram, wolf, and snake. Wild birds include cuckoo (fakhta), hoopoe (hototak), pigeon, quail (Budana), owl, nightingale (Bulbul), hawk (Baz), goose (Qaaz), falcon, crow, crane (kolang), and canary. Twenty years ago the number of these animals and birds was very high, but year by year, because of drought, increased population, poor government structure, and more than 20 years of war, the number of these animals and birds has decreased. Some varieties have disappeared altogether.

Agriculture: Below is a list of fruit produced by the community. This is used to generate income and to meet a portion of the community’s firewood needs.

Fruit	Yield/jerib	Remarks
Pomegranate	500 seer	access to enough irrigation water
Almond	60 seer	access to enough irrigation water
Apricot	800 seer	access to enough irrigation water
Grape	800 seer	access to enough irrigation water
Fig	700 seer	access to enough irrigation water

Below is a list of crops produced by the community:

Crop	Yield/jerib
Wheat	100 seer
Barley	100 seer
Sesame	30 seer
Cotton	100 seer

The main water resource is spring and river, which produce very little water. The number of animals kept in Khulm villages are approximately: sheep (200,000), cows (50,000), donkeys (50,000), horses (50,000), and camels (40,000).

Dairy production in the community is divided in two parts: the first part is used for family consumption, and the second part is sold. There is no area where land becomes saline due to over watering because they do not have access to enough water—they have a shortage of

water and land is uncultivated because of this shortage. Pastures belonging to the community have already been distributed by community leaders with government agreement and are located in Naib abad, Oljato, Khushtoot, and Khai abad.

Social-economic Impacts: There are no land ownership issues among the people. People are solving their land issues according to inheritance law within the community. There are, however, important land issues between the people and government, specifically regarding 42,000 Jiribs and 56,000 Jiribs. Also, the area and pastures of each district have already distributed by the government. There was a mine accident this year—one mine exploded. We have already mentioned existing mines, but mine cleaners do not pay attention and there are areas that we believe have mines, such as Teka zar, Gulzar, Taghara Basar, Kaza, Narko, and Chahe Qazi.

He said that the most significant needs of his community are: (1) water for both drinking and irrigation; (2) health and veterinary clinics; (3) road construction; and (4) electricity. The community is using wood and bushes as fuel for cooking, and diesel and gas for lighting. People have been cutting pistachio trees for firewood.

Education of girls: According to Mr. Ghyasudin, “We agree on girls attending schools; according to Islamic laws and regulation—there is no prevention of education of girls. We have three schools in Deh Marda. Two out of three are government schools, and one of them is a Madrasa [religious school], which does not belong to the government.”

Chemical Inputs: The communities are using pesticides for gardens, melon, and grapes. Government and other NGOs advise them not to use pesticides. Mr. M. Dawod said, “We have been using both fertilizer and manure. Both are expensive: the price of one truck of manure is 3000 Afs (delivered to the land), which is enough for one Jerib.”

The following list includes some of the significant fruit diseases in the area:

- Grape anthracnose
- Grape powdery mildew
- Crown spot
- Downy mildew
- Leave roll
- Aphids
- Cut worms
- Weevil (different species)
- Locust
- Sunn pest

Mr. M. Dawod also said, “All of the soil in the Khulm District is productive; it is very popular in Afghanistan. The black color of the soil is the productive portion, and the very yellow-colored soil is the poorest one. There is not a serious problem of erosion when the floods come from the Tashqughan River, which starts in Samangan. The flood stops in Khulm areas when it happens during spring time.”

Key informant interview

Date: Jan. 20, 2008

Village: Mahasti high school meeting room

Participants: Sadat, Fahima, Muzda, Aliya, Sangimah, Suraya, Zahra, Malalay, Dawar, Wahida, Zahra, Safia, Wahida, Zarin, Nafisa, Monisa, Sadiqia, Fazela, Kamela, Pari, Yasamin,

Zarin, Nafas gul, Gulshan, Najiba, Rokhshana, Faozia, Raihana, Habibia, Parigul, Shafiqa, Koko Jan, Sohiala, Sharafat, Homaira and Nadia (Mahasti high school); Anisa, Moqadas, and Amena (Nahid Shahid school); Torpikai, Laila, Breshna, Zoya, Mah Gul, Afghan Gul, Moqadas, Dawar, Shafiqa (Amin Hosain school); Latifa (Khanaqa Abulkhair school); Kamela (Sardar Khan school); and Fahima and Norya (Woljato school).

Main points raised:

The community meeting with local women yielded much of the same information presented in the preceding Key Informant Interview summary. There were, however, a number of unique/different perspectives, which are recounted below.

Agriculture: Below is a list of fruit produced by the community. This is used to generate income, and to meet a portion of the community’s firewood needs.

Fruit	Yield/jerib	Remarks
Pomegranate	300seer	access to enough irrigation water
Almond	40see	access to enough irrigation water
Apricot	1000seer	access to enough irrigation water
Grape	800seer	access to enough irrigation water
Fig	800 seer	access to enough irrigation water

Below is a list of crops produced by the community:

Crop	Yield/jerib
Wheat	500 seer
Barley	300 seer
Seasome	100 seer
Cotton	120 seer

Pastures belonging to the community have already been distributed by community leaders with government agreement and are located in Naib Abad, Oljato, Khushtoot, Khai Abad, Deh Naw, and Marsurakh.

Education of girls: Mrs. Rokhshana, a female teacher, explained “We agree on girls attending schools, but according to Islamic laws and regulation. From my point of view, 20 percent of parents do not agree on girls attending school.”

Chemical Inputs: The use of chemicals is good and is controlling pests. Government and other NGOs are advising us to not use pesticides and fertilizer and use manure instead. Mrs. Fahima said: “We have been using both fertilizer and manure.”

Ideas about Mazar Foods Project: Women participating in the community meeting provided the following opinions.

- Water for the project must be provided by the Amu Darya or other water sources.
- Provide work opportunities for women of Khulm.

- Establish a project office to buy dairy products from Khulm communities.
- Human resource must be drawn from Khulm population.
- New and productive varieties should be introduced to the area both for the project and local people.
- Establish cold storage in the area to store other farmers' products.
- Establish a plant diseases clinic and plant diseases medicine.

Women's participation in family income and education: Women are contributing to the family income. There are a number of skills, such as carpet weaving, tailoring, Mohradozi, Qurs dozi, handicrafts, dairy production, and hen keeping which generate income within the community, particularly for women. Women possessing these skills and abilities also use their sons, brothers, husbands, or fathers to sell their dairy, carpets, or hand-sewn products. Ninety percent of this income is used by the family for various expenses. The remaining 10 percent is used for the woman's personal costs, like shoes, cloth, sandals, etc. The market for these types of products is limited, and women are working according to market demand. Still, there are many women that want to produce more. The community agrees on girls attending school; they are now aware of the importance of education and there is a high percentage of girls attending school. However, 20 percent of the community does not agree with girls attending school. There are a number of reasons preventing girls from attending school, including poor economic situation of the families, limited education facilities, illiteracy, and tradition.