



**US AGENCY FOR INTERNATIONAL DEVELOPMENT
BUREAU FOR ASIA
AFGHANISTAN**

**REQUEST FOR APPROVAL OF
SCOPING STATEMENT FOR ENVIRONMENTAL ASSESSMENT,
KESHIM-FAIZABAD ROAD CONSTRUCTION PROJECT**

PROGRAM/ACTIVITY DATA:

Country Code-SO: 306-05
SO Name: Infrastructure Reconstruction Program (IRP)
Country or Region: Afghanistan/ANE
Activity Name: Keshim-Faizabad Road Construction Project
Scoping Statement for an Environmental Assessment

Funding Begin: FY 2007 **Funding End:** FY 2009 **LOP Amount:** \$118 Million

Request Prepared by: James Gilmore, Project Manager – OIEE; Environmental
Date: 4 August 2008

ENVIRONMENTAL ISSUE: Scoping statement for Environmental Assessment

SUMMARY FINDINGS

The Keshim to Faizabad Road will be an “all weather” Asphalt Concrete road in accordance with AASHTO and the Afghanistan Ministry of Public Works standards. The road will be approximately 104 Km in length and for most of its length the roadway will be two lanes with a carriageway width of seven meters and shoulders between 2.5 meters (in flat areas) and 1 meter (in mountainous areas). For a length of about 0.6 kilometers in Keshim and 3 kilometers in Faizabad the roadway will be 4 lanes (duel carriageway) with two seven meter roadways, a center concrete curb medium (0.6 – 4.0 meters in width) and concert drainage channels and sidewalks.

ENVIRONMENTAL RECOMMENDATIONS

USAID/Afghanistan recommends approval of the of the Scoping Statement for the Keshim-Frazabad Road Construction Project, prepared by the Louis Berger Group, Inc., Black & Veatch Special Projects Corp., Joint Venture, as it meets the requirements of 22 CFR 216.3(4).

APPROVAL OF RECOMMENDED ENVIRONMENTAL ACTIONS

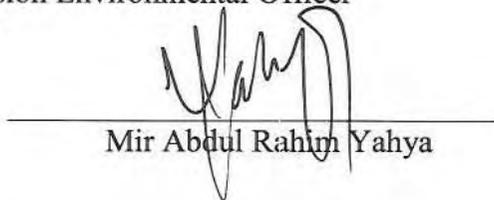
CLEARANCES:

Task Manager
Concurrence:


Herbert Feldt


Date

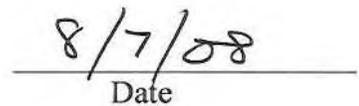
Alternate Mission Environmental Officer
Concurrence:


Mir Abdul Rahim Yahya


Date

Deputy Mission Director
Approval:


Jatinder Cheema


Date

APPROVAL :

Bureau Environmental Officer

Approval:

John O. Wilson

Date



USAID
FROM THE AMERICAN PEOPLE

Keshim - Faizabad Road Rehabilitation

Badakhshan Province, Afghanistan

Project Environmental Assessment Scoping Statement

As part of the Infrastructure Rehabilitation Program (IRP)
August 2007



The LOUIS BERGER Group, Inc.,
BLACK & VEATCH SPECIAL PROJECTS
CORP. JOINT VENTURE

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1.0 INTRODUCTION

In August 2006, the Louis Berger Group (LBG), in joint venture with Black and Veatch, was awarded the contract for the Afghanistan Infrastructure Rehabilitation Program (IRP) by USAID. IRP, as its name suggests will focus on the construction and rehabilitation of infrastructure projects throughout the country. Broadly speaking, the program is divided into two components, transport infrastructure and energy and power. LBG intends to focus on the transport portion of the program with Black and Veatch focusing on the energy and power segment of IRP. LBGs main activities within its portion of the program will focus upon rehabilitation of roadways, one of which is the Keshim – Faizabad Road.

The Government of Afghanistan (GoA) and USAID jointly considered the Keshim – Faizabad Road Project to be one of the top ten priorities out of fifteen candidate roads in Afghanistan. As such they have recognized that in order to enhance and strengthen growth and economic development in this region it is essential to construct a safe, easily trafficable, all-weather, low maintenance road between two major towns in the Badakhshan Province, Keshim and Faizabad.

The new road to be constructed will generally follow the existing unpaved roadway from Keshim to Faizabad along the Keshim and Kokcha rivers. From the Keshim end of the project it starts at the Keshim River Bridge and follows the right bank of the Keshim River for about 15.5 kilometers. Where the Keshim River flows into the Kokcha River, the roadway veers to the right and the remaining length of the roadway traverses the south bank of the Kokcha River all the way to Faizabad. There are five existing bridges along the road, all of which are in poor condition. The existing road is trafficked by about 250 vehicles per day of which approximately 85% are delivery trucks servicing the province and the balance being primarily 4WD commercial passenger vans.

Projects identified for funding by USAID are subject to the Environmental Procedures, Title 22 of the U.S. Code of Federal Regulations, Part 216 (22 CFR 216). IRP is part of USAID's Strategic Objective 5 (SO-5) which falls under the remit of a USAID IEE Threshold Decision prepared in 2005. The IEE concluded that all new large infrastructure projects, such as the Keshim – Faizabad Road, require an Environmental Assessment (EA).

The initial component of the EA process is preparation of a Scoping Study. The objective of this Scoping Statement is to summarize the results of a scoping process that has been conducted to identify significant environmental issues related specifically to the rehabilitation of the Keshim – Faizabad Road.

1.1 Scoping Objectives

As required by 22 CFR 216.3(a)(4), the objectives of this Scoping Statement are the following:

- A determination of the scope and significance of issues to be analyzed in the Environmental Assessment or Impact Statement, including direct and indirect effects of the project on the environment.
- 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, narrowing the discussion of these issues to a brief presentation of why they will not have a significant effect on the environment.
- A description of:
 - the timing of the preparation of environmental analyses, including phasing if appropriate
 - variations required in the format of the Environmental Assessment
 - the tentative planning and decision-making schedule

- A description of how the analysis will be conducted and the disciplines that will participate in the analysis.

These written statements shall be reviewed and approved by the Bureau Environmental Officer.

1.2 Environmental Setting

The GoA, in consultation with Donors, the UN and International NGO agencies has identified the need to provide improved access to regions of Afghanistan in order to facilitate economic growth, human and economic development and stability operations. By strengthening transportation connectivity to regional (often remote) areas, goods such as medical supplies, foodstuffs, and building materials can be moved from major hubs such as Kabul and neighboring countries such as Pakistan and China more quickly, more frequently, and in greater numbers. In addition, the same benefits will be derived for the export of regional goods such as fruits, vegetables, and natural resources. Badakhshan Province, and the city of Faizabad, is one such region. The Project Road covers 102.596km from the bridge crossing the Keshim River to the traffic bridge crossing the Kokcha River in Faizabad. **Exhibit 1-1** illustrates the location of the Project within the context of Afghanistan, **Exhibit 1-2** indicates the Projects location within the Province of Badakhshan.



Exhibit 1-1. Keshim - Faizabad Road, Afghanistan

Faizabad is located in remote, isolated area at the foot of the Hindu Kush Mountains on the Kokcha River in North Eastern Afghanistan. It is the chief commercial and administrative township of the Province in the Pamir (North East) Region. Geographically, Faizabad City lies approximately 310km NNE of the Afghan capital, Kabul. The Faizabad area is mostly agricultural in its commercial orientation, featuring rice and wheat mills. These commodities would most likely serve as the main commercial product.

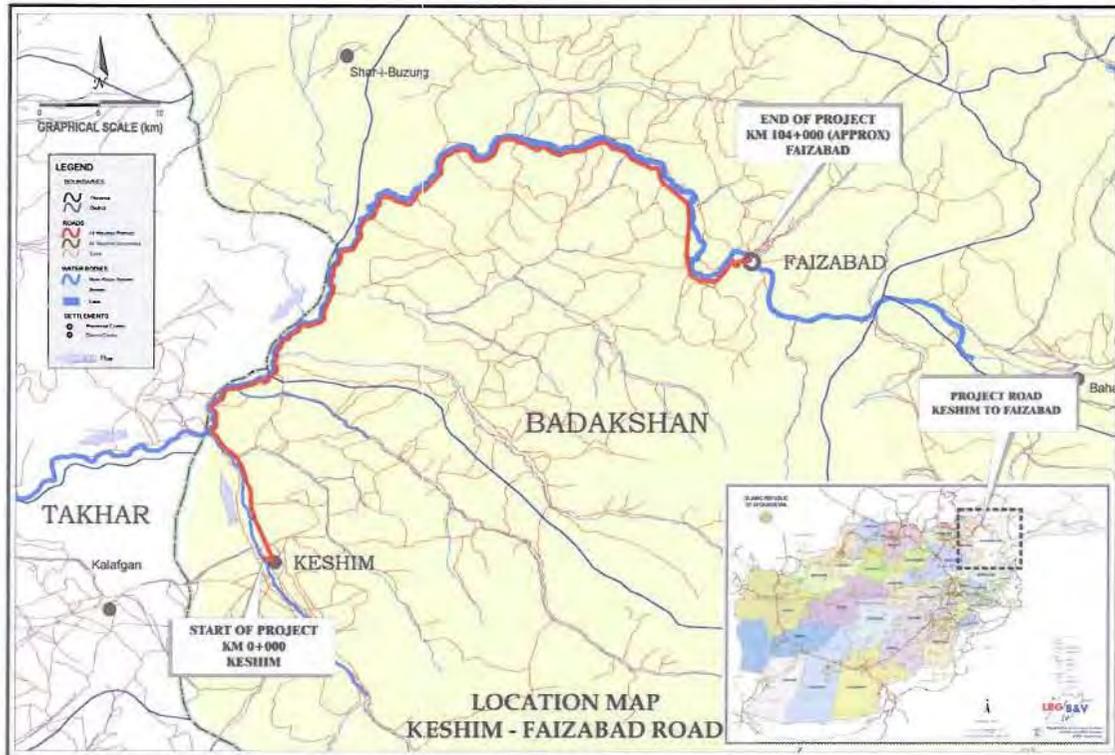


Exhibit 1-2. Keshim – Faizabad Road

In 1992 the population of Faizabad City was estimated at 9098. In 2003 – 2004 this figure was increased to 14,100. The change equates approximately city growth increase of 5% per annum. In 2003-2004, the total population of Faizabad (rural and urban) was estimated at 46,200. Keshim City is considered to be the next most populous centre in the Badakhshan Province. Keshim City lies approximately 296 km NNE of Kabul and 53 km SW of Faizabad City. The main produce of Keshim District is rice, wheat and sunflowers. Keshim City population is unknown, but in 2003-2004 the rural population was estimated at 63,900 and is now estimated at 85,000. This change indicates an annual growth rate of 11% per annum for the Keshim District.

In 2003 -2004 the population of Badakhshan Province was estimated at 725,700. Based on an average 7.5% annual growth rate for the Province, the population in 2006 is estimated at 890,000. It is expected that the Badakhshan Province will continue to experience continued growth consistent or even more rapid than historical data show. This statement carries further growth weight when recognizing the greater stability that Afghanistan now faces with a recently elected Government and an increase in aid and financial support from Donor countries and UN agencies.

The main link between Faizabad and Keshim is the Project Road following the Kokcha River Valley from Faizabad, through the Sabz-e-Bahar Village (approximately 52 kms from Faizabad) to the junction with the Keshim River (approximately 92 kms from Faizabad) then South to Keshim City.

1.3 Project Description

The Keshim to Faizabad Road will be an "all weather" Asphalt Concrete (A/C) road in accordance with AASHTO and the Afghanistan Ministry of Public Works (MPW) standards. For most of its length the roadway will be two lanes with a carriageway width of seven meters and shoulders between 2.5 meters (in flat areas) and 1 meter (in mountainous areas). For a length of about 0.6 kilometers in Keshim and 3 kilometers in Faizabad the roadway will be 4 lanes (dual carriageway) with two seven meter roadways, a center concrete curb medium (0.6 – 4.0 meters in width) and concert drainage channels and sidewalks.

The A/C road structure will include an A/C wearing surface with polymer modified bitumen (PMB), an A/C Binder Course and a Crushed Aggregate Base. At present design thicknesses of 50 mm for the A/C Wearing and 75mm Binder Courses and a 175 mm for the Crushed Aggregate Base are being considered. The pavement shoulders will be 1m A/C and 2.5m Double Bituminous Surface Treatment (DBST).

The bitumen to be used in the asphalt pavement will be penetration grade (PG) 60/70. For the wearing course, the bitumen will be modified with SBS (Styrene Butadiene Styrene) to achieve an equivalent PG of 76/-20. The addition and mixing of the SBS polymer with bitumen will be on site with equipment specially manufactured for this purpose.

Bridges and Culverts - A total of 7 new bridges will be constructed, including 1 multi-span, and 6 single-span structures. Bridge superstructures will be steel, with steel I girders and reinforced concrete deck slabs. Bridge substructure will generally be reinforced concrete footings and piers. A total of 490 drainage structures will be required, of which 162 will be concrete pipe culverts. The remaining 228 structures will be reinforced box culverts.

Earthworks - Approximate earthwork quantities:

- Roadway excavation – 1.6 million cubic meters
- Rock excavation – 2 million cubic meters
- Embankment – 1 million cubic meters

In many areas rock excavation will consist of rock fracturing and constructing stable final rock cut faces using presplitting and controlled blasting techniques.

Line Marking and Road Furniture - The finished roadway will be furnished with painted centerline and edge markings. Directional, warning and information roadway signs shall be provided, as well as stone masonry safety barriers and guard rails.

Slope Protection Measures - At various locations along the roadway, slope protection and stabilization structures shall be constructed to control rock falls and slope erosion. These will include:

- Rock fall collection trenches with and without retaining walls;
- Rock bolts;
- Slope draping, using wire fencing mesh secured to rock slopes with rock bolts and
- Stone masonry retaining walls.

Demolition of Existing Structures - Along the roadway route the demolition of various structures, including existing buildings and walls, will be required.

2.0 DETERMINATION OF SCOPE AND SIGNIFICANT ISSUES

To determine the scope and significance of issues to be assessed in the Environmental Assessment (EA), including both direct and indirect effects, LBG has used their experience of similar projects in Afghanistan and also undertaken a program of consultation in the affected area (villagers, farmers, shopkeepers, road users etc) and with other relevant stakeholders to include:

- The Deputy Governor of Keshim
- The Deputy Governor of Faizabad
- United Nations Environment Program (UNEP)
- Ministry of Public Works (MPW)
- Ministry of Transport and Civil Aviation (MoTCA).
- Ministry of Youth and Culture (MYC)
- Ministry of Rural Rehabilitation and Development (MRRD)
- National Environmental Protection Agency (NEPA)
- Kabul University
- Norwegian Afghanistan Committee (NAC)
- Save the Environment Afghanistan (SEA)

LBG undertook a site visit to the Keshim – Faizabad Road in 2006 and July 2007 and made detailed observations of the site with their environmental specialist and soils / geology specialist. This site assessment coupled with the stakeholder consultation program allows for the appropriate level of scoping being undertaken herewith.

2.1 Stakeholder Consultation Findings

The first parties contacted were the District Governors of Faizabad and Kishem. The deputy Governor of Faizabad, Mr Esa Atayee, stated that he had been living in Faizabad for the past six years and during that time he had seen little real change in to the town and little development. He said that the town was still short of medical staff and that the regional population was suffering as a result. He commented that the road project would have significant benefits not only for Faizabad, but also for the surrounding communities who use many of the facilities within Faizabad itself. He felt that the main benefits of the Project would be threefold, firstly the route would become safer, secondly goods will arrive at the market in a good condition, and thirdly it would promote tourism in the region. He also added that there is an Afghan saying that 'where there is a route there is a culture'. He could not think of any potentially negative aspect that may be associated with the Project.

The Deputy Governor of Keshim, Mr Hedayatullah Kawoosh, had worked in a government capacity for the past 35 years. He believed that the Project was very important for Badakhshan, it would reduce travel times to the Provincial capital of Faizabad and increase regional and potentially international trade with China and Tajikistan. He stated that the most important factor for Keshim was connectivity, six years ago driving to Faizabad would take 6 days, when the road is complete it will take only 2 – 3 hours. He also commented that the region would also benefit from other projects, particularly hydropower projects. One hydropower project had been promised by USAID previously but had been cancelled. He felt that this had affected the trust of the local people and he hoped that the Project road would not suffer such a fate. When asked what environmental consequences may arise as a result of project works he could not think of any negative impacts, only positive impacts.

LBG also met with the Director of Faizabad Hospital, Dr. Humayoon Frotan. He mentioned that although several new health clinics had been built, in the region they were still short of qualified medical staff to work

in the clinics and drugs to administer to patients. He stated that the lack of medical facilities in the remoter areas of the region meant that many people had to travel long, time consuming distances along the Project road in order to reach the hospital in Faizabad. A consequence of this long and arduous journey, particularly to pregnant mothers and unborn children, is death. Mr Frotan believed that rehabilitation of the road would reduce the numbers of pregnancy related deaths although he also feared that improved access to the hospital may place additional burden on the already under funded and understaffed hospital. He mentioned that the hospital did have ambulances, but due to the condition of the road they were often breaking down. Finally he commented that as many as 10 deaths per month were attributable to the poor condition of the road.



Consultation in Upper Baloch



Consultation with Farmers in Faizabad

On the outskirts of Faizabad the population appeared to be eagerly awaiting the projects commencement. Shopkeeper Gul Murad in the village of By Malasi commented that there would be positive impacts for everyone. He was looking forward to more road users bringing more business to his roadside stall. He also hoped that improvements to the road would reduce the impact of dust on his stall and his health. He also commented that the road was closed for between ten and twenty days a year due to flooding, landslides and snow.

A group of farmers in the village of Bik Nazar stated that times were good for them at the moment, their income levels have increased threefold in the past ten years, the region was stable and they were cultivating around a Jerib of land each growing a variety of crops including potatoes, onions and other vegetables. They all felt that improvements to the road would continue to improve their livelihoods and that increased access to other parts of the region would be good for business. They felt that construction impacts would have little impact to their lives, but the improvements to the road would bring huge benefits to their lives.

Consultation with a group of around fifteen villagers in a small village (KM86) included several mechanics, shopkeepers and farmers. The group had lived in this region all of their lives. Reportedly, the area was formerly heavily cultivated with poppies being the main crop, however, a US funded project had significantly reduced poppy cultivation in the area. In general the villagers felt that business was not so good due to the drop in income levels associated with the loss of poppy income, however they were happy with the prospect of a new road being built. None of the group visited Faizabad other than to go to the hospital, the nearby clinic had no trained staff and no drugs. A tractor parked next to the group had been driven all the way to the village from Kunduz as there is a lack of maintenance facilities in Faizabad. They all complained about the current levels of dust which many believed was making them ill. Additionally they stated that the teachers in the village school all came from Faizabad and that the local community was paying the transport fares for the teachers which totaled around one hundred thousand Afghans annually. Although not a solution to the problem, all felt that improvements to the road would reduce these annual fares.

In Faizabad town centre Abdul Bashir, a shopkeeper, talked of the benefits to his business construction of the road would provide. He mentioned that most of his fruit and vegetables came from Kabul and Kunduz region and that improvement to the road would reduce the cost of these products and improve the quality of the final products reaching him. He mentioned that only 5-10% of his goods actually came from the Faizabad region. His shop used to front directly onto the road, but on hearing of the road improvement program he has moved his shop back out of the right of way. He was happy to move away from the road as less of his products are now spoiled by road dust. He could not think of any negative impacts that road construction or operation may bring.

Ghulam, a minibus driver from Faizabad commented that there would be multiple benefits resulting from the roads reconstruction. He mentioned that the price of petrol had been steady at around thirty afghanis for the past year, however he anticipates that the price of petrol will fall when the road condition improves and journey times are reduced. The majority of Ghulams journeys take him between the center of Faizabad and the surrounding villages, although he may travel to Keshim once or twice a month. Most of his passengers were traveling to the hospital in Faizabad or to the market to buy or sell goods. He said that his vehicle was often breaking down due to the poor condition of the road, the most common damage being to suspension and shock absorbers.

Closer to Keshim in the village of Upper Baloch a group of around twenty farmers and villagers gave their opinions of the project. Most used the road every day making journeys to the market in Keshim. Currently agricultural output in the area is suffering due to a drought and poorly maintained irrigation systems and water pumps. Most of the villagers commented that in a medical emergency they would travel to Taloqan rather than Faizabad due to the poor condition of the road to Faizabad. They stated that a five hour bus journey to Faizabad would cost around five hundred Afghanis. In fact, many stated that due to the poor condition of the road they hardly ever traveled to Faizabad, one twenty five year old male farmer stated that he had only been to Faizabad twice in his life. In general the villagers were happy to see the road reconstructed. They believed that the road would become free of dust and mud which currently blight the road depending on the seasons. They also witnessed many accidents on the road and as such wanted to see better traffic control on the road to prevent such accidents. Finally the villagers commented that the positive impacts that the road will bring far outweighs any negative impacts.

In addition to the people living and working within the vicinity of the Project Road consultation was undertaken with other various stakeholders. The following summarizes their comments on the Project.

United Nations Environment Program (UNEP) – Abdul Qadeer Karyab, Environmental Law Program Officer was contacted for his opinion of the Project. The main topic of discussion was the issue of resettlement and compensation for those parties affected by the Project. He was not sure of the exact resettlement guidelines for Afghanistan and as such is currently researching this issue so that it may be applied at the EA stage of the Project.

Ministry of Public Works (MPW) – A meeting with Dr W.M Rasooli, Technical Deputy Minister was held to discuss the potential impacts of the Project. Dr Rasooli could only find positive comments about the project and could not think of any negative issues associated with Project activities. He did comment that the MPW was currently lacking in environmental capacity and it would be useful for an organization such as USAID to provide an environmental capacity building program for the ministry.

Ministry of Transport and Civil Aviation (MoTCA) – Ghulam Ali Rasikh, Deputy Minister of the MoTCA was extremely enthusiastic about the proposed Project. He had no negative opinions of the Project.

Ministry of Youth and Culture (MYC) – Omar S. Sultan, Deputy Minister for the MYC was contacted for his thoughts on the potential impacts of the project on cultural and historical artifacts and resources. Mr Sultan stated that it would be beneficial for two members of the MYC to be on site permanently in case of an unanticipated discovery of such artifacts. When asked if LBG could have a list of the known historical and cultural resources in the Project area Mr Sultan responded that this would not be available due to the potential for using the list for looting purposes!

Ministry of Rural Rehabilitation and Development (MRRD) - Mohammad Naser Temory, Monitoring and Evaluation Team Leader for the MRRD was contacted for the MRRDs opinion of the Project. His main concerns were as follows:

- To be careful about the selection of the location and span of the drainage structures such as (bridges, culverts, washes, retaining walls and etc...)
- To be careful about the destructions which may occur to the lands, gardens and fields of the communities living next to road.
- There are some risk points or areas along the road alignment, where the people will lose there property (land, gardens, houses and etc...) due to the change in the road alignment. This need to be solved through transect walk along the road alignment with the community before starting the physical work.

National Environmental Protection Agency (NEPA) – Executive Deputy General Director, Dad Mohammad Baheer was contacted for his thoughts of the Project. He thought the project would be extremely beneficial to the people of Badakhshan. His only concern was that the project considered all potential environmental impacts and as such he provided LBG with a checklist of environmental issues to take into account during project works.

In addition, Clayton Miller - seconded from the USEPA into NEPA - stated that NEPA was short of the capacity to manage EIA projects and as such they needed practical field experience to build their capacity.

Kabul University – Professor Kohestani from Kabul University Agriculture Faculty was contacted for his views on the project. Unfortunately the Professor required payment for his comments and as such no further consultation was undertaken with the Professor.

Norwegian Afghanistan Committee (NAC) – This NGO has been working in Afghanistan for more than 15 years. Part of their program involves reforestation projects in Badakhshan. In particular they have a tree nursery in Keshim which is the focal point of the town. The lush green riverside plantation comprises thousands of saplings and trees which are distributed to the local population for planting throughout the town and the outlying villages. Most of the trees are fruit bearing although some are grown for use in construction of houses and shops. Mr Sayeed Mosadiq was the NAC representative in Keshim, he commented that the forestry projects planted adjacent to the road from KM2 – KM15 would have to be cut down due to their proximity to the road. However, he stated that these trees could easily be replaced by new trees from the Keshim plantation.

Save the Environment Afghanistan (SEA) – LBG contacted this Kabul based environmental NGO for their comments on the project. Unfortunately no reply was received.

Through the scoping process LBG believes it has identified all critical issues that may need to be addressed in an EA. The assessment process itself will also provide another occasion to identify possible impacts which would then be addressed in the EA. Additional meetings are expected to be held with local officials and between the construction contractor and the local stakeholders which will also provide opportunity to elicit any specific concerns.

3.0 SIGNIFICANT ISSUES TO BE ADDRESSED IN THE EA

The following section outlines the existing socio-environmental conditions in the vicinity of the Project Road and identifies the potential significant issues to be addressed in the EA. The environmental criteria have been laid out following USAID guidelines:

- Physical Resources, including;
 - Topography
 - Soils
 - Seismic and Geological Characteristics
 - Hydrology
 - Air Quality and Climate
- Natural Biological Resources, including;
 - Flora
 - Fauna
 - Protected Areas
- Other Environmental Concerns Noted by 22 CFR 216, including;
 - Land Use and Development Policies & Controls
 - Use of Natural/Depletable Resources
 - Urban Quality/Design of the Built Environment
 - Historic and Cultural Resources
- Additional Environmental Concerns Noted for Consideration, including;
 - Socio-economic characteristics
 - Public Health
 - Safety
 - Noise
 - Other Infrastructure Systems

Physical Resources – Topography			
<i>Existing Conditions - The terrain in this area of Badakhshan is Alpine, heavily dissected and difficult off-road even for pedestrians. The Project Road itself starts adjacent to the Keshim River in the town of Keshim. Keshim is located at approximately 975 meters above msl within a fertile agricultural valley. Approximately 15 km from Keshim the road rises up the valley side adjacent to the Keshim River until it merges with the Kokcha River. From this point soil quality deteriorates and the land becomes suitable for grazing only. The road continues to traverse rocky barren slopes and the valley floor of the Kokcha until approximately KM100 where the topography of the road flattens and the road bisects fertile agriculturally productive land and continues to the outskirts of Faizabad (1201 meters above msl).</i>			
Potential Impacts	Impacts Avoided or Otherwise Mitigated by Measures Incorporated in the Project		Aspects Requiring Further Analysis in the EA (other than verification of provisions in contract documents)
	Yes	Insufficient Data	
<i>1/ Cut and Fill Requirements. There is a possibility that these activities may occur in certain sections.</i>		✓	<i>Areas of cut and fill have yet to be determined. In addition the exact volume of cut and fill has yet to be decided.</i>
<i>2/ Borrow Pit Excavations.</i>	✓		<i>None</i>
<i>3/ Quarry Operations. Crushed rock will be needed for construction purposes.</i>		✓	<i>The locations of the quarry sites are to be determined. The siting of the quarries may have negative environmental impacts</i>
<i>4/ Erosion. Both wind and drainage-related could result due to both design and construction factors.</i>	✓		<i>None</i>

Physical Resources – Soils			
Existing Conditions - Soils in the Project Area are predominantly rubble and loam or rubble and sandy loam 0.5 – 3 meters thick. They are underlain by rock which crops out in precipices on mountainsides. The river valleys contain loamy and sandy loamy soils mixed with river gravels. Small pockets of fertile agricultural land are present within the river floodplain. These areas can be noted at various intervals along the project road. In many cases the Project Road bisects these areas and as such construction activities may interfere with the productive soils if they are not properly managed. Further up the valley slopes soils were loose and fragmented. Consultation with locals revealed that landslides are a regular occurrence within the valley. Given the relatively narrow width of the Project Road, landslides have the potential to cut the road off from passing traffic for extended periods. Worse still, landslides could, and have, caused fatal accidents especially on the high valley slopes.			
Potential Impacts	Impacts Avoided or Otherwise Mitigated by Measures Incorporated in the Project		Aspects Requiring Further Analysis in the EA (other than verification of provisions in contract documents)
	Yes	Insufficient Data	
1/ Loss of Soil for Agricultural Production.		✓	The area of land that may be lost due to construction works has yet to be determined.
2/ Borrow Pits.	✓		None
3/ Erosion.	✓		None
4/ Conversion of Agricultural Soils Due to Indirect/Induced Impacts.		✓	Impacts relating to the potential growth in the region resulting from improved access require further assessment.
5/ Contamination Due to Spills or Hazardous Materials.	✓		None

Physical Resources – Seismic and geological Characteristics			
Existing Conditions - The entire length of the Project Road is potentially prone to earthquakes up to 7.3 on the Richter scale. An example of the strength of Earthquakes in this region occurred during February of 1998 in Badakhshan and Rustaq where at least 2,323 people were killed, 818 were injured, 8,094 houses were destroyed and 6,725 livestock were killed. Landslides could result from seismic activity in the region. Seismic activity could also have significant affects on the 7 new bridges that will be constructed (including 1 multi-span, and 6 single-span structures).			
Potential Impacts	Impacts Avoided or Otherwise Mitigated by Measures Incorporated in the Project		Aspects Requiring Further Analysis in the EA (other than verification of provisions in contract documents)
	Yes	Insufficient Data	
1/ Potential adverse consequences of seismic events in the construction and operational phases could be exacerbated or lessened as a result of the rehabilitation of bridges and other structures.		✓	The seismic conditions of the project area should be further analyzed.
2/ Geological resources could be affected due to Project-induced demand for resources such as rock, sand and building materials.		✓	The location and quantity of required geological resources is currently unknown and requires further analysis in the EA.

Physical Resources – Hydrology			
<p>Existing Conditions - The Project Road follows the right bank of the Kokcha River for its entire length. In addition to the Kokcha, the ROW is crossed by a significant number of unnamed watercourses, many of which have washed out portions of the road and culverts intended to accommodate the flow. As such, a total of 7 new bridges, 228 new reinforced concrete box culverts of various sizes and 162 new concrete pipe culverts will be constructed. In many locations existing pipe culverts will be removed and replaced with new structures.</p> <p>The groundwater quality in the Kokcha watershed is unknown. However, given the lack of industrial activity within the region and the relatively sparse population living on its banks it is assumed that the water quality is good. Notwithstanding the above, it is noticeable that in the larger urban clusters such as Keshim and Faizabad a significant quantity of domestic waste is disposed of directly into the river, thus localized high pollution levels are probably evident in the river close to these towns</p>			
Potential Impacts	Impacts Avoided or Otherwise Mitigated by Measures Incorporated in the Project		Aspects Requiring Further Analysis in the EA (other than verification of provisions in contract documents)
	Yes	Insufficient Data	
1/ Surface Hydrological Characteristics.		✓	The impacts of project activities to the Kokcha river are uncertain. Hydrological data will need to be examined to assess potential impacts.
2/ Area Wetland Characteristics.	✓		None
3/ Subsurface Hydrology.	✓		None
4/ Flood and Inundation Characteristics.		✓	Seasonal flood characteristics are currently not known. Further analysis of this aspect is required at the EA phase.
5/ Riverbed Sediments.		✓	The impacts of disposal of cut material into the Kokcha River

Physical Resources – Air Quality and Climate			
<p>Existing Conditions - The climate in the project area is arid to semi-arid with cold winters and hot summers. The annual precipitation is between 500 and 600 mm. Snowfalls can occur from October to April. Winds are predominantly northeasterly and easterly and average speeds of 0.5 – 1.5 meters per second. During the winter months snow and ice can make the road particularly treacherous. No data exists regarding road traffic accidents within the Project corridor, however, it is assumed that many deaths are caused during the winter months as a direct consequence of poor road and weather conditions.</p> <p>Climatic and soil conditions of the Project Area are such, that it is likely to be subject to dust storms in the summer months, leading to higher levels of SPM. SPM levels are also exceptionally high in the vicinity of missing bridges culverts and areas in which the road has collapsed due to the fact that traffic currently circumvents these problems by driving on unpaved tracks.</p>			
Potential Impacts	Impacts Avoided or Otherwise Mitigated by Measures Incorporated in the Project		Aspects Requiring Further Analysis in the EA (other than verification of provisions in contract documents)
	Yes	Insufficient Data	
1/ Construction related air emissions	✓		None
2/ Operation related air emissions.		✓	The type and number of vehicles using the road has yet to be established. As such any air related

			operational impacts are unknown.
3/ Climate Change			None

Natural / Biological Resources – Flora

Existing Conditions - Within the Project Area trees line either side of the Project Road near the outskirts of both Keshim and Faizabad. Most of the trees appeared to be fairly immature with trunks no more than 10-15 centimeters in diameter. Some sparse groupings of trees could be observed on the valley slopes at approximately KM60-80 however, they are unlikely to be affected by project works due to their precarious positioning on the steep valley slopes (in general, trees that remain in this region have been spared by their remote or inaccessible locations). Fruit trees were dominant in the agricultural areas, apricot, mulberry and apple being the main species grown. Agricultural crops included wheat and a variety of vegetables.

Potential Impacts	Impacts Avoided or Otherwise Mitigated by Measures Incorporated in the Project		Aspects Requiring Further Analysis in the EA (other than verification of provisions in contract documents)
	Yes	Insufficient Data	
1/ Construction related damage to flora			None
2/ Damage to sensitive species			None
3/ Impacts to agricultural crops			None

Natural / Biological Resources - Fauna

Existing Conditions - Consultation with local residents revealed that the most prominent animal species in the Project Area were fox, wolf, and rabbit. The factors that make the Project Road ROW and the adjacent areas an unlikely venue for threatened and endangered plant species also make it an unlikely for special status wildlife species. Field investigations revealed no evidence of existing conditions suggesting possibilities of habitat loss; habitat fragmentation, interruption of wildlife migration patterns or significant patterns of accidents involving wildlife within the vicinity of the Project Road.

Potential Impacts	Impacts Avoided or Otherwise Mitigated by Measures Incorporated in the Project		Aspects Requiring Further Analysis in the EA (other than verification of provisions in contract documents)
	Yes	Insufficient Data	
1/ Habitat Loss.			None
2/ Habitat Fragmentation.			None
3/ Disruption of Wildlife Migration Patterns.			None
4/ Accidents Involving Wildlife.			None
5/ Accessibility.			None
6/ Ecological Disequilibrium.			None

Natural / Biological Resources – Protected Areas

Existing Conditions - Six protected areas have been identified in the country all located more than 200 km from the Project Road

Potential Impacts	Impacts Avoided or Otherwise Mitigated by Measures Incorporated in the Project		Aspects Requiring Further Analysis in the EA (other than verification of provisions in contract documents)
	Yes	Insufficient Data	
1/ Impacts to protected areas			None

Other Environmental Concerns Noted by 22 CFR 216 - Land Use and Development Policies & Controls			
<p>Existing Conditions - Land uses within the vicinity of the Project Area can be characterized as follows: <u>Rangeland.</u> The predominant land use within the Project Area is rangeland (more than 60%). Shepherds can be observed with flocks of sheep across the countryside. Herding and grazing can be particularly dangerous in the mountain areas where de-mining activities have not yet been undertaken. <u>Agricultural Land.</u> Agricultural activities account for approximately 20% of the land use within the Project Area. Most of the agricultural land is rain fed and only small portions of agricultural land are irrigation fed. <u>Urban.</u> Two significant urban areas exist at either end of the Project Road, Keshim and Faizabad. Other small villages can be observed along the Project Road.</p>			
Potential Impacts	Impacts Avoided or Otherwise Mitigated by Measures Incorporated in the Project		Aspects Requiring Further Analysis in the EA (other than verification of provisions in contract documents)
	Yes	Insufficient Data	
1/ Resettlement and compensation		❌	The potential for resettlement and compensation has yet to be determined due to uncertainties regarding the design and alignment of the road.
2/ Creation of Construction Camps	✅		None
3/ Traffic disruptions and detours	✅		None

Other Environmental Concerns Noted by 22 CFR 216 -- Use of Natural/Depletable Resources			
<p>Existing Conditions - Construction of the Keshim - Faizabad Road will require the use of certain natural resources and will facilitate the transport of others for use elsewhere. Within Badakhshan semi-precious gem stones and industrial minerals are being inefficiently mined, including Lapis Lazuli a deep blue gemstone. However, no Lapis mines were observed within the Project Corridor.</p>			
Potential Impacts	Impacts Avoided or Otherwise Mitigated by Measures Incorporated in the Project		Aspects Requiring Further Analysis in the EA (other than verification of provisions in contract documents)
	Yes	Insufficient Data	
1/ Exploitation of natural / depletable resources	✅		None

Other Environmental Concerns Noted by 22 CFR 216 - Urban Quality/Design of the Built Environment		
<p>Existing Conditions - Available data and observed conditions within the urbanized areas traversed by the ROW can be summarized as follows:</p> <p><u>Keshim.</u> Keshim is a small town situated on the banks of the River Keshim. The town is relatively safe and it is easy enough to wander through the small markets stalls that line the main streets of Keshim. Many of the market stalls can be seen selling food and drink items imported from neighboring Tajikistan. Most of the properties in this section are set back more than 10 meters from the roadside and as such are unlikely to be affected by project activities.</p> <p><u>Faizabad.</u> Faizabad (pop. 150,000) is the capital of Badakhshan Province and is located at the end point of the Project Road. The city is suffering from years of neglect, roads are full of potholes, houses are crumbling and piles of rubbish litter the street corners. The busy main road through the town houses a multitude of businesses and small government and NGO offices. Most settlements and commercial activities appear to be setback sufficiently to avoid impact due to road improvement activities.</p> <p>Numerous small villages line the Project Road route from Keshim to Faizabad. Some of these villages comprise housing and businesses within the ROW and may need to be moved. Improvements to the Project Road are only likely to develop the urban centres of Kishem and Faizabad, the generation of economic activity in the region will act as a stimulus for the growth of these urban areas.</p>		
Potential Impacts	Impacts Avoided or Otherwise Mitigated by Measures Incorporated in the Project	Aspects Requiring Further Analysis in the EA (other than verification of provisions in contract documents)

	Mitigated by Measures Incorporated in the Project		Analysis in the EA (other than verification of provisions in contract documents)
	Yes	Insufficient Data	
1/ Impacts to urban environment			The potential for resettlement and compensation in the villages between Keshim and Faizabad has yet to be determined due to uncertainties regarding the design and alignment of the road.

Other Environmental Concerns Noted by 22 CFR 216 - Historic and Cultural Resources			
Existing Conditions - No significant historical or cultural resources were observed within the vicinity of the Project Road. A number of small graveyards are located close to the right of way, although not close enough to be disturbed by project works.			
Potential Impacts	Impacts Avoided or Otherwise Mitigated by Measures Incorporated in the Project		Aspects Requiring Further Analysis in the EA (other than verification of provisions in contract documents)
	Yes	Insufficient Data	
1/ Impacts to historical resources			None
2/ Impacts to cultural resources			None

Additional Environmental Concerns Noted for Consideration – Socio Economic Considerations			
Existing Conditions - Badakhshan is undoubtedly one of the most under-developed and remote provinces of the whole mountainous region of Central Asia. Home to an estimated 1 million people, the restricted access caused by such disparate and rugged geography have resulted in it being one of the last areas of Afghanistan to taste benefit from the various regimes which have ruled the country from the capital, Kabul over the last 100 years. During Taliban times Badakhshan was one of the few areas of the country that resisted the dominance of the Taliban forces, who were unable to penetrate this mountainous region, but as a result it remained surrounded and cut off from the rest of the country. Within the Urban areas of Keshim, Faizabad and other small villages, commercial activities predominate on the roadsides. Out of the urban areas a variety of activities can be observed mainly relating to agricultural practices.			
Potential Impacts	Impacts Avoided or Otherwise Mitigated by Measures Incorporated in the Project		Aspects Requiring Further Analysis in the EA (other than verification of provisions in contract documents)
	Yes	Insufficient data	
1/ Impacts to local economies			None
2/ Impacts to regional economies			None
3/ Impacts to the social fabric of the region			None

Additional Environmental Concerns Noted for Consideration – Public Health			
Existing Conditions - In Afghanistan, Badakhshan is unfortunate to have the highest level of production and addiction to opium as well as the highest level of incidence of natural disasters, with frequent occurrences of flooding, landslides and earthquakes. Badakhshan is also the province with the highest ever recorded maternal mortality rate (6,500 per 100,000 live births) and an extraordinarily high infant mortality rate (Under 5 Mortality Rate: 397 per 1,000). One of the main factors contributing to these chilling statistics is the lack of access for the majority of the population to basic health services due to the non-existence of health facilities in many areas, lack of qualified competent medical professionals (especially females) and lack of communications infrastructure which constrains referral systems. Within the Project corridor hardly any medical facilities could be observed apart from the main urban areas of Keshim and Faizabad.			
Potential Impacts	Impacts Avoided or Otherwise	Aspects	Requiring Further

	Mitigated by Measures Incorporated in the Project		Analysis in the EA (other than verification of provisions in contract documents)
	Yes	Insufficient Data	
1/ Access to health care facilities	<input checked="" type="checkbox"/>		None
2/ Contamination of water supplies during construction	<input checked="" type="checkbox"/>		None
3/ Air pollution	<input checked="" type="checkbox"/>		None
4/ Noise levels	<input checked="" type="checkbox"/>		None
5/ Disease transmission	<input checked="" type="checkbox"/>		None

Additional Environmental Concerns Noted for Consideration – Safety			
Existing Conditions - Safety issues related to civil unrest and crime are less of a concern in the Project Area than they are in the rest of the country. In terms of traffic safety, traffic volumes are light and current road conditions preclude excessive speeds. Non-motorized traffic (NMT) is encountered in some areas, most frequently in the agricultural areas, but is also relatively light at present. The most significant safety issue is the poor quality of the road and bridges combined with a lack of any safety barriers on any portion of the Project Road. There are many points on the road where the road twists and turns sharply round narrow hairpins perched high above the river. Anecdotal information indicates that accidents are frequent especially in poor weather conditions, this can lead to tailbacks and delays.			
Potential Impacts	Impacts Avoided or Otherwise Mitigated by Measures Incorporated in the Project		Aspects Requiring Further Analysis in the EA (other than verification of provisions in contract documents)
	Yes	Insufficient Data	
1/ Conflicts with non motorized transport	<input checked="" type="checkbox"/>		None
2/ Safety issues due to construction-related traffic impediments	<input checked="" type="checkbox"/>		None
3/ Safety impacts due to excessive speed.		<input checked="" type="checkbox"/>	Further analysis of the road design will be required at the EA stage to determine potential impacts caused by driver behavior.

Additional Environmental Concerns Noted for Consideration – Noise			
Existing Conditions - Ambient noise levels in the Project Area are relatively low, even in the more urbanized areas. Field investigations did not reveal the presence of "sensitive receptors", i.e., recipients of sound for whom exposures to excessive sound levels are detrimental - hospitals, for example - in proximity to the Project Road. Several schools were observed within 50 meters of the Project Road, but are unlikely to be affected by significant noise levels due to the low volume of traffic using the road.			
Potential Impacts	Impacts Avoided or Otherwise Mitigated by Measures Incorporated in the Project		Aspects Requiring Further Analysis in the EA (other than verification of provisions in contract documents)
	Yes	Insufficient Data	
1/ Construction noise	<input checked="" type="checkbox"/>		None
2/ Operational noise		<input checked="" type="checkbox"/>	The number and types of vehicle using the road during the operational phase has yet to be determined. As such potential operational noise issues should be assessed further at the EA phase.

Additional Environmental Concerns Noted for Consideration – Other Infrastructure Systems			
Existing Conditions - The available data indicated the following:			
<u>Water Supply Systems.</u> No piped water supply systems are likely to exist in or near the ROW in the portion of the roadway through urban Kishem and Faizabad.			
<u>Wastewater Collection Systems.</u> Virtually no rural areas and few residential or public buildings in Afghan cities have networked wastewater collection sewerage facilities and those that do discharge their wastewater directly into rivers without treatment. No piped wastewater collection systems are known to be within the potential direct impact area.			
<u>Electrical Systems.</u> There is potential for large scale exploitation of hydroelectric resources within Badakhshan. However no such facilities are known to exist within the Project Area.			
<u>Irrigation Systems.</u> Portions of the Project Area are irrigated. Such systems appear to be highly localized and accommodated by the Project Road's existing (albeit ill maintained) drainage structures.			
Potential Impacts	Impacts Avoided or Otherwise Mitigated by Measures Incorporated in the Project		Aspects Requiring Further Analysis in the EA (other than verification of provisions in contract documents)
	Yes	Insufficient Data	
1/ Impacts to water supply systems			None
2/ Impacts to waste water collection systems			None
3/ Impacts to electrical systems			None
4/ Impacts to irrigation systems			None

3.1 ALTERNATIVES CONSIDERED

The “No Action” Alternative - The “No Action” Alternative in this instance is defined as a decision not to undertake the proposed construction of the Keshim - Faizabad Road. The “No Action” Alternative would result in the continued deterioration of the road, bridges and drainage structures along the ROW, thereby severely impeding the economic recovery of the Project Area and the country as a whole. All positive benefits would be foregone. The relatively minor, less than significant environmental impacts (such as noise and short-term air quality impacts due to maintenance activities) and inconveniences (such as traffic diversions) would be avoided in the short-run. In the long-run, however, the steadily declining state of the roadway would severely cripple Afghanistan's recovery efforts. In light of these considerations, the “No Action” Alternative is deemed to be neither prudent nor in the best interest of Afghanistan or those with an interest in, and attempting to assist restoration of, Afghanistan's well being.

Alternatives Considered & Eliminated From Detailed Study - Alternative approaches to road improvements may be discussed in terms of:

- Site Alternatives. Site alternatives generally include alternative routes. In this instance, no alternative routes have been determined to warrant consideration.
- Design Alternatives. The circumstances of the Keshim - Faizabad Road are such that it offers few design alternatives with meaningful differences in their environmental implications.
- Technological Alternatives. All projects conducted as part of the IRP are required to maximize the use of (locally hired) manual labor to the extent possible and to use Afghan professional staff to the greatest extent possible and to mentor them, and give them greater management and implementation responsibility. Consideration of technologically advanced and capital intensive approaches to road

construction in these circumstances was, therefore, eliminated from detailed consideration.

ALTERNATIVES WARRANTING CONSIDERATION IN DETAIL - Of the three categories of alternatives noted above, no alternative is considered to warrant consideration in detail from an environmental perspective.

4.0 ISSUES TO BE ELIMINATED FROM THE EA PROCESS

Based upon assessments to date the following issues are believed to have been mitigated as indicated in **Section 3.0**:

Issue	Reason Mitigated
Flora	No flora of biological significance identified in the project area.
Fauna	No fauna of biological significance identified in the project area.
Protected Areas	No protected areas within the vicinity of the road.
Use of Natural / Depletable Resources	No impacts identified.
Urban Quality	No impacts identified.
Historic and Cultural Resources	No cultural or historic resources identified.
Socio-economics	Impacts will be beneficial.
Public Health	Impacts will be beneficial.
Other Infrastructure	No impacts identified.

5.0 ISSUES TO RECEIVE FURTHER CONSIDERATION DURING THE EA PROCESS

The following additional areas of consideration require confirmation as to impact and mitigation requirements, if such are found to be required.

- Topography;
- Soils;
- Geology and Seismic Characteristics;
- Hydrology;
- Air Quality;
- Land Use and Development Policies and Controls;
- Safety; and
- Noise.

6.0 THE PROPOSED APPROACH TO ADDRESS SIGNIFICANT ISSUES

LBG shall start the EA process as soon as the Scoping Statement approval has been received from the Bureau Environment Officer (BEO) in Washington. This is anticipated to be during August. The EA will then be prepared within a timescale of one month, whereupon it will be submitted to the Mission Environment Office in Kabul for approval.

LBG will review the expected and potential direct, indirect and cumulative effects of constructing the road. The EA will be prepared based on physical examination of the road and its environs and well as review of engineering plans and equipment selection decisions.

Road works will be consistent with applicable local regulations and routine best management practices will be employed. The EA will follow the 22CFR216 guidelines. The EA will also identify commitments on the part of any other project proponents to mitigate any potential concerns. Adherence to these commitments during construction of the bridge will minimize the potential for any adverse environmental impacts.

6.1 Timing and Scheduling of the EA

Upon receipt of approval from the BEO LBG shall begin the EA process which is anticipated to be finalized in September 2007.

July 2007 – Collection of physical data and public consultation.

August 2007 – Draft / final version of the EA.

September 2007 – Submit final EA to USAID for review and approval.