REQUEST FOR PROPOSALS

TECHNICAL ASSISTANCE FOR THE

TELECOMMUNICATIONS DEVELOPMENT FUND PROJECT

Submission Deadline: **4:00 PM**

LOCAL TIME

FEBRUARY 28, 2007

Submission Place:

Mr. Zakaria Hassan
Chairman
Afghanistan Telecommunications Regulatory Authority
Ministry of Communications Bldg, 10th floor
Mohd. Jan Khan St.
Kabul
Afghanistan

Phone: (+93 20) 210 1179
Email: Hassan.z@trb.gov.af

SEALED PROPOSALS SHALL BE CLEARLY MARKED AND RECEIVED PRIOR TO THE TIME AND DATE SPECIFIED ABOVE. PROPOSALS RECEIVED AFTER SAID TIME AND DATE WILL NOT BE ACCEPTED OR CONSIDERED.

REQUEST FOR PROPOSALS

Section 1: INTRODUCTION

The U.S. Trade and Development Agency (USTDA) has provided a grant to the Grantee to help the Government of Afghanistan utilize the newly created Telecommunications Development Fund to improve rural telecommunications access. This technical assistance will ensure that initiatives at the local/rural level can properly integrate and interoperate with systems at the district and national levels and examine mechanisms to incentivize both existing operators and new entrants to participate in rural development. The grant agreement is attached at Annex 4 for reference. The Grantee is soliciting technical proposals from qualified U.S. firms to provide expert consulting services to carry out the technical assistance.

1.1 BACKGROUND SUMMARY

At the end of hostilities in 2001, Afghanistan had fewer than one telephone per 500 people and the nation's Information and Communications Technology (ICT) sector was nearly in ruins. In 2002, USTDA funded a Telecommunications Regulatory Policy Technical Assistance that resulted in the granting of licenses for entry into the Afghan telecommunications market to two major mobile communications service providers. Those companies now have over 1.2 million subscribers combined, nearly 6% of Afghanistan's population. Additionally, the Afghanistan Telecommunications Regulatory Authority (ATRA) recently authorized and oversaw the sale of new licenses allowing two more mobile operators to enter the Afghan market. In addition to wireless communications, the state-owned monopoly fixed line telecommunications operator, Afghan Telecom, has been slowly expanding its network. Despite impressive growth in the telecommunications sector, where overall investment is expected to reach $300 million in 2006, the current availability of telecommunications infrastructure and services is largely confined to areas around Kabul and a few major cities.

Much of Afghanistan's population does not have telecommunications access of any kind, and nearly 38,000 Afghan villages lack the telecommunications infrastructure needed to become economically viable. The Government of Afghanistan has undertaken a variety of initiatives to extend telecommunications access to rural areas, believing that competitively offered services are the main drivers of future growth. One such initiative, the District Communications Network, is intended to bring basic connectivity to Afghanistan's 337 district centers, but only a small handful have been covered so far. State-owned Afghan Telecom has limited capability to accomplish these goals and Afghan telecommunications development is being driven largely by the two established private-sector mobile communication service providers. Neither company has yet invested significant resources into rural development, because it is more cost effective to concentrate on urban areas.

The recent Telecommunications Law created both the ATRA and the Telecommunications Development Fund (TDF). The TDF, which is administered by the ATRA, is designed to subsidize the development of telecommunications services in rural and underserved areas of Afghanistan. Maintained by contributions from operators as determined by the ATRA, the TDF could provide the necessary incentive to induce the private-sector to invest in rural

telecommunications infrastructure which would otherwise be unprofitable. The ATRA plans to use the TDF to support the most effective and beneficial investments and services in locations most in need of communications infrastructure; however, the specifics of the administration and utilization of the TDF have not been determined aside from the overall legal framework and general developmental considerations. According to recent reports, the TDF has accumulated some $5 million to date, and is expected to grow to $32 million by the end of 2008, yet none of these funds have been spent for their intended purpose.

In a country where development funding in general, and funding for rural telecommunications development in particular, are extremely hard to come by, the TDF represents a resource that is sitting idle for want of a clear framework for its utilization. This technical assistance seeks to assist the ATRA identify how best to implement the TDF, so as to maximize its effectiveness for improving rural access and to put the TDF to productive use. It will intersect with, and build upon, current Ministry of Communications (MOC) telecommunications initiatives, and will include technical, economic and administrative components. An important aspect of the technical component will be to ensure that initiatives at the local level can properly integrate and interoperate with systems at the district and national levels. It is expected that close liaison and coordination with the MOC, as well as with other actors in the telecommunications sector, will be required. The technical assistance will also examine mechanisms to encourage operator participation in rural development, as well as mechanisms to promote community buy-in of rural communications facilities.

A background Definitional Mission is provided for reference in Annex 2.

1.2 OBJECTIVE

The technical assistance will assist the Afghanistan Telecommunications Regulatory Authority to effectively utilize the Telecommunications Development Fund to increase Afghan rural telecommunications access. The Terms of Reference (TOR) for this technical assistance is attached as Annex 5.

1.3 PROPOSALS TO BE SUBMITTED

Technical proposals are solicited from interested and qualified U.S. firms. The administrative and technical requirements as detailed throughout the Request for Proposals (RFP) will apply. Specific proposal format and content requirements are detailed in Section 3.

COST will not be a factor in the evaluation and therefore, cost proposals should not be submitted; upon detailed evaluation of technical proposals, one firm will be selected for contract negotiations. The amount for the negotiated contract has been established by a USTDA grant of U.S. $404,500 dollars.

1.4 CONTRACT FUNDED BY USTDA

The negotiated contract will be funded by USTDA in accordance with the terms and conditions of its grant to the Grantee. The contract must include certain USTDA mandatory clauses relating

to nationality, taxes, payment, reporting, and other matters. The USTDA nationality requirements and the USTDA mandatory clauses are attached at Annexes 3 and 4 for reference.

Section 2: INSTRUCTIONS TO PROPOSERS

2.1 PROJECT TITLE

The project is called "Telecommunications Development Fund Technical Assistance."

2.2 DEFINITIONS

Please note the following definitions of terms as used in this RFP.

The term "Request for Proposals" means this solicitation of a formal technical proposal including qualifications statement.

The term "Offeror" means the U.S. individual, or U.S. firm, including any and all subcontractors, which responds to the RFP and submits a formal proposal and which may or may not be successful in being awarded this procurement.

2.3 DEFINITIONAL MISSION REPORT

USTDA sponsored a Definitional Mission to address technical, financial, sociopolitical, environmental and other aspects of the proposed project. A copy of the Report is attached at Annex 2 for background information only.

2.4 EXAMINATION OF DOCUMENTS

Offerors should carefully examine this RFP. It will be assumed that Offerors have done such inspection and that through examinations, inquiries and investigation they have become familiarized with local conditions and the nature of problems to be solved during the execution of the technical assistance.

Offerors shall address all items as specified in this RFP. Failure to adhere to this format may disqualify an Offeror from further consideration.

Submission of a proposal shall constitute evidence that the Offeror has made all the above mentioned examinations and investigations, and is free of any uncertainty with respect to conditions which would affect the execution, and completion of the technical assistance.

2.5 PROJECT FUNDING SOURCE

The technical assistance will be funded under a grant from USTDA. The total amount of the grant is not to exceed U.S. $404,500 dollars.

2.6 RESPONSIBILITY FOR COSTS

Offeror shall be fully responsible for all costs incurred in the development and submission of the proposal or any other cost incurred by Offeror prior to issuance of an agreement or contract. Neither USTDA nor the Grantee assumes any contractual obligation as a result of the issuance of this proposal request, the preparation or submission of a proposal by an Offeror, the evaluation of proposals, or final selection.

2.7 TAXES

Offerors should submit proposals which note that in Annex 4, USTDA Mandatory Contract Provisions, USTDA funds are not to be used to pay taxes or duties under the laws of host country.

2.8 CONFIDENTIALITY

The Grantee will use its best efforts to preserve the confidentiality of any business proprietary or confidential information submitted by the Offeror, which is clearly designated as such by the Offeror.

2.9 ECONOMY OF PROPOSALS

Proposal documents should be prepared simply and economically, providing a comprehensive and concise description of the Offeror's capabilities to satisfy the requirements of the RFP. There is no necessity for expensive bindings, colored displays, or other promotional material unless such material is absolutely pertinent to the proposal. Emphasis should be placed on completeness and clarity of content.

2.10 SUBSTANTIVE PROPOSALS

The Offeror shall certify (a) that its proposal is genuine and is not made in the interest of, or on the behalf of, any undisclosed person, firm, or corporation, and is not submitted in conformity with, and agreement of, any undisclosed group, association, organization, or corporation; (b) that it has not directly or indirectly induced or solicited any other Offeror to put in a false proposal; (c) that it has not solicited or induced any other person, firm, or corporation to refrain from submitting a proposal; and (d) that it has not sought by collusion to obtain for himself any advantage over any other Offeror or over the Grantee or USTDA or any employee thereof.

2.11 CONDITIONS REQUIRED FOR PARTICIPATION

Only U.S. firms are eligible to participate in this tender. However, U.S. firms may utilize subcontractors from host country for up to 20 percent of the amount of the USTDA grant. USTDA nationality requirements are detailed in Annex 3.

2.12 LANGUAGE OF PROPOSAL

All proposal documents shall be prepared and submitted in English, and only English.

2.13 PROPOSAL SUBMISSION REQUIREMENTS

The **Cover Letter** in the proposal must be addressed to:

Mr. Zakaria Hassan
Chairman
Afghanistan Telecommunications Regulatory Authority
Ministry of Communications Bldg, 10th floor
Mohd. Jan Khan St.
Kabul
Afghanistan

Phone: (+93 20) 210 1179
Email: Hassan.z@trb.gov.af

An Original and eight (8) copies of your proposal must be received at the above address no later than 4:00 PM, on February 28, 2007.

Proposals may be either sent by mail, overnight courier, or hand-delivered. Whether the proposal is sent by mail, courier or hand-delivered, the Offeror shall be responsible for actual delivery of the proposal to the above address before the deadline. Any proposal received after the deadline will be returned unopened.

Upon timely receipt, all proposals become the property of the Grantee.

2.14 PACKAGING

Each proposal must be sealed to ensure confidentiality of the information. The proposals should be individually wrapped and sealed, and labeled for content including "original" or "copy number x"; the original and eight (8) copies should be collectively wrapped and sealed, and clearly marked for content.

Neither USTDA nor the Grantee will be responsible for premature opening of proposals not properly labeled.

2.15 AUTHORIZED SIGNATURE

The proposal must contain the signature of a duly authorized officer or agent of the Offeror empowered with the right to bind the Offeror.

2.16 EFFECTIVE PERIOD OF PROPOSAL

The proposal shall be binding upon the Offeror for sixty (60) days after the proposal due date, and Offeror may withdraw or modify this proposal at any time prior to the due date upon written request, signed in the same manner and by the same person who signed the original proposal.

2.17 EXCEPTIONS

Firms agree by their response to the RFP announcement to abide by the procedures set forth therein. Material modifications in the TOR or responsibilities of the parties will not be accepted.

Any exceptions in the proposal shall be clearly identified, and shall include the scope of such exception, and its impact, on the procurement. The Grantee shall make final determination as to the responsiveness of such exceptions and their acceptability.

2.18 OFFEROR QUALIFICATIONS

As provided in Section 3, Offerors shall submit evidence that they have relevant past experience and have previously delivered advisory and technical assistance services similar to those required in the TOR.

2.19 RIGHT TO REJECT PROPOSALS

The Grantee reserves the right to reject any and all proposals and to accept or reject any or all of the items in the proposal, and to award the contract in whole or in part if it is deemed in the best interest of the Grantee.

2.20 PRIME CONTRACTOR RESPONSIBILITY

Offerors have the option of subcontracting parts of the services they propose. The Offeror's proposal must include a description of any anticipated subcontracting arrangements, including the name, address, and qualifications of consultants and subcontractors. USTDA nationality provisions are set forth in detail in Annex 3. The successful Offeror shall cause appropriate provisions of its contract, including all mandatory USTDA clauses, to be inserted in all subcontracts ensuing to ensure fulfillment of all contractual provisions by subcontractors.

2.21 AWARD

An award resulting from this RFP shall be made to the best qualified Offeror, taking into consideration the evaluation factors set forth herein; however, the right is reserved to reject any and all proposals received and, in all cases, the Grantee will be the judge as to whether a proposal has or has not satisfactorily met the requirements of this RFP.

2.22 COMPLETE SERVICES

The successful Offeror shall be required to (a) furnish all supplies, supervision, transportation, and other execution accessories, services, and facilities; (b) provide and perform all necessary labor; and (c) in accordance with good technical practice, with due diligence, and in accordance with the requirements, stipulations, provisions and conditions of this RFP and the resultant contract, execute and complete all specified work to the satisfaction of the Grantee.

2.23 INVOICING AND PAYMENT

Deliverables under the contract shall be delivered on a schedule to be agreed upon in a contract with the Grantee. The Contractor may submit invoices to the designated Grantee Project Director in accordance with a schedule to be negotiated and included in the contract. Upon approval of each invoice, the Grantee will forward the invoice to USTDA which will process payment to the Contractor. All payments by USTDA under the Grant Agreement will be made in U.S. currency.

Section 3: PROPOSAL FORMAT AND CONTENT

To expedite proposal review and evaluation, and to assure that each proposal receives the same orderly review, all proposals must follow the format described in this section.

Proposal sections and pages shall be appropriately numbered and the proposal shall include a Table of Contents. Offerors are encouraged to submit concise and clear responses to the RFP. Proposals shall contain all elements of information requested without exception. Instructions regarding the required scope and content are given in this section. The Grantee reserves the right to include any part of the selected proposal in the final contract.

The proposal shall consist of a technical proposal only. No cost proposal is required as the value of the USTDA grant is established at U.S. $404,500 dollars.

Offerors shall submit one (1) original and eight (8) copies of the proposal. Proposals received by fax cannot be accepted.

The following sections and content are required for each proposal:

Transmittal Letter,
Cover/Title Page,
Table of Contents,
Introduction and Executive Summary,
Company Information,
Organizational Structure, Management Plan, and Key Personnel,
Technical Approach and Work Plan,
Experience and Qualifications, and
Miscellaneous.

Detailed requirements and directions for the preparation of each section are presented below.

3.1 SECTION 1: INTRODUCTION AND EXECUTIVE SUMMARY

An Executive Summary should be prepared describing the major facts or features of the proposal, including any conclusions, assumptions, and generalized recommendations the Offeror desires to make. Offerors are requested to make every effort to limit the length of the Executive Summary to no more than five (5) pages.

3.2 SECTION 2: COMPANY INFORMATION

3.2.1 Company Profile

Provide the information listed below relative to the Offeror's firm. If the Offeror is proposing to subcontract some of the proposed work to another firm(s), similar information must be provided for each subcontractor. Offerors are requested to limit the length of the Company Profile Information to one (1) page per firm.

1. Name of firm and business address, including telephone and fax numbers.

2. Year established (include former firm names and year established, if applicable).

3. Type of ownership and parent company, if any.

4. Project Manager's name, address, telephone and fax number, if different from (1).

3.2.2 Offeror's Authorized Negotiator

Provide name, title, address, telephone and fax number of the Offeror's authorized negotiator. The person cited shall be empowered to make binding commitments for the Offeror and its subcontractors, if any.

3.2.3 Negotiation Prerequisites

1. Discuss any impact of any current or anticipated commitments which may impact the ability of the Offeror or its subcontractors to complete the technical assistance as proposed and within the project schedule.

2. Identify any specific information which is needed from the Grantee before commencing contract negotiations.

3.3 SECTION 3: ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL

Describe the Offeror's proposed project organizational structure. Discuss how the project will be managed including the principal and key staff assignments for this technical assistance. Identify the Project Manager who will be the individual responsible for this project. The Project Manager must have the responsibility and authority to act on behalf of the Offeror in matters related to the proposed technical assistance.

Provide a listing of personnel (including subcontractors and consultants) to be engaged in the project, either U.S. or local with the following information for key staff: position in the project; pertinent experience, curriculum vitae; other relevant information. If subcontractors are to be used, the organizational relationship between the firms must be described.

A manpower schedule and the level of effort for the project period, by activities and tasks, as detailed under the Work Plan shall be submitted. A statement confirming the availability of the proposed project manager and key staff over the duration of the project must be included in the proposal.

3.4 SECTION 4: TECHNICAL APPROACH AND WORK PLAN

Describe in detail the proposed technical approach and work plan. Discuss the project requirements as perceived by the Offeror. Include a brief narrative of tasks within each activity series. Note specifically any task activities included or excluded and which may differentiate Offeror's technical approach from others. Begin with the information gathering phase and continue through delivery and approval of all required reports.

Prepare a detailed schedule of performance that describes all activities and tasks within the Technical Work Plan, including periodic reporting or review points, incremental delivery dates, and other project milestones.

Based on the Technical Work Plan, and previous project experience, explain when and where Offeror will require support from the Grantee. Detail the amount of staff time required by the Grantee or participating agencies and any work space or facilities needed to complete the technical assistance.

3.5 SECTION 5: EXPERIENCE AND QUALIFICATIONS

Provide a discussion of the Offeror's experience and qualifications which are relevant to the objectives and TOR for the technical assistance. If a subcontractor(s) is being used, similar information must be provided for the prime and each subcontractor firm proposed for the project. Relevant experience and qualifications of key staff proposed shall be provided including letters of commitment from the individuals proposed concerning their availability for contract performance.

As many as possible but not more than six (6) relevant and verifiable project references must be provided, including the following information:

Project name,
Name and address of client (indicate if joint venture),
Client contact person (name/ position/ current phone and fax numbers),
Period of Contract,
Description of services provided,
Dollar amount of Contract, and
Status and comments.

Offerors are strongly encouraged to include in their experience summary primarily those projects that are similar to or larger in scope than the technical assistance as described in this RFP.

Section 4: AWARD CRITERIA

Individual proposals will be initially evaluated by a Procurement Selection Committee of representatives from the Grantee. The Committee will then conduct a final evaluation and completion of ranking of qualified Offerors, and the Grantee shall promptly negotiate a contract with the best qualified Offeror. If a satisfactory contract cannot be negotiated with the best qualified Offeror, negotiations will be formally terminated. Negotiations shall then be undertaken with the second most qualified Offeror and so forth.

The selection of the Contractor will be based on the following criteria:

General Qualifications of Consultant Team

As is evident from the accompanying Terms of Reference (TOR; see Annex 5), the technical assistance is multidisciplinary in nature. Accordingly, the skill sets and expertise of the Consultant Team are expected to be diverse. The following general attributes on the part of the Consultant Team are considered critical to the successful outcome of the technical assistance:

- Requisite breadth and depth of expertise in telecom and Information and Communications Technology (ICT);
- Broad familiarity with and first-hand knowledge of world experience with rural telecom development and Digital Inclusion initiatives in general, and with establishment, administration and utilization of telecom development funds in particular; and
- Ability to meaningfully "translate" world experience for the benefit of a non-US (specifically Afghani) constituency.

In addition to the above general attributes, it is expected that the Consultant Team will have demonstrable specific expertise in rural telecom development technologies and infrastructure; business models, economics and finance; and community involvement.

Furthermore, the following additional attributes are also considered critical to a successful outcome:

- Willingness of Consultant Team members to spend significant time in-country;
- A work plan ensuring close collaboration and interaction with the MOC; and
- The capability to deliver quality results and recommendations in timely fashion.

The specific composition of the Consultant Team for the recommended technical assistance will now be described.

Team Composition and Experience

In terms of the composition and particular credentials of the Consultant Team, it is judged that the team should consist of the following:

- One (1) Team Leader;
- One (1) Legal/Regulatory Expert;

- One (1) Technical Expert;
- One (1) Economic/Financial/Business Planning Expert;
- One (1) Community Planning Expert; and
- One (1) Local Expert and Local Liaison.

More specific descriptions follow.

Team Leader:

- At least fifteen (15) years' experience in the telecom or ICT industry;
- Strong background in one of major areas of the technical assistance (Legal/Regulatory, Technology, Economic/Financial/Business Planning, Community Planning);
- Both a US and an international perspective on the telecom/ICT industry, with the international perspective preferably gained through on-the-ground project work, ideally in the context of rural telecom or so-called Digital Inclusion initiatives;
- Management, organizational and cross-cultural skills and perspective to structure, oversee and carry out the technical assistance effectively; and
- Ability to communicate findings effectively and to liaise appropriately within the MOC environment and with other potential stakeholders.

Legal / Regulatory Specialist:

- At least ten (10) years' experience in the telecom/ICT industry;
- Strong telecom legal / regulatory background, preferably including hands-on experience with rural telecom development issues; and
- Experience in working with and evaluating telecom policy and regulation in emerging markets, together with appropriate research and analytical skills.

Technical Expert:

- At least ten (10) years' experience in the telecom/ICT industry, preferably including hands-on experience with rural telecom deployment;
- Strong technical background in rural telecom technology, particularly 1) narrowband and broadband access and "last-mile" solutions, both wireless and wireline, 2) IP-based networks; 3) telco and alternative infrastructures; and
- Ability to assess technical feasibility, price/performance, trade-offs, etc., of a variety of possible deployment alternatives and to assist with their cost estimation.

Economic/Financial/Business Planning Expert:

- At least ten (10) years' experience in the telecom/ICT industry, preferably including hands-on experience in rural telecom environments;
- Familiarity with rural telecom business planning issues and business models (forms of sponsorship; role of local government and other stakeholders; sustainability);
- Experience in economic/financial planning in rural or related telecom/ICT environments (working with subscriber levels, service rates/tariffs, revenue levels, capital and operating expenses, etc.); and
- Ability to perform appropriate economic and financial analyses.

Community Planning Expert:

- Experience with community-involvement aspects of rural telecom, and with mechanisms by which community buy-in has (or has not) been achieved in other developing-country environments; and
- Familiarity with methods of identification and engagement of relevant stakeholders.

Local Expert and Local Liaison:

- Qualified Afghani entity, which could be an individual regulatory expert, law firm dealing with telecom regulation, or NGO engaged in rural telecom, Digital Inclusion, and/or rural development-related activities;
- Knowledge of Afghani telecom legal/regulatory framework in general and of status of rural development initiatives particular;
- Ability to conduct necessary research and legal/regulatory diligence; and
- High degree of fluency in English would be an advantage.

In practice, it is unlikely that the backgrounds of the team members will fit the above profiles exactly. However, the collective qualifications of the Consultant Team should correspond to those described. If a proposed Consultant Team offers a comparable skill set but with a different distribution, or a basic arrangement different from the five-member team plus Local Expert and Local Liaison described above, it must be clearly demonstrated how such a team can efficiently carry out the full scope of the technical assistance.

Evaluation Criteria

The Contractor will be based on the following criteria:

Criterion	**Max. Points**
Demonstrated expertise and skills of the **proposed personnel** in developing, promoting, and implementing telecommunications regulatory systems, particularly those addressing rural telecommunications development and/or universal service.	50
Each firm or team's proposed approach to the technical assistance will be evaluated in terms of its completeness in data gathering, thoroughness of analysis and quality of final documentation.	30
Firm or team's relevant experience in Afghanistan, Central Asia, or other pertinent international experience. Proposing firms or teams should present their complete corporate background and experience, with special emphasis on similar projects accomplished in the past five years.	20
Total:	**100**

Proposals which do not include all requested information may be considered non-responsive.

Price will not be a factor in contractor selection.

ANNEX 1

Federal Business Opportunities Announcement

Mr. Zakaria Hassan, Chairman, Afghanistan Telecommunications Regulatory Authority, Ministry of Communications Bldg, 10th floor, Mohd. Jan Khan St., Kabul, Afghanistan, Phone: (+93 20) 210 1179

B: Afghanistan: Telecommunications Development Fund Technical Assistance Project

POC Evangela Kunene, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009. Afghanistan: Telecommunications Development Fund Technical Assistance Project. The Grantee invites submission of qualifications and proposal data (collectively referred to as the "Proposal") from interested U.S. firms which are qualified on the basis of experience and capability to develop a technical assistance to help the Afghanistan Telecommunications Regulatory Authority utilize the newly created Telecommunications Development Fund to improve rural telecommunications access. This technical assistance will ensure that initiatives at the local/rural level can properly integrate and interoperate with systems at the district and national levels and examine mechanisms to incentivize both existing operators and new entrants to participate in rural development.

The objective of this technical assistance is to assist the Afghanistan Telecommunications Regulatory Authority to effectively utilize the Telecommunications Development Fund to increase Afghan rural telecommunications access. This would be accomplished through the following tasks:

A survey and assessment of Rural Telecommunications Development (RTD) initiatives; an initial visit and assessment of the current situation in Afghanistan; a legal/policy/regulatory review; an evaluation of key RTD technological solutions, architectures, and their attendant economics and risks/benefits; an identification of U.S.-based suppliers and development impact assessment; a review and evaluation of RTD business and funding models; the development of recommendations on optimum utilization of TDF; an elaboration of strategies and mechanisms for incentivization of RTD; an in-country presentation and workshop; and the production of draft and final reports.

The U.S. firm selected will be paid in U.S. dollars from a $404,500 grant to the Grantee from the U.S. Trade and Development Agency (USTDA).

A detailed Request for Proposals (RFP), which includes requirements for the Proposal, the Terms of Reference, and a background definitional mission report are available from USTDA, at 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901. To request the RFP in PDF format, please go to: https://www.ustda.gov/USTDA/FedBizOpps/RFP/rfpform.asp. Requests for a mailed hardcopy version of the RFP may also be faxed to the IRC, USTDA at 703-875-4009. In the fax, please include your firm's name, contact person, address, and telephone number. Some firms have found that RFP materials sent by U.S. mail do not reach them in time for preparation of an adequate response. Firms that want USTDA to use an overnight delivery service should include the name of the delivery service and your firm's account

number in the request for the RFP. Firms that want to send a courier to USTDA to retrieve the RFP should allow one hour after faxing the request to USTDA before scheduling a pick-up. Please note that no telephone requests for the RFP will be honored. Please check your internal fax verification receipt. Because of the large number of RFP requests, USTDA cannot respond to requests for fax verification. Requests for RFPs received before 4:00 PM will be mailed the same day. Requests received after 4:00 PM will be mailed the following day. Please check with your courier and/or mail room before calling USTDA.

Only U.S. firms and individuals may bid on this USTDA financed activity. Interested firms, their subcontractors and employees of all participants must qualify under USTDA's nationality requirements as of the due date for submission of qualifications and proposals and, if selected to carry out the USTDA-financed activity, must continue to meet such requirements throughout the duration of the USTDA-financed activity. All goods and services to be provided by the selected firm shall have their nationality, source and origin in the U.S. or host country. The U.S. firm may use subcontractors from the host country for up to 20 percent of the USTDA grant amount. Details of USTDA's nationality requirements and mandatory contract clauses are also included in the RFP.

Interested U.S. firms should submit their Proposal in English directly to the Grantee by 4:00, February 28, 2007 at the above address. Evaluation criteria for the Proposal are included in the RFP. Price will not be a factor in contractor selection, and therefore, cost proposals should NOT be submitted. The Grantee reserves the right to reject any and/or all Proposals. The Grantee also reserves the right to contract with the selected firm for subsequent work related to the project. The Grantee is not bound to pay for any costs associated with the preparation and submission of Proposals.

ANNEX 2

Definitional Mission Report*
(for background information only)
(Note: the final TOR is found in Annex 5)

*** portions omitted**

FINAL REPORT:

DEFINITIONAL MISSION FOR TELECOM AND INFORMATION TECHNOLOGY UNDER THE CENTRAL ASIAN INFRASTRUCTURE INTEGRATION INITIATIVE

Prepared Under Contract No. USTDA 2006-C-81-026

Vol. 4: Afghanistan

Prepared for:

U.S. Trade and Development Agency
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August 1, 2006

This report was funded by the U.S. Trade and Development Agency (USTDA), an export promotion agency of the United States Government. The opinions, findings, conclusions, or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of USTDA.

Mailing and Delivery Address: 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901
Phone: 703-875-4357 • **Fax:** 703-875-4009 • **Web site:** www.ustda.gov • **email:** info@ustda.gov

The U.S. Trade and Development Agency

The U.S. Trade and Development Agency assists in the creation of jobs for Americans by helping U.S. companies pursue overseas business opportunities. Through the funding of feasibility studies, orientation visits, training grants, conferences, and various forms of technical assistance, USTDA enables American businesses to become involved in the planning stages of infrastructure and industrial projects in middle-income and developing countries. By doing this, the agency provides American firms with market entry, exposure, and information, helping them establish a position in markets that are otherwise difficult to penetrate.

Mailing and Delivery Address: 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901
Phone: 703-875-4357 • **Fax:** 703-875-4009 • **Web site:** www.ustda.gov • **email:** info@ustda.gov

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A. EXECUTIVE SUMMARY

The purpose of the present DM was to examine project opportunities in the countries currently included in Central Asian Infrastructure Integration Initiative (CAIII), namely Kazakhstan, Kyrgyzstan, Tajikistan and Afghanistan, that may be suitable for USTDA funding support. The aim of the CAIII, which was announced by Secretary of State Condoleezza Rice in October 2005, is to facilitate development of needed infrastructure to foster regional cooperation and economic development. This volume of the DM Report presents the DM Contractor's findings and recommendations related to Afghanistan.

The DM Contractor traveled to Kabul, Afghanistan during the period 4–8 April 2006, and examined a variety of possible project opportunities (see Annex IV for a list of meetings held and project opportunities considered).

During that time, the DM Contractor noted that a number of projects related to improving the connectivity of major cities and populated places in Afghanistan have been undertaken. Two private-sector operators have been notably successful in bringing cellular/mobile services to Afghanistan, and there are well developed plans to deploy a national fiber-optic backbone network, with links to several neighboring countries; work on the first phase of the backbone facility is expected to begin by 3Q 2006.

Improving rural connectivity is also a major priority, in particular for the national telecom development policy promulgated by the Ministry of Communications (MOC), but plans and resources to address this issue are less clear-cut. A high-level policy has been adopted to the effect that the District Communications Network (DCN), intended to bring basic connectivity to Afghanistan's 337 district centers, will eventually be extended to the rural-village level; additionally, the MOC has recently announced that Local Fixed Service Provider (LFSP) licenses will be issued for service in rural areas. So far, however, these initiatives have had little, if any, practical impact.

At the same time, an important rural-development resource was created by the recent Telecom Law, which provided for the establishment of a Telecommunications Development Fund (TDF), to be maintained by contributions from operators in proportion to their gross revenues and to be administered by the recently established Afghanistan Telecom Regulatory Authority (ATRA). The specified purpose of the TDF is to promote more rapid development of universal access in areas that may be perceived as commercially uneconomic; furthermore, in general, the TDF should be utilized to support the most effective and beneficial investments and services in those locations most in need of communications infrastructure. It has also been stated that the use of the TDF should be coordinated with other public service projects, such as educational and health facilities. Aside from the overall legal framework and these general developmental considerations, however, the specifics of the administration and utilization of the TDF have yet to be determined. According to recent reports, moreover, the TDF has

accumulated some US$5 million to date, and is expected to grow to some $14 million by end 2006, yet none of the money has evidently been spent for its intended purpose.

The DM Contractor concluded that the MOC could derive significant benefit from a USTDA Technical Assistance (TA) that would identify how best to implement the TDF, so as to maximize its effectiveness for improving rural access. The TA would intersect with, and build upon, the current DCN and LFSP initiatives, and would include technical, economic/financial and administrative components. An important aspect of the technical component would be to ensure that initiatives at the local/rural level can properly integrate and interoperate with systems at the district and national levels. A further aspect of the TA would be to examine mechanisms by which both existing operators and new entrants could be incentivized to participate in rural development, as well as mechanisms to promote community "buy-in" of rural communications facilities.

The DM Contractor judged that the MOC would be the appropriate Grantee for the TA. The issues dealt with in the TA primarily concern general rural telecom development policy, and thus generally fall under the scope of the MOC. In addition, the MOC has been the previous recipient of USTDA grants, and is familiar with USTDA procedures. However, Minister of Communications H. E. Amirzai Sangin indicated a preference for designating ATRA as the Grantee.

The proposed TA can be justified in terms of the prospective positive developmental impacts, for the MOC, ATRA, the telecom sector and for the larger Afghani economy. Additionally, in a country where development funding in general, and funding for rural telecom development in particular, is extremely hard to come by, the TDF represents a substantial, and growing, pool of hard cash that is currently sitting idle for want of a clear framework for its utilization. A major focus of the TA would be to put this resource to productive use. Finally, in the DM Contractor's opinion, while Afghanistan presents a particularly challenging environment, there are a substantial number of US-based firms with relevant experience in developing economies, particularly in Central and South America, who are in a position to convey to their Afghani counterparts a wealth of valuable experience with world best practices in rural telecom development.

The DM Contractor believes that the proposed TA represents a good use of USTDA resources. The Contractor recommends that USTDA fund the TA in question, under the conditions set forth in the accompanying Terms of Reference (see Annex I), at a total budget level of $404,500.

B. PROJECT DESCRIPTION

1. The Definitional Mission

Secretary of State Condoleezza Rice unveiled the Central Asian Infrastructure Integration Initiative (CAIII) during a trip to Kazakhstan in October 2005. The initiative initially involves Tajikistan, Kyrgyzstan and Kazakhstan, as well as Afghanistan (collectively, the Central Asian Countries); other countries may be invited to participate in the future. The aim of the CAIII is to facilitate development of needed infrastructure to foster regional cooperation and economic development. USTDA has been assigned a leading role in the CAIII; the present DM is intended to assist in identifying project opportunities suitable for USTDA support in the areas of Telecommunications and Information and Communication Technology (ICT), that will promote regional cooperation and better integration into the global economy.

As the DM Statement of Work (SOW) notes, the telecom/ICT sector in the Central Asian Countries is expanding rapidly, and generating demand for telecom/ICT products and services. The purpose of the DM was to examine project opportunities in the countries in question, that may be suitable for USTDA funding support. In Afghanistan, in particular, the DM was tasked with evaluating the following project:

- **Afghanistan National Computing Data Center** – a possible Feasibility Study to review the proposed creation of a National Data Center (NDC), at an estimated cost of $10 million.

More specifically, the DM Contractor was requested to evaluate the technical, financial and economic viability of this and other identified project opportunities; to report the findings to USTDA; and to recommend whether or not USTDA should fund (a) subsequent Feasibility Study(ies), Technical Assistance(s), Orientation Visit(s) or other activities for any of these. In the event of an affirmative recommendation, the Contractor was to develop a Terms of Reference and budget for the activity(ies) in question.

The DM Contractor traveled to Kabul, Afghanistan during the period 4–8 April 2006, and examined a variety of possible project opportunities (see Annex IV for a list of meetings held and project opportunities considered). The next section provides some background information, both general and specific to the telecom/ICT sector in Afghanistan, that is judged to be directly pertinent to the project opportunities in question.

2. Country Background: Afghanistan

2.1. General

Afghanistan's economic outlook has improved significantly since the fall of the Taliban regime in 2001, due in large part to massive infusions of international assistance,

recovery of the agricultural sector, and re-establishment of market institutions.[1] However, despite the progress of the past few years, Afghanistan remains extremely poor, fragmented and highly dependent on foreign aid, poppy cultivation[2] and trade with neighboring countries.

Donor aid, from a variety of countries and institutions, remains a key component of the Afghan reconstruction effort. The United States remains one of the largest donors to Afghanistan and its reconstruction effort. Since September 2001, the US government has provided more than $3.7 billion in programs and activities throughout Afghanistan. Congress authorized $1.2 billion in supplemental funding for Fiscal Year 2004 in advance of the regular appropriation, and the Bush administration has reallocated nearly $400 million from existing accounts to accelerate programs in Afghanistan. At the Afghanistan Donors Conference held in Berlin in March 2004, the United States pledged an additional $1 billion.

Poverty is a key issue; an Asian Development Bank (ADB) Country Strategy and Update Report for 2006–2008 indicates a per-capita GDP of $252 as of 2005. Only 7% of the country's population has access to electricity; this situation poses a considerable challenge to rural connectivity improvements in telecom (see below).

The Afghan national budget is comprised of an ordinary budget (recurrent) and an investment budget. In 2003, funding of the ordinary budget required $550 million with $132 million being generated from domestic revenues and the remainder from donors. Government revenue increased to $269 million in 2005 but represents only 4.5% of GDP. Core development spending is budgeted to increase to 13.2% of GDP in 2005/06. However, the government's ability to increase spending will largely depend on an improvement in implementation capacity and security.

More importantly, the government's investment budget required $1.7 billion in 2003 and was expected to rise to $3.6 billion by 2005. The investment budget is supported from donors delivered through direct budget support, Trust Funds, and more traditional bilateral support to implementing agencies. One of the primary Trust Funds through which United Nations assistance is directed is the Afghanistan Reconstruction Trust Fund (ATRF). As of October, 2005 the ARTF had pledges of $454 million, of which $99 million had been paid into the fund. The United States and the United Kingdom

[1] Literally thousands of aid projects have been carried out, are in progress or in the pipeline. Precise figures are hard to establish, but some $15 billion in aid is reported to have been pledged, and some $9 billion committed, by end 2005. The amounts actually disbursed to date are variously reported, but substantially lower in any case.

[2] A major issue in Afghanistan is the predominance of the shadow-economy opium trade, which does not result in positive contribution to infrastructure development or growth. A November 2004 report of the United Nations Office on Drugs and Crime (UNODC) found that that poppy cultivation rose 64% to a record 131,000 hectares in 2004, despite falling farm gate prices (down 67%) and lower yields due to bad weather and disease. In 2004, Afghanistan produced an estimated 4,200 tons of opium (equivalent to 87% of the world's total supply).

collectively account for 50% of the ARTF; there are also significant contributions from Canada, the European Commission, the Netherlands and Norway. Grants from the ARTF and the Law and Order Trust Fund for Afghanistan (LOTFA) are expected to increase to cover over 50% of government operating budget expenditures in 2005/06. Indications from donors suggest that the ARTF and LOTFA will have sufficient funds to cover the operating budget's requirements in future years.

In 2004, among the 12 active investment projects under the ARTF for the country's investment budget, $6.13 million had been allocated to construction of a backbone microwave link. Conversations with the Tenzin Norbhu of the World Bank (as lead agency of the ARTF) indicated that $4.14 million of this amount has been spent on a variety of reforms including a) rehabilitation of the MOC's communications facilities; b) improvement of national and international telecommunications connectivity; c) improvement of the MOC's ability to collect revenues; and d) reform aimed at fostering competitive private provisioning of telecom services.

2.2. Telecom/ICT Sectors: Overview

Afghanistan's telecom and ICT sectors are recovering from the disastrous situation that prevailed at the end of hostilities in 2001. At that time, for example, the country's wireline teledensity amounted to around .16, i.e., fewer than two telephones per 1000 people. By the end of 2003, two years after the fall of the Taliban, GSM mobile services had been introduced by two private-sector companies, and increased confidence had resulted in private sector investments on the order of US$100 million. In the sector, overall investment in telecom infrastructure is expected to be closer to US$300 million by 2Q 2006. Efforts are underway to create a national backbone facility[3] and to expand wireless local loop services in major towns and cities, and at the same time, a variety of initiatives have been undertaken to ensure orderly, coordinated development of the sectors, and that competitively offered services are the main drivers of future growth.

These efforts notwithstanding, however, it should be noted that, at present, availability of telecom infrastructure and services is largely confined to areas around Kabul and a few major cities. Although the planned District Communications Network (DCN) is intended to bring basic connectivity to Afghanistan's 337 district centers, only a relative handful have so far been covered[4]. On the local level, it is reported that some 38,000 villages throughout the country are without service of any kind.

Progress in ICT in Afghanistan is hampered by a number of factors, including low overall literacy and computer literacy (only some 20% of the population is literate, and of those

[3] USTDA has provided support for an associated Feasibility Study that was conducted by Alcatel USA (in 2003-2004) and a Technical Assistance by Alpha Gamma Technologies (in 2005).

[4] The DCN project has an estimated cost of $14.2 million which has been funded by USAID; it is being implemented through an independent US-owned contractor, Globecomm Systems Inc (GSI). The project is to be completed in 2 phases (first phase to cover 178 districts and second phase 159 districts), representing a total of 337 districts in 34 provinces of the country. The central node of the DCN is located at the MOC headquarters building in Kabul.

the great majority are literate only in Farsi); a limited pool of computer equipment; lack of availability of Internet access; unreliable or unavailable mains power; etc. Nonetheless, an impressive array of ICT initiatives is under way, a number of which are supported by UNDP and/or the MOC. These include:

- Support for ICT policy development (e.g., IT policy, ISP licensing regime)
- A number of e-government initiatives (as well as the National Data Center project referred to above)
- A Telekiosk project in and around Kabul
- Training centers for ICT capacity building
- Cisco Networking Academy programs
- A Microsoft localization program
- Strengthening of the ICT educational framework at Kabul University

2.3. Legal, Policy and Regulatory Framework

Prior to the enactment of the Telecom Law of 1382 (2003), the MOC acted in effect as the sector policy-maker, regulator and network operator. The Telecom Law provided for the separation of the MOC's network-operation activities; this has resulted in the creation of the national operator Afghan Telecom, which is presently corporatized and state-owned. (Additional information about Afghan Telecom is provided below.)

Developmental Priorities

Currently, the MOC retains its essential function as policy-maker, and has elaborated the following general priorities for the next five years:

Telecommunications Infrastructure

- A national fiber optic backbone following the route of the major ring road building project, as well as microwave spurs to link towns and cities not on the major road route;
- A district communications initiative (the District Communications Network) to bring connectivity to district capitals;
- Expansion of the Afghan Telecom fixed wireless network to currently uncovered provinces and districts;
- Other areas including billing systems, spectrum management, rollout of telekiosks and related ICT initiatives;

Facilities Construction and Rehabilitation (in Kabul, regional capitals, districts and airports, and guest houses and staff housing);

Capacity Building

- Construction and operation of facilities for training of both management and technical staff;

Restructuring

- Ongoing support for the regulatory and legal frameworks

- Further progress in corporatization and preparation for privatization of Afghan Telecom (as well as of MOC's postal operations)

Afghanistan Telecom Regulatory Authority

The Telecom Law also provided for the creation of an independent telecom regulatory body; following a number of interim activities, this body was formally constituted in December 2005 as the Afghanistan Telecom Regulatory Authority (ATRA). It is responsible for a wide range of telecom regulatory functions, including those previously carried out by the State Radio Inspection Department (SRID) under the MOC. In particular, ATRA has sole responsibility for licensing and compliance, spectrum planning and assignment, numbering, network interconnection, promotion of competition and consumer protection. An organization plan and budget for ATRA have been prepared, and the agency formally began operations in early 2006.

Telecommunications Development Fund

Of particular relevance to what follows, Article 64 of the Telecom Law also provided for the creation of a Telecommunications Development Fund (TDF). The specified purpose of the TDF is "to subsidize the development of telecommunications services in rural and underserved areas of Afghanistan." Under the Law, moreover, ATRA has sole jurisdiction over the TDF (it is authorized, if it so desires, to establish a separate entity to administer it). The Law further provided that the TDF is to be maintained by contributions from operators as ATRA shall determine (currently set at 2.5% of gross revenues).

ATRA has indicated that the purpose of the TDF is to promote more rapid development of universal access in areas that may be perceived as commercially uneconomic, and that, in general, the TDF should be utilized to support the most effective and beneficial investments and services in those locations most in need of communications infrastructure. It has also been stated that the use of the TDF should be coordinated with other public service projects, such as educational and health facilities. Aside from the overall legal framework and these general developmental considerations, the specifics of the administration and utilization of the TDF have yet to be determined. According to recent reports, moreover, the TDF has accumulated some US$5 million to date, yet none of the money appears to have been spent for its intended purpose.

Major Operators

Afghan Telecom

As previously noted, Afghan Telecom (AT) is the corporatized, state-owned national operator. Currently AT has an estimated 90,000 traditional fixed lines in major cities (primarily Kabul, but also Kandahar, Herat, Mazar-i-Sharif and Jalalabad). Additionally, AT is actively deploying a CDMA-based fixed-wireless service, which currently provides coverage to some 75,000 customers in about a dozen major cities. The aim is to rapidly

increase the pool of subscriber lines over the near term (next 12 to 18 months); a target of 600,000 lines by the end of the period has been announced.

Two other key projects which AT is spearheading are the national-level Government Communications Network (GCN) and the district-level District Communications Network (DCN). Through these initiatives, AT aims to achieve a presence in the centers of all 34 provinces as well as in over 100 district centers in Afghanistan. Both the GCN and DCN are primarily satellite-based networks intended to provide domestic and international voice, data, and video services for the Afghan people.

Rolled out in parallel to the DCN, the GCN was officially launched in mid-September 2005, and is aimed at providing voice, Internet and video services to all government ministries in Kabul and 28 provincial government headquarters. The GCN consists of fiber ring in Kabul connecting most government ministries, plus VSAT links to MOC locations in the provinces.

As mentioned above, the DCN project has received a $14M grant from USAID. The DCN involves the supply and installation of equipment to extend voice and data services to all 355 districts via satellite, new local exchanges and last-mile WLL rollouts. By mid-August 2005 the network – the DCN – was operational in twelve provinces, and is expected to connect all 33 provinces and up to 178 districts by early 2006.

In December 2005, AT extended a contract with US-owned Globecomm Systems Inc (GSI) for technical support for international voice and data services. The one-year extension will maintain GSI's role in providing services for the DCN and GCN.

For cities, towns and rural communities where no communications services are available, Afghan Telecom now plans to select local partners who will build and operate local networks on a Build Operate and Transfer (BOT) basis.

GSM Mobile Operators

Given the extremely limited coverage and capabilities of AT, the two national GSM operators, Roshan and AWCC (and in particular the former, which has the larger subscriber base) are the only operators with extensive national infrastructures. Consequently they are the *de facto* national operators.

Telecom Development Company Afghanistan (Roshan)

Roshan is a consortium led by the Aga Khan Foundation for Economic Development (AKFED), the economic development arm of the Aga Khan Development Network (AKDN). AKFED holds a 51% stake in the company. Other shareholders include Monaco Telecom International and MCT, a US telecom holding company with networks in the former Soviet Union and Central Asia. Roshan's staff is reported to consist of some 50 expatriates and 800 local employees.

Roshan began operations in July 2003; by the end of that year it claimed 50,000 subscribers. It currently claims to have a total subscriber base of 800,000 and a presence in 45 cities and towns in 30 (out of 34) provinces with principal concentrations in Kabul, Herat, Kandahar, Mazar-i-Sharif, Jalalabad and Kunduz. It also provides coverage on the main highways linking the cities in question.

Roshan further reports that it spent $37 million for network infrastructure in 2003 and $86 million in 2004, representing a cumulative investment of about $120 million as of the beginning of 2005, with another $40 million estimated for 2005 and a further $100 million slated for 2006.

Afghan Wireless Communications Company (AWCC)

AWCC is 20% owned by the MOC and 80% owned by Telecommunications Systems International (TSI) of the US, a closely held private company of which Ehsan Bayat, an Afghan-American immigrant and a successful businessman in the United States, is the Chairman and CEO. It reportedly has a local staff of some 2,000 (over twice the local presence of Roshan). The firm initially offered a variety of network services, including fixed line and public call centers, but was required to divest these operations as part of a process to normalize its service license in conjunction with the public tender for a second GSM provider.

AWCC currently claims 400,000 subscribers out of a total market of about 1.2 million. Financial information is difficult to ascertain for AWCC, given its private ownership structure.

AWCC inaugurated GSM services in Kabul in April 2002. Since that time, the company has invested an estimated $75 million, grown its subscriber base to 400,000, and deployed operations in Herat, Mazar-i-Sharif and Kandahar. In late 2003, AWCC completed a $14 million upgrade of its switching platform, based on a 100,000-line Siemens switch.

Other Operators

Areeba Afghanistan, an indirect subsidiary of Investcom LLC (an international telecom operator majority-owned by Lebanese interests), was awarded the third nationwide GSM license in Afghanistan in September 2005, for a fee of US$40 million. The license tendering process included five bidders and resulted in the selection of two winners. Areeba has also been granted a license to operate its own international gateway.

The fourth GSM license was originally awarded to Watan, a local Afghani company, but was eventually transferred to Etisalat, the national operator of the United Arab Emirates, when the former company was unable to meet the license payments. It is reported that Etisalat may use the license as a kind of springboard for a bid for Afghan Telecom at whatever point the company is privatized.

There are reportedly nine licensed ISPs in Afghanistan, about which very little information is available. Given the extremely low levels of PC penetration and computer literacy in the country, combined with a general lack of Internet bandwidth (and in particular affordable bandwidth), it is believed that most of these operations are small and/or confined to the foreign donor/aid community.

Forthcoming Local Fixed Service Providers (LFSPs)

Based on the expansion plans and policy of the MOC, Local Fixed Service Provider (LFSP) licenses are to be issued to private companies in order to expand and extend telecom services to villages and the rural areas of the country. As a result of the recent publicity and campaigns carried out by the MOC, to date (end 2005) four companies have come up with proposals and business plans, although no deployments are known to be under way.

In July 2005, Minister Sangin indicated that the government would offer operating licenses free of charge, with fees waived for one year, as incentives to extend telecommunications networks to rural areas. As discussed later, other sources indicate that a reverse subsidy auction may be held to attract providers to rural areas under plans elaborated by the Telecom Development Fund.

4. Focus of the Definitional Mission

A number of aspects of the above suggest that rural telecom development is becoming an important developmental priority, but is currently not receiving adequate attention.

The fiber-optic backbone project and the GCN and DCN initiatives are clearly articulated priorities of the MOC and are essential to improving the connectivity of major cities and populated places in Afghanistan. Despite considerable obstacles, present indications are that these initiatives will be realized in some form over the next few years. Improving rural connectivity is also an MOC priority, but the available resources to address this issue are much less clear-cut. Afghan Telecom seems to be envisaged as playing a central role in the process, but it is not clear that it has the resources or capabilities to do so. As noted previously, at least insofar as delivery of services to end-users are concerned, telecom development is being driven in large measure by Roshan and AWCC, both of which are private-sector companies. While both have committed to certain "social responsibility" goals, the fact remains that extensive rural areas are not currently targeted by them for service provision. Accordingly, service availability tends to be confined to a relatively restricted set of "islands," in particular Kabul and its environs.

An additional factor to take into consideration is that a variety of specific rural-connectivity solutions have been and are being proposed by a number of sources, including various aid agencies and the private sector. In particular, considerable interest has been shown in the possible deployment low-cost, self-contained (e.g., solar-powered) installations, and in a variety of wireless connectivity options. At the same time, concern has been expressed at the prospect that such solutions could be deployed in an

uncontrolled, "bottom-up" fashion without adequate integration into the current "top-down" planning that characterizes, e.g., the DCN. Lack of interoperability among rural connectivity platforms, and between rural platforms and the DCN, could seriously reduce the effectiveness of the resultant rural telecom infrastructure.

At the same time, both the establishment of ATRA and the availability of the TDF have created certain prerequisites for coordinated rural development. However, these have yet to be utilized in a purposeful way.

Based on all the above, the DM Contractor concluded that both the MOC and ATRA could derive significant benefit from a USTDA Technical Assistance (TA) that would identify how best to implement the TDF, so as to maximize its effectiveness for improving rural access. The TA would intersect with, and build upon, the current DCN and LFSP initiatives, and would include technical, economic/financial and administrative components. An important aspect of the technical component would be to ensure that initiatives at the local/rural level can properly integrate and interoperate with systems at the district and national levels. A further aspect of the TA would be to examine mechanisms by which both existing operators and new entrants could be incentivized to participate in rural development, as well as mechanisms to promote community "buy-in" of rural communications facilities.

The DM Contractor judged that the MOC would be the appropriate Grantee for the TA. The issues dealt with in the TA primarily concern general rural telecom development policy, and thus generally fall under the scope of the MOC. In addition, the MOC has been the previous recipient of USTDA grants, and is familiar with USTDA procedures. However, Minister Sangin indicated a preference for designating ATRA as the Grantee.

C. DEVELOPMENTAL IMPACT

Primary Developmental Benefits

Successful completion of a suitably targeted Technical Assistance in support of the TDF would have a significant beneficial developmental impact for the MOC, ATRA, the telecom sector and Afghanistan as a whole. Particular developmental benefits can be enumerated as follows:

- **Infrastructure:** To the extent that the TA identifies viable ways in which the TDF can be used to promote rural telecom development, either directly (e.g., through investment in or support of particular solutions or technologies) or indirectly (e.g., through facilitating new market entrants in the area of rural telecom), there will be tangible benefits in improvement of rural telecom infrastructure and services. If, as is estimated below in Section F, the TDF accumulates around US$32 million by the end of 2008, and assuming a unit cost of $750 to provide basic telephony, then the TDF would be capable in principle of funding complete coverage of Afghanistan's estimated 38,000 unserved villages.
- **Human Capacity Building:** The direct capacity-building impact would probably be fairly limited in terms of the number of people involved; here the primary beneficiaries are

likely to be the counterpart personnel of ATRA and the MOC. Their participation in the process of identifying and prioritizing rural needs for telecom services, and of planning how the TDF can best be utilized to meet those needs, will impart important skills in and of itself. At the same time, depending on the outcome and recommendations of the TA, the eventual indirect human capacity-building impact could be quite considerable. For example, the TA may recommend that the TDF support extensive local franchising initiatives; or that it support rural training programs in basic ICT skills. In either case, the pool of people who would benefit thereby could be extensive.

- **Technology Transfer:** Again, the technology transfer that occurs as a result of the TA will depend on its outcome and specific recommendations. To the extent that the TDF facilitates the deployment of particular technology platforms in rural areas (e.g., low-cost, solar-powered units providing both basic telephony and Internet access), a corresponding technology transfer will take place, potentially on a considerable scale.
- **Market Oriented Reforms:** In and of itself, a TA on behalf of the TDF would not contribute directly to market oriented reforms. However, to the extent that the TDF facilitates rural development and new entrants in the area of rural telecom service provision, there would be at least an indirect contribution.

Alternatives

In essence, the alternative, if any, to USTDA support to the TDF initiative is the prospect for support from some other donor aid program (e.g., CIDA of the Canadian Government; the UK's DFID; etc.). To the extent that the DM was able to determine, no other aid programs have expressed interest in providing such support; there are no indications that it would be forthcoming. Furthermore, any aid would take time to materialize; in contrast, USTDA has already provided assistance for projects in the telecom sector in Afghanistan, and both MOC and ATRA personnel are already familiar with USTDA procedures. Accordingly, USTDA assistance could materialize in a relatively short period of time. This is important from a developmental perspective, because the longer the funds accumulated in the TDF go unutilized, the more retarded the corresponding rural development will be.

D. PROJECT SPONSOR'S CAPABILITIES AND COMMITMENT

As already noted above (see Section B.2.3), expansion of the domestic network to currently uncovered parts of the country is a stated developmental priority of the MOC. The proposed TA addresses a key component of this developmental area, since the TDF will clearly play an important role in rural telecom development.

The basic framework for the proposed TA was developed in the course of a meeting with ATRA and MOC personnel on 6 April 2006. The project opportunity was discussed informally during a meeting on the same day with His Excellency Amirzai Sangin, Minister of Communications, at which a number of other opportunities were also discussed. The Minister confirmed that rational and effective utilization of the TDF was a priority issue for the MOC.

Based on the DM's subsequent project ranking (see Annex IV), and the recommendation that USTDA support the TA in question, the DM Contractor submitted a letter (dated 25 April 2006) to Minister Sangin with a fuller description of the proposed TA. During the in-country part of the mission, Minister Sangin had indicated that a TA in support of the TDF, along the lines indicated, was a major priority for the MOC and would receive his full support and cooperation.

A variety of sources, including US Department of State personnel working closely with the MOC, and USAID personnel assigned to ATRA, confirmed the MOC's view that the TDF project is a major priority, and also indicated that the MOC generally has a reputation of being one of the better-run government ministries in Afghanistan; in addition, the MOC has been the previous recipient of USTDA technical assistance and, insofar as the DM Contractor is aware, the corresponding projects have been carried out successfully.

Accordingly, the commitment of the proposed project sponsor is unquestionably high, and the sponsor has demonstrated capability to carry out the project.

E. IMPLEMENTATION FINANCING

1. Financing Considerations Relevant to the TDF

Given that the primary recommendation of this report is that a Technical Assistance be provided in support of the Telecom Development Fund (TDF), some comments are in order about the prospects for the Fund's continued economic growth. Prerequisites for continued robust investment in the telecom sector generally will also be discussed.

Investment to date in the telecom sector has occurred primarily through the two licensed GSM operators and subsidies to Afghan Telecom. Given that the TDF is capitalized by a 2.5% gross revenue tax on operators, foreign private sector investment will be a source of continuing revenues for the Fund's activities and growth in general.[5]

Roshan claims 80% coverage of Afghanistan's population, and is the largest revenue generator in the sector. It has been variously reported that Roshan is the largest single taxpayer as well, as there are few large and profitable corporations operating in Afghanistan. Information supplied by both the MOC and Roshan indicate that Roshan has contributed about $5 million to the TDF to date, and another $2.5 million is expected by mid-year 2006.

[5] Anecdotal evidence about how much actual revenue has been paid to the TDF indicates a far lower effective rate and in some instances non-payments by certain operators. Also, while some concern has been voiced about the availability of those funds for expenditure by the TDF, assurances have been provided by the Afghan government that those funds have been properly reserved.

Assuming that it has the same general cost structure and economics as Roshan, AWCC's total annual revenue is probably on the order of $120 million.[6] Assuming that the same 2.5% levy is applied to AWCC, the TDF could be expected to grow by about a further $2.9 million per year from AWCC's current activities.

The combined information for the two operators indicates that TDF revenues should accrue at around $9.25 million per year (assuming current market growth), and that cumulative funds available at the end of 2006 could approximate $14.25 million. This estimate further assumes that neither the third GSM license awarded to Areeba Afghanistan, nor the planned fourth licensee affiliated with Afghan Telecom, would contribute significantly to the TDF in 2006.[7]

As noted, Afghanistan has an extremely low fixed-line teledensity. Afghan Telecom has been tasked with the installation of additional fixed lines (and digital switches) in major population centers. The company has not yielded an operating profit to date, and will be further challenged to raise capital for this initiative as well as for the construction of the national fiber-optic backbone. It seems reasonable to suppose that Afghan Telecom will not contribute significantly to the TDF over the near to medium term.

The only other licenses currently awarded are Local Fixed Service Provider (LFSP) licenses for fixed-line service in rural areas. It is possible that these operators will require some form of subsidy. Indeed, the TDF might adopt a "reverse subsidy" approach to disbursements for the purpose of encouraging operators to work in under-served parts of Afghanistan. Thus, LFSPs could potentially find themselves as recipients of TDF-based start-up subsidies rather than TDF contributors.

Thus, the success of the planned Technical Assistance must take into account prospects for success for required capitalization of any rural access and other connectivity plan that it may recommend. Rural telecom development and the sector generally face substantial impediments for new entrants seeking cost effective operations and adequate capital for deployment of infrastructure. The MOC has stated that favorable tax treatment for current and new operators is a priority as is foreign direct investment. However, the experience of current operators indicates a need to revisit these issues (see the discussion below).

2. Donor Activity

[6] As discussed below, Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA) as well as Net Operating Profit After Tax (NOPAT) could be significantly less for AWCC especially considering the greater number of employees compared to Roshan.

[7] Award of a fourth Universal Service License to Afghan Telecom is apparently being considered. Watan, a venture backed by the Emirates Telecommunication Corporation (Etissalat), has expressed an interest in the license. Linking a Universal Service License with Afghan Telecom is also perceived as a means to increase the value of the newly corporatized entity and to spur interest in privatization. However, industry participants have expressed strong concern over the issue of Universal Licenses, particularly as they impact the value of current GSM licenses and consequently operator willingness to expend capital on service roll-outs.

Currently, aside from funds set aside by USAID and the amalgamation of United Nations donor countries, the Asian Development Bank (ADB) has been most active in infrastructure development, but not necessarily in the area of telecom and ICT. Like its program in Central Asia (reviewed in other parts of this report), ADB assistance is structured as highly concessional because of Afghanistan's poverty and large debt service requirements – much of ADB's assistance is in the form of grants and concessional loans[8]. In Afghanistan, the ADB provides loans from its Asian Development Fund, which usually allows for a 40-year term, including a grace period of 10 years on principal repayment. Interest is usually set at 1% per annum, with the interest charge during the grace period capitalized and charged to the loan account. At the Berlin Conference in 2004, ADB pledged to consider assistance of about $800 million in Asian Development Fund loans and grants during 2005–2008. Because of Afghanistan's need to be extremely cautious about accumulating external debt, even on highly concessional terms, up to half of the total lending allocation will be provided on a full grant basis.

The ADB recently approved a $35 million loan to Roshan to finance nationwide expansion and upgrading of its cellular network. Conversations with Roshan indicate a larger facility has been arranged that includes the ADB loan as a co-financing in a total facility of $65 million. Access to capital by telecom firms and new entrants is discussed below as a constraint on the growth of the TDF.

USAID currently has a $15 billion portfolio in Afghanistan. According to Christopher Broughton of the USAID, much of its technical assistance in telecommunications is being implemented by Bearing Point with a particular focus on reform of the telecom regulator ATRA and the MOC. In all, over 100 projects have been identified in the area of ICT and telecom for implementation through USAID in the medium to near future. More specifically, USAID helped draft the new telecom law and introduced measures to corporatize the national telecom company (Afghan Telecom).

Important technical assistance programs have also been carried out by the United Nations Development Programme (UNDP). Interviews with Tamim Samee, Program Manager, indicate support for efforts to reform civil service pay scales in the country. With UNDP guidance, the Afghan government has initiated the civil service restructuring (PRR) program, which enables government departments to transfer or appoint key staff at higher pay scales for a fixed term. This is an important development for the success of the new telecom regulator and the MOC in the area of adequate capacity building. The PRR civil service scale in Afghanistan for technical personnel is about $500 per month, while the private sector offers $2,000 to $2,500 per month. Discussions with Roshan indicated similar hiring issues.

[8] In general, concessional (also known as "soft") loans involve lower interest rates and longer repayment periods than typical or standard market or multilateral loans, i.e. less than market interest rates and extended grace period.

UNDP is also actively supporting the National Data Center (NDC) project addressed elsewhere in this report. According to Samee, the UNDP has agreed to carry out a Feasibility Study on certain aspects of the NDC; funds have been set aside but not yet appropriated.

3. Access to Capital in Afghanistan

A general issue in the Afghan economy is the lack of commercial banking debt and reasonably priced long-term capital. In a recent study by the World Bank[9] access to adequate commercial bank lending among its survey group was ranked as the third largest constraint to growth after access to electricity. Currently 12 banks are licensed to operate in Afghanistan[10], but most are concentrated in Kabul and cater to NGOs, international donors and foreign government agencies. According to the World Bank, the longest tenured commercial loan is three years and most banks are actually providing fully cash collateralized letters of credit to businesses. The study indicates that almost all business expansion is funded by family and friends outside the country or internal cash flow and retained earnings.

Short term banking needs (six months and less) are provided by the traditional *hawala* (informal value transfer) system including facilitation of import and export trading, an area singled out for reform by the donor community. The burgeoning *hawala* market operates without any external regulatory or supervisory oversight. Regulating the hawaladars is a difficult task given that many of them are difficult to identify and locate, and they most often have no incentive to disclose their activities for external monitoring and supervision. The varied and multifarious transactions of the *hawaladars* and the weak capacity of the Central Bank to implement regulations add to the complexity of the problem.

One metric of the need for commercial bank debt is the fact that most of the business of telecom operators is based on cash payment rather than credit or billing. The ability to invest cash at market rates or substitute it with third party finance is crucial to profitable operation for any business. Roshan indicated that, in 2004, 50% of its current assets derived from prepaid services and cash on deposit from customers. Roshan also indicated, although cash in advance declined markedly in 2005, prepaid service is still by far the most predominant.

4. Need for Foreign Direct Investment

[9] *"The Investment Climate in Afghanistan,"* Finance and Private Sector Development, World Bank, December 2005.
[10] Arian Bank, Habib Bank, National Bank of Pakistan, Punjab National Bank, Standard Chartered Bank, First MicroFinance Bank, Kabul Bank, Bank Mille Afghan, Pashtany Tejaraty Bank and Afghanistan International Bank (AIB).

Sector expansion through foreign investment is essential for continued growth of the TDF. For example, the MOC's goal of attracting LFSPs will depend, in part, on their ability to finance capital expenditure prior to financial payback on those returns.

The government has made encouraging first steps in this regard. It created the Afghan Investment Support Agency (AISA) in September 2003 to streamline the review of laws and related administrative procedures for businesses; to support both foreign and domestic investment and to provide single window approvals. AISA sponsored an important investment conference in May 2006.

Foreign investment reform has been underway since the GoA passed the Law on Investment for both domestic and foreign investors in September 2002. According to experts, the new investment law seeks to encourage foreign and domestic private investment and business activity in Afghanistan rather than control and limit private sector activity, as was formerly the case. While this is an improvement, the law has many flaws.[11]

In addition, the GoA has established a "one-stop-shop" for foreign investment and the Commercial Code is currently being revised by the Government with assistance from USAID and other donors.

Notably, the inability to quickly transfer land to private owners in Afghanistan has hampered establishment of businesses in the country (in addition to inadequate commercial lending, discussed above). The Foreign Investment Law also provided for a number of tax holidays and accounting incentives to certain businesses from which telecom companies have been the notable exclusion.

While the use of Net Operating Loss Carry-Forwards (NOLCs) and accelerated depreciation methods have been implemented to shelter income from taxation for many businesses, the Afghanistan government has been reliant on only a handful of companies to generate substantial tax revenue. This dilemma has lead to inconsistent enforcement of rapidly changing accounting regulations for a number of companies, including Roshan.

As an illustration, Roshan's effective tax rate is higher than for other firms in the economy. On March 20, 2005 the government imposed a 10% Business Receipts Tax (BRT) on Roshan's services. The BRT was also deemed to have retroactive effect although this is being contested by Roshan because the necessary authorizations had been obtained (many companies do not have the administration to ensure compliance with the myriad tax laws and their amendments). Roshan is also subject to the general corporate tax rate of 20% and the TDF-imposed levy of 2.5%.

[11] The law provides for the granting of tax waivers or holidays of different duration to three classes of investment: short-term, medium-term and long-term that may be granted on a case-by-case basis in accordance with "universal norms". However, the three classes are not defined, nor are the "universal norms". The law also stipulates that an investment with foreign ownership can only be sold to Afghan citizens or Government which biases companies to from ownership structures outside the country in order to quickly liquidate or exit the market of necessary.

While there are many barriers to foreign direct investment, positive developments should also not be overlooked.

The Afghanistan Renewal Fund (ARF) is the country's first venture capital fund and contributors include high net-worth private investors (current management), the ADB, CDC[12], OPIC and the Rebuilding Agricultural Markets Program (RAMP) funded by the USAID. The ARF is managed by ACAP Partners, established in 2004 with the support of Actis, a leading investor in emerging markets with over $3 billion of funds under management. The Overseas Private Investment Corporation (OPIC), in cooperation with the ADB, approved financing for the $20 million fund. OPIC's stake is a senior secured loan while the ADB has contributed $5.5 million in start-up financing.

Interviews with management indicated that ARF would focus on construction materials, banking and financial intermediation, agribusiness and telecoms as target markets for initial investment. The ARF will provide management expertise and structuring advice, as well as long term private capital to those businesses and anticipates subsequent rounds of capital raising activity.

In sum, telecom sector revenues, and correspondingly the TDF, are expected to increase over time and to provide financing for the rural-development recommendations that will come out of the Technical Assistance. How rapidly those funds will increase is still an open question.

F. US EXPORT POTENTIAL

1. Estimation of Export Potential

Estimation of the potential for US exports that might eventually result from successful completion of the TA is complicated by a number of factors. In the first place, until the TA itself is completed, it is not clear what procurements of hardware and equipment, if any, might result from putting the TDF to productive use. (For example, conceivably the TDF could be allocated largely or entirely to non-procurement-related activities, such as subsidies to rural operators.) Second, apart from the case of the two principal cellular operators, there is very little "track record" of telecom equipment sales to Afghanistan. Third, even if the TDF, or some portion of it, is allocated to equipment purchases (or, for example, to subsidies to villages or franchisees for equipment purchases, which is essentially the same thing), it is not clear *a priori* what manufacturer(s), technology(ies), platform(s) or functionality (e.g., basic telephony versus telephony + messaging versus

[12] CDC, founded in 1948, is the UK government's instrument for investing in the private sector in developing economies. CDC's mission is to generate wealth in the emerging markets, particularly in poorer countries, by providing capital for investment in sustainable and responsibly managed private sector businesses. Priority markets are in Africa and South Asia. CDC has built up a portfolio valued in excess of US$2 billion. Its funds are currently deployed in 250 companies in 60 countries.

phone + fax + Internet access) might be involved. At a minimum, the possibilities include a wide range of wireless technologies (e.g., VSAT, terrestrial microwave, WiFi, WiMAX, as well as conventional cellular), plus, of course, whatever terminals or subscriber units are adopted. In addition to hardware and systems, moreover, there could be potential for export of US-based services such as implementation assistance, system integration, etc. Thus there are uncertainties associated with virtually every aspect of the estimation of the potential for US exports. Accordingly, such estimation requires a number of assumptions, some of which are essentially educated guesses.

One point of departure is the TDF itself. As noted above (Section E.1), the TDF is expected to grow to around $14.25 million by end 2006. Assuming a steady rate of growth – a very conservative assumption – the Fund should accumulate a total of $32.75 million by end 2008. Assuming that a) the entire sum accumulated up to that date is allocated; b) 50% of the funds go either directly or indirectly to equipment purchases; and c) of the equipment purchased, 50% is supplied by US manufacturers, the total US export value over the period would be approximately $8 million. Needless to say, there is a further underlying assumption here, namely that rural telecom development is funded exclusively from the TDF; it discounts other initiatives, e.g., from LFSPs or other private-sector agents, as well as a variety of "knock-on" effects that could be spurred by robust rural telecom development and that might result in purchases of US equipment. Accordingly, the $8 million figure is probably conservative.

Another approach is to perform a rough "top-down" estimation of the likely cost to "wire up" the unserved areas of Afghanistan. Here again, a great many uncertainties are encountered; one of the few reasonably firm data points is that the unserved populated places in Afghanistan are said to number 38,000. However, to translate this number into even an order-of-magnitude cost estimate, it is necessary to make assumptions about a) the degree of geographical coverage; b) the functionality to be provided; and c) the density of coverage (e.g., one phone/communication unit per village? one phone/unit per five villages? some other metric, such as one phone within a given maximum distance?). Additionally, there are considerable uncertainties associated with factors of geographical proximity to / remoteness from existing or planned backbone network facilities, which significantly impact the cost of service provision to any particular location. It can be said, however, that since the great majority of these locations do not have mains power, provisioning of a suitable power supply (e.g., photovoltaic) should be considered an integral part of the solution.

As a general rule of thumb, the fully loaded cost of providing basic telephone service in the developing world is on the order of $750; this figure roughly triples (to around $2500) if basic fax and Internet-access capability are added.[13] If we assume a) that 50% of the 38,000 populated places are eventually "wired up"; b) 75% of the deployments are basic telephony, while the remaining 25% includes fax and Internet capability; and c) that 50% of the resulting equipment sales (communication units, wireless / microwave /

[13] These figures presuppose relatively large-scale deployments (several hundreds to thousands of units) and corresponding economies of scale.

VSAT communications infrastructure, etc.) is sourced from the US, then the US export potential would be estimated at $11.281 million. This is in reasonably good agreement with the "conservative" $8 million figure derived above via an entirely independent line of reasoning. Combining these estimates yields a rough average of $10 million.

2. Potential US Suppliers

Identification of potential US suppliers is complicated by the fact that, as noted above, it is not clear at this point what equipment and systems would eventually be recommended or deployed. To the extent that the solutions involve wireless communications technologies, and in particular CDMA-450, WLL, WiMAX and WiFi, as well as conventional VSAT, it can be generally stated that US manufacturers are strongly positioned and well qualified, although their present capabilities to support large-scale deployments in Afghanistan are unknown.

Because the eventual solutions are likely to involve extensive use of solar power, and because the DM Contractor was requested to provide a preliminary evaluation of one particular such solution for possible deployment in Afghanistan, some attention will be paid here to solar-powered communications technology in particular.

It should be noted first of all that, notwithstanding considerable interest and activity in the application of solar power to telecom, there is not really a "solar-powered communications industry" *per se*, either within or outside the US. The general pattern has been that existing off-the-shelf technology has been adapted by interested parties – international or domestic aid organizations, local community groups, etc. – for the purpose, generally on a one-off basis. For example, under the Clean Energy Initiative, USAID provided funding for solar-powered communication units of this type to 450 Peruvian healthcare facilities. Many similar examples of small- to medium-scale solar-powered deployments of this type, particularly in Africa, could be cited.

An interesting exceptional case is presented by Inveneo, a nonprofit organization headquartered in San Francisco with the avowed mission of using open-source technology to deliver sustainable and affordable communications solutions in rural areas with no access to electric power or communications infrastructure. Inveneo's basic solution, known as the Inveneo Communications System (ICS), is a solar-powered platform that combines computing, Internet Access and VoIP telephony. Reportedly, the Inveneo solution has been successfully deployed in rural villages in Uganda,[14] and Inveneo is pursuing similar initiatives in other African countries as well as Afghanistan. In Afghanistan, in particular, Inveneo is in effect proposing that its ICS units would operate as extensions of the DCN to provide connectivity to remote rural villages, thus acting as the "local" layer of the three-tiered structure GCN—DCN—local communications.

[14] The scale of deployment is not clear, but is evidently relatively small. Reports indicate a first phase covering five villages, with plans to expand to another 25.

The idea of furnishing a communications infrastructure that is independent of mains power, easy to operate, reliable, cheap and durable is obviously an attractive one for Afghanistan. At the same time, the following issues need to be considered (as they apply to the ICS or to any other similar solution):

- How do the ICS units interconnect to the DCN in general, and in particular if the former are not directly co-located with the latter? In particular, how many remote units can be supported from a DCN node, and how is this done? What additional hardware is required to manage multiple remote sites?
- The ICS and the DCN present issues of scaleability and interoperability. For example, the design limits of the DCN are unclear, although the figure of 6000 end nodes is mentioned. The ICS documentation mentions an eventual target of 10,000 end nodes. Will the DCN have enough capacity to accommodate them, along with the other applications it needs to support? And will the ICS and DCN be able to fully interoperate at any level of scale?
- The Inveneo specifications refer to WiFi (802.11b) and "other wireless connectivity options" besides WiFi, but does not state what other options are supported. WiFi has notable distance limitations, even with directional antennas, and the rugged terrain of much of Afghanistan must also be taken into account. A question that arises is, what proportion of remote rural villages in Afghanistan could feasibly be reached by the ICS solution?
- Does the photovoltaic power supply have some kind of storage capacity, so that the ICS will be operational at night or in cloudy weather?
- What provisions are made to "ruggedize" the ICS units with a view to the particular conditions that prevail in rural Afghanistan?
- How with the ICS units be maintained, serviced and supported, and what training will be provided in their use?
- In general, what is the underlying business model? Is some kind of a franchise operation envisaged? Who will the stakeholders be? Will they own or lease the equipment, or will it be donated gratis? How will operating profits be shared? How will necessary community buy-in be achieved? Does the Telecom Law or other legislation authorize whatever kind of third-party telecom service resale may be involved?

If these issues can be adequately addressed, through provision of additional technical information, research, in-country pilot testing under realistic conditions, or other means, Inveneo could be well positioned to supply a large-scale, cost-effective rural communications solution throughout Afghanistan.

G. FOREIGN COMPETITION

As follows from the preceding, the fact that there is very little "track record" of equipment sales to Afghanistan, apart from the case of the major cellular operators, means that it is likewise very difficult to identify specific sources of foreign competition. And again, the task is further complicated by the present lack of knowledge as to what technology(ies), platform(s) or functionality might eventually be deployed.

As already noted, "solar-powered communications" is not a well-defined industry, either inside or outside the US, in the sense that few commercial firms specialize in this technology. One exception in this respect is Gilat (Israel), which offers a public-service, rural telephony product known as DialAway VSAT that supports satellite-based voice/fax/data channels to and from remote locations. The system is intended to provide public call office and payphone services for remote rural communities, and has been designed specifically with a view to solar-powered operation. The system can also be used in conjunction with Gilat's higher-performance FarAway VSAT solution, which has been deployed in some Central Asian countries (Tajikistan in particular). However, political factors may preclude an Israeli company from becoming active on the Afghan market.

Among other countries in the region, India offers numerous instances of deployment of solar-powered telephones, small PBXs and Internet access units. For example, Greenstar India, a consortium of companies from India and the United States, began deployment of solar-powered community communications and e-commerce centers in India as early as 2000. Since then, many other organizations have followed suit, although the solutions have generally been on a small scale and not coordinated with one another. Indeed, one recent survey of the solar-powered communications scene in India reported that 30 different, and sometime incompatible, systems were in operation.

It can be noted that India generally enjoys good relations with Afghanistan, and already provides an extensive pool of technical talent to the Afghan telecom/ICT sector. Even though the results in India have been mixed, it seems likely that Afghanistan will look to India for models of solar-powered rural communications development.

H. IMPACT ON THE ENVIRONMENT

The Technical Assistance is not expected to have any measurable environmental impact.

I. IMPACT ON US LABOR

The "Impact on US Labor" Statement reads as follows:

> "The Foreign Operations, Export Financing and Related Programs Appropriations legislation restricts U.S. foreign assistance from being used to provide: (a) any financial incentive to a business enterprise currently located in the United States for the purpose of inducing such an enterprise to relocate outside the United States if such incentive or inducement is likely to reduce the number of employees of such business enterprise in the United States because United States production is being replaced by such enterprise outside the United States; (b) assistance for the purpose of establishing or developing in a foreign country any export processing zone or designated area in which the tax, tariff, labor, environment, and safety laws of that country do not apply, in part or in whole, to activities carried out within that zone

or area; (c) assistance for any project or activity that contributes to the violation of internationally recognized workers rights; and (d) direct assistance for establishing or expanding production of any commodity for export by any country other than the United States, if the commodity is likely to be in surplus on world markets at the time the resulting productive capacity is expected to become operative and if the assistance will cause substantial injury to United States producers of the same, similar, or competing commodity."

There is nothing in either proposed Technical Assistance or in any likely ensuing activities to indicate any likely breach of the above conditions.

J. QUALIFICATIONS

General Qualifications of Consultant Team

As is evident from the accompanying Terms of Reference (TOR; see Annex I), the proposed TA is multidisciplinary in nature. Accordingly, the skill sets and expertise of the Consultant Team are expected to be diverse. The following general attributes on the part of the Consultant Team are considered critical to the successful outcome of the Technical Assistance:

- Requisite breadth and depth of expertise in telecom and ICT
- Broad familiarity with and first-hand knowledge of world experience with rural telecom development and Digital Inclusion initiatives in general, and with establishment, administration and utilization of telecom development funds in particular
- Ability to meaningfully "translate" world experience for the benefit of a non-US (specifically Afghani) constituency.

In addition to the above general attributes, it is expected that the Consultant Team will have demonstrable specific expertise in rural telecom development technologies and infrastructure; business models, economics and finance; and community involvement.

Furthermore, the following additional attributes are also considered critical to a successful outcome:

- Willingness of Consultant Team members to spend significant time in-country
- A work plan ensuring close collaboration and interaction with the MOC
- The capability to deliver quality results and recommendations in timely fashion

The specific composition of the Consultant Team for the recommended TA will now be described.

Team Composition and Experience

In terms of the composition and particular credentials of the Consultant Team, it is

judged that the team should consist of the following:

- One (1) Team Leader
- One (1) Legal/Regulatory Expert
- One (1) Technical Expert
- One (1) Economic/Financial/Business Planning Expert
- One (1) Community Planning Expert
- One (1) Local Expert and Local Liaison

More specific descriptions follow.

Team Leader:

- At least fifteen (15) years' experience in the telecom or ICT industry
- Strong background in one of major areas of the TA (Legal/Regulatory, Technology, Economic/Financial/Business Planning, Community Planning)
- Both a US and an international perspective on the telecom/ICT industry, with the international perspective preferably gained through on-the-ground project work, ideally in the context of rural telecom or so-called Digital Inclusion initiatives
- Management, organizational and cross-cultural skills and perspective to structure, oversee and carry out the TA effectively
- Ability to communicate findings effectively and to liaise appropriately within the MOC environment and with other potential stakeholders

Legal / Regulatory Specialist:

- At least ten (10) years' experience in the telecom/ICT industry,
- Strong telecom legal / regulatory background, preferably including hands-on experience with rural telecom development issues
- Experience in working with and evaluating telecom policy and regulation in emerging markets, together with appropriate research and analytical skills

Technical Expert:

- At least ten (10) years' experience in the telecom/ICT industry, preferably including hands-on experience with rural telecom deployment
- Strong technical background in rural telecom technology, particularly 1) narrowband and broadband access and "last-mile" solutions, both wireless and wireline, 2) IP-based networks; 3) telco and alternative infrastructures
- Ability to assess technical feasibility, price/performance, trade-offs, etc., of a variety of possible deployment alternatives and to assist with their cost estimation

Economic/Financial/Business Planning Expert:

- At least ten (10) years' experience in the telecom/ICT industry, preferably including hands-on experience in rural telecom environments
- Familiarity with rural telecom business planning issues and business models (forms of sponsorship; role of local government and other stakeholders; sustainability)
- Experience in economic/financial planning in rural or related telecom/ICT environments (working with subscriber levels, service rates/tariffs, revenue levels, capital and operating expenses, etc.)

- Ability to perform appropriate economic and financial analyses.

Community Planning Expert:

- Experience with community-involvement aspects of rural telecom, and with mechanisms by which community buy-in has (or has not) been achieved in other developing-country environments
- Familiarity with methods of identification and engagement of relevant stakeholders

Local Expert and Local Liaison:

- Qualified Afghani entity, which could be an individual regulatory expert, law firm dealing with telecom regulation, or NGO engaged in rural telecom, Digital Inclusion, and/or rural development-related activities
- Knowledge of Afghani telecom legal/regulatory framework in general and of status of rural development initiatives particular
- Ability to conduct necessary research and legal/regulatory diligence
- High degree of fluency in English would be an advantage

In practice, it is unlikely that the backgrounds of the team members will fit the above profiles exactly. However, the collective qualifications of the Consultant Team should correspond to those described. If a proposed Consultant Team offers a comparable skill set but with a different distribution, or a basic arrangement different from the five-member team plus Local Expert and Local Liaison described above, it must be clearly demonstrated how such a team can efficiently carry out the full scope of the TA.

Suggested Evaluation Criteria

It is suggested that the selection of the Contractor be based on the following criteria:

Criterion	Max. Points
Expertise and skills of proposed personnel	40
Proposed approach to the TA and to the individual tasks	30
Pertinent international experience and cross-cultural skills	30
Total:	**100**

K. JUSTIFICATION

The proposed TA can be justified in general terms in terms of the prospective positive developmental impacts, for ATRA, the MOC, the telecom sector and for the larger Afghani economy, as enumerated above in Section C. A more specific justification for the TA is that, in a country where development funding in general, and funding for rural telecom development in particular, is extremely hard to come by, the TDF represents a substantial, and growing, pool of hard cash that is currently sitting idle for want of a clear framework for its utilization. A major focus of the TA would be to put this resource to

productive use. Additionally, it should be borne in mind that economic progress in Afghanistan is significantly retarded by a general lack of poor communications, exacerbated by weak central government and lack of a cohesive national identity as a result of persistent ethnic and tribal differences. Provision of better communications to rural areas affords some opportunity to begin to address these fundamental issues. Finally, in the DM Contractor's opinion, while Afghanistan presents a particularly challenging environment, there are a substantial number of US-based firms with relevant experience in developing economies, particularly in Central and South America, who are in a position to convey to their Afghani counterparts a wealth of valuable experience with world best practices in rural telecom development.

Accordingly, the DM Contractor believes that funding of the TA on behalf of ATRA would represent a good use of USTDA resources.

L. TERMS OF REFERENCE

The proposed Terms of Reference for the proposed Technical Assistance are attached as Annex I.

M. BUDGET

The proposed Budget for the proposed Technical Assistance is attached as Annex II.

N. RECOMMENDATIONS

The DM Contractor recommends that USTDA fund the Technical Assistance project in question, under the conditions set forth in the TOR, at a budget level of $404,500.

O. CONTACTS

A list of contacts is appended as Annex III.

TERMS OF REFERENCE

TECHNICAL ASSISTANCE IN RURAL TELECOM DEVELOPMENT ON BEHALF OF THE AFGHANISTAN TELECOM REGULATORY AUTHORITY (ATRA)

INTRODUCTION

The fundamental objective of the TA is to assist the Afghanistan Telecom Regulatory Authority (ATRA), and indirectly the Ministry of Communications (MOC), in the area of rural telecom development in Afghanistan, with a particular focus on how best to implement and administer the Telecom Development Fund (TDF), as prescribed by the Telecom Law, so as to maximize the effectiveness of the TDF as an instrument for improving rural access.

The establishment of the TDF, as well as the recent commencement of operation of ATRA, which is designated by the Telecom Law as the TDF administering entity, have created certain prerequisites for coordinated rural development. Additionally, the MOC is moving forward with certain infrastructure and licensing initiatives, in particular the Government Communications Network (GCN) and District Communications Network (DCN) projects, and Local Fixed Service Provider (LFSP) licenses, all of which have definite implications for the development of rural telecom in Afghanistan.

The proposed TA intersects with, and builds upon, these prerequisites and initiatives, and includes technical, economic/financial and administrative components. An important aspect of the technical component is to ensure that initiatives at the local/rural level can properly integrate and interoperate[1] with systems at the district and national levels. A further aspect of the TA would be to examine mechanisms by which both existing operators and new entrants can be incentivized to participate in rural development, as well as mechanisms to promote community "buy-in" to rural communications facilities.

ATRA was designated as the Grantee of the TA by H.E. Minister of Communications Amirzai Sangin. It is expected that close liaison and coordination with the MOC, as well as with other actors in the telecom sector, will be required in the course of the TA.

[1] It is understood that "interoperate" and "interoperability" are not precisely defined concepts. A working definition of interoperability, for present purposes, is: Interoperability is the capability of ICT systems and of the applications they support to exchange data and to enable sharing of information and knowledge, in particular in a multivendor/multiplatform environment. Interoperability does not necessarily extend in this case to "cultural" issues such as provision of local language content, although these issues may be pertinent to user accessibility to, and ease of use, of the systems and applications in question.

SCOPE OF THE TECHNICAL ASSISTANCE

The specific tasks of the TA are enumerated below.

Task 1: Survey and Assessment of Rural Telecom Development (RTD) Initiatives
Primary Task Location: US

The Consultant Team shall conduct a survey and assessment of RTD initiatives worldwide, with particular reference to environments comparable to Afghanistan and to environments where Telecom Development Funds (TDFs) have been applied. It is anticipated that the survey shall include both a broad overview and a number of more in-depth "case studies," the latter comprising a reasonably representative sample of the larger picture and drawn from a range of technical solutions, economic and business models, and rural community environments.

In both the broad overview and the case studies, particular attention shall be paid to the following:

- Technology platforms employed, as well as associated economic issues (see also Task 4b below)
- Business-related issues, including business models, financing/subsidization mechanisms, partnering arrangements, sustainability issues (see also Task 4 below)
- Manner of establishment, administration and utilization of TDFs (see also Task 6 below)
- Strategies and mechanisms for incentivizing operators/licensees to participate in RTD, and for achieving community "buy-in" (see also Tasks 7a and 7b below)

Particular attention shall be paid to the identification and assessment of factors (of whatever nature) that have impacted the relative success or failure of the RTD initiatives.

Task 2: Initial Visit and Assessment of the Current Situation in Afghanistan
Primary Task Location: Afghanistan

It is anticipated that, after award of contract but prior to arrival in Afghanistan, the Consultant Team will develop and submit to the MOC a Preliminary Information Request (PIR).[2]

The Consultant Team shall travel to Afghanistan to conduct an initial familiarization and assessment visit. The visit shall include meetings with ATRA, the MOC and other major stakeholders in RTD initiatives; a review and assessment of the state of RTD initiatives in the country, in the context of the telecom development initiatives and policies of the Government of Afghanistan (GoA) and the broader economic/social/political realities of the country; familiarization with the major players (e.g., wireless and wireline telecom

[2] The Consultant Team should consult the Web sites of the MOC (www.moc.gov.af) and ATRA (www.trb.gov.af) for general background information.

operators, ISPs, equipment/solution suppliers) and with the sets of services currently offered or contemplated.

Specifically, Task 2 is comprised of three sub-tasks, as follows:

Sub-Task 2a: Meetings with Stakeholders and Interested Parties. The Consultant Team shall meet with interested stakeholders in RTD initiatives. In addition to ATRA, it is anticipated that these will include the MOC; local operators/licensees; the Ministry of Finance (if appropriate); as well as a number of domestic and foreign organizations in Afghanistan working on aspects of rural connectivity and Digital Inclusion.

Sub-Task 2b: Macro Level Survey. The Consultant Team shall conduct a general survey of the economic, social and political situation of Afghanistan, particularly as it affects RTD initiatives, the telecom sector and the prospects for further sector development and liberalization.

Sub-Task 2c: Assessment of Service Regime. The Consultant Team shall conduct an assessment of the telecom sector, with an emphasis on the major operators/licensees and their market position; services offered or contemplated; service availability, coverage and quality; and rates and tariffs. Particular attention shall be paid to those providers (e.g., existing or forthcoming cellular operators) who could act as "enablers" of RTD initiatives.

Upon completion of this task, the Consultant Team shall produce an Inception Report (see below). The Consultant Team shall obtain the formal approval of the Inception Report from ATRA, thus indicating satisfactory performance of Tasks 1 and 2.

Task 2 Deliverable: *An Inception Report describing the findings to date and their implications for RTD, as well as the implications in terms of the focus and content of the subsequent tasks.*

Task 3: Legal/Policy/Regulatory Review
Primary Task Location: part Afghanistan, part US

Implementation of RTD solutions in Afghanistan must take account of a number of aspects of the legal/regulatory regime, which could significantly impact the technical and/or commercial feasibility of the solutions proposed. These aspects may include:

- Position and status of RTD within the broader and still evolving legal/policy/regulatory framework, with particular reference to the status of provision of Universal Access under the Telecom Law; and the definition of Universal Service and the Universal Service Obligation
- Revenue-sharing mechanisms (e.g., Sender Keep All) and interconnection issues as they affect RTD, e.g., interconnection between local/rual and long-distance providers
- Status of, and prospects for, funding mechanisms for RTD initiatives (e.g., subsidy mechanisms apart from the TDF itself; franchising)
- Rural telecom licensing issues

The Consultant Team shall seek to identify potential legal/policy/regulatory obstacles to the implementation of RTD solutions in Afghanistan. To the extent practicable, the Consultant Team shall indicate what needs to be done to overcome or mitigate the obstacles in question, and what appropriate actions, if any, should be undertaken by ATRA, MOC or other interested stakeholders.

Task 3 Deliverable: *A report comprising a review of pertinent legal/policy/regulatory issues, with supporting rationale and recommendations*

Task 4: Evaluation of Key RTD Technological Solutions, Architectures, and Their Attendant Economics and Risks/Benefits; Identification of US-Based Suppliers
Primary Task Location: US

Task 4 is comprised of three sub-tasks, as follows:

Task 4a: Technical Evaluation of RTD Platforms. Using the findings of Task 2 as a point of departure, the Consultant Team shall evaluate key current and identifiable forthcoming technological platforms, solutions and options utilized in RTD initiatives. Since the particular solutions considered should be feasible under conditions prevailing in Afghanistan, it is anticipated that the list of particular platforms/solutions to be evaluated will be subject to agreement with the MOC. Provisionally, it is expected that this list will emphasize wireless solutions (e.g., conventional and advanced cellular, WLL, WiFi, Wi-MAX, CDMA-450, satellite), although wireline solutions are not excluded.

The evaluation may include, but is not necessarily limited to, consideration of the following:

- Performance / reliability / Quality of Service parameters
- Ease of deployment, management, maintenance, support
- Scaleability
- Compatibility / interoperability with one another and with existing / planned infrastructure initiatives (e.g., GCN, DCN)
- Use of open versus proprietary standards/protocols
- Spectrum requirements
- Backhaul/interfacing requirements

Task 4b: Economic Evaluation of RTD Platforms. Additionally, the Consultant Team shall review available cost data on, and analyze and compare the economics of, the various platforms considered (capital cost, rates of return per unit, etc.). To the extent practicable, the Consultant Team shall calculate fully loaded costs per subscriber unit, or similar comparison metric, for representative deployments.

The Consultant Team shall also seek to identify and compare technological and/or economic risks and benefits associated with the various platforms/solutions.

Task 4c: Identification of US Suppliers. The Consultant Team shall prepare a comprehensive list of US suppliers of RTD technological solutions and equipment. The list shall include the following:

- Identification and contact information (including the name, phone and fax numbers and e-mail address of a suitable contact representative)
- Description of the particular technological solutions and/or equipment supplied, including basic technical characteristics
- Identification of significant RTD environments worldwide, and in particular in environments comparable to Afghanistan, in which such solutions and/or equipment have been or are being deployed
- An indication of the supplier's overseas sales/support capabilities, with particular reference to Afghanistan and neighboring countries.

Task 4 Deliverables: *1) A report describing the agreed-upon technological platforms/solutions and options (e.g., types in common use in RTD; how to implement them; how to integrate them with existing infrastructure); 2) an economic analysis of the platforms/solutions in question; and 3) a listing of US suppliers of RTD technological solutions and equipment, as described above.*

Task 5: Review and Evaluation of RTD Business and Funding Models
Primary Task Location: US

Using the findings of Task 2 as a point of departure, the Consultant Team shall review, evaluate and classify the business models that currently underlie pertinent RTD initiatives.

As is well known, attraction of investment into rural telecom is generally problematic. At the same time, available information suggests that successful RTD initiatives have employed a considerable range of innovative business models. For example, such initiatives may be sponsored entirely by the private sector; entirely by the public sector; or through some form of public-private partnership. Conceivably, they could involve the creation of a special-purpose company via which operators can share network facilities and sites without the obligation of ownership. Funding mechanisms are correspondingly diverse.

The Consultant Team shall provide a detailed review and analysis of these issues. Further aspects of this task include a general assessment of the factors (CAPEX and rate of return parameters such as IRR) that determine the choice of business model, as well as of the factors that affect the longer-term sustainability of RTD initiatives. Finally, to the extent practicable, interrelationships between business models and technological solutions/architectures shall be explored.

Task 5 Deliverable: *A report describing the pertinent findings and the typology of business models. Relevant strategies and techniques for implementing such models shall also be described.*

Task 6: Development of Recommendations on Optimum Utilization of TDF
Primary Task Location: US

Based on the results of Tasks 1–5, the Consultant Team will develop recommendations on how the TDF can best be utilized to solve problems of providing rural connectivity in Afghanistan. Such utilization could involve a range of possibilities, including direct investments in particular improvements; subsidies; franchises; etc. Separately, the Consultant Team will also develop recommendations as to how the TDF can be best administered by ATRA, given the profile and capabilities of the latter – for example, the TDF could be administered by a department under ATRA or by a functionally separate entity. The Consultant Team will estimate the associated manpower and skill requirements that are required.

Task 6 Deliverable: *A report describing the pertinent findings and stating the corresponding recommendations, with supporting rationale as necessary and appropriate.*

Task 7: Elaboration of Strategies and Mechanisms for Incentivization of RTD
Primary Task Location: US

Task 7 is comprised of two sub-tasks, as follows:

Task 7a: Incentivization of Operators/Licensees: Using the findings of Task 2 as a point of departure, and in consultation with the MOS, the Consultant Team shall develop appropriate strategies for incentivizing current and future operators to engage in RTD. Such strategies might involve, *inter alia,* more favorable licensing conditions; concessional mechanisms; subsidies (under the TDF or otherwise); partial or full exemption from TDF contributions under certain circumstances (so-called "pay-or-play" schemes); the use of government supported dedicated financing vehicles or guarantees; etc.

Task 7b: Achievement of Community "Buy-In": Using the findings of Task 2 as a point of departure, and in consultation with ATRA, the Consultant Team shall carry out an assessment of the various strategies and mechanisms by which RTD initiatives have achieved community and/or stakeholder "buy-in," and how such strategies/mechanisms might be applicable to Afghanistan. Of particular interest are methods of:

- Establishing a shared vision
- Outreach and engagement strategies;
- Identifying and recruiting key local stakeholders

While strategies/mechanisms leading to "success stories" are obviously of interest, attention should also be paid to instances in which these or other strategies/mechanisms have not been notably successful, and correspondingly to the factors that tend to affect the success or failure of the outcome.

Task 7 Deliverable: *A report offering a detailed examination of the relevant operator/licensee incentivization and community buy-in issues. If ATRA so wishes, the community buy-in portion of the report may be formatted as a practical "how-to" guide and with draft text of appropriate sections (e.g., "Establishing a shared vision"; "Outreach and engagement strategies"; "Identifying and recruiting key local stakeholders," as applicable). ATRA and the Consultant Team shall agree in advance on the scope and general content of the draft text to be provided.*

Task 8: In-Country Presentation and Workshop
Primary Task Location: Afghanistan

The Consultant Team shall conduct an in-country presentation ("Presentation") of the findings to date, with a particular emphasis on the findings of Tasks 2–7, to ATRA, MOC and other interested stakeholders. Additionally, the Consultant Team shall conduct a workshop ("Workshop") with ATRA, MOC and other interested stakeholders, with the objective of facilitating knowledge transfer and the "localization" and adaptation to local conditions of the findings.

The Consultant Team and ATRA will agree on the time, venue, approximate size and composition of the intended audience, format, content, working language(s) and similar details of the Presentation and Workshop sufficiently in advance of these events for all necessary preparations to be carried out. It is anticipated that the Consultant Team will furnish all necessary Presentation and Workshop materials (e.g., PowerPoint® presentations, handouts, Workshop session summaries), in the appropriate language(s), while MOC will provide the Presentation and Workshop venues.

Task 8 Deliverable: *The primary deliverables of Task 8 shall be the successful and timely execution of the Presentation and the successful organization and timely execution of the Workshop. Additionally, the Consultant Team shall prepare a report summarizing the Workshop findings, conclusions, recommendations, etc., regarding localization/ adaptation of RTD initiatives to conditions prevailing in Afghanistan.*

Task 9: Draft and Final Reports

The Consultant Team shall prepare Draft and Final Reports for submission to ATRA. ATRA shall be given adequate time to review the Draft Report and to propose modifications or amendments (if any) for incorporation into the Final Report.

The Final Report shall comprise a substantive and comprehensive report of the work performed in Tasks 1 through 8. In addition, the Final Report shall include an analysis of key host country development impacts in conformity with USTDA guidelines.

The Final Report shall be prepared in accordance with Clause H of Annex II of the Grant Agreement. The Contractor shall identify prospective US sources of supply in the Final Report as submitted to USTDA, in accordance with Clause H of Annex II of the Grant Agreement. (See also Task 4c.)

In the event that the Final Report contains confidential information, or information not yet made public, the Consultant Team shall take appropriate steps to ensure that sensitive information is not released inopportunely.

Additional Comments

Comment 1: The Deliverables of Tasks 2–8, as well as the Draft and Final Reports, are to be supplied in English. Separately, ATRA and the Consultant Team shall agree in advance on the language(s) to be used, and the manner of their use, in the In-Country Presentation and Workshop (Task 8).

ANNEX II

Technical Assistance in Rural Telecom Development to the Afghanistan Telecom Regulatory Authority Proposed Budget

LABOR (*)	In-Country Calendar Days	Compensable Days	Rate Base	Total
Team Leader	23	93	$1,100	$102,300
Legal/Regulatory Expert	21	59	$1,200	$70,800
Technical Expert	18	60	$900	$54,000
Econ/Fin/Business Planning Expert	18	88	$900	$79,200
Community Planning Expert	9	46	$900	$41,400
Local Expert	N/A	40	$400	$16,000
TOTAL LABOR:	89	386		$363,700

OTHER DIRECT COSTS	Quantity	Unit		
International Travel (1)	10	trips	$2,000	$20,000
Per Diem (2)	89	person-days	$150	$13,350
Local Transportation / Security in Kabul				$3,450
Communications				$2,500
Supplies, Copy Costs				$1,500
TOTAL OTHER DIRECT COSTS:				$40,800
TOTAL BUDGET				*$404,500*

Notes:

(*) Labor rates for each specialist and/or sub-contractor contain no mark-up for holidays, vacation or sick-leave. Compensable days equal days actually worked for each Consultant Team member.

(1) Assumptions: Two round trips to Afghanistan by each US-based team member
Average airfare booked on US carrier for coach class is anywhere between $1,500 to $2,500 depending on availability.

(2) Per diems are equal to total estimated in-country days of US Consultant Team. There is currently no Department of State per diem accommodation rate for Kabul (see US Department of State Web site: www.state.gov/m/a/als/prdm/)
Rate shown is based on DM Contractor's experience.

ANNEX II (cont'd)

Technical Assistance in Rural Telecom Development to the Afghanistan Telecom Regulatory Authority Proposed Summary Budget

Activity	Combined Team Days	
	Total	*In-Country*
Task 1	25	0
Task 2	76	52
Task 3	19	17
Task 4	42	0
Task 5	29	0
Task 6	19	0
Task 7	32	0
Task 8	40	20
Task 9	45	0
Total Days	**327**	**89**

Activity	Combined Team Compensation	
	Labor	*Per Diem*
Task 1	$30,500	$0
Task 2	$72,900	$7,800
Task 3	$30,500	$2,550
Task 4	$39,800	$0
Task 5	$28,100	$0
Task 6	$27,500	$0
Task 7	$39,200	$0
Task 8	$43,200	$3,000
Task 9	$52,000	$0
Total Compensation	**$363,700**	**$13,350**
Total Labor+Per Diem	**$377,050**	

OTHER DIRECT COSTS	
International Travel	$20,000
Local Transportation / Security	$3,450
Communications	$2,500
Supplies, Copy Costs	$1,500
Total Other Direct Costs	**$27,450**
TOTAL BUDGET	*$404,500*

ANNEX III
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ANNEX IV

A. List of Meetings and Project Opportunities Reviewed

MEETING	RELEVANT PROJECT OPPORTUNITIES DISCUSSED/REVIEWED:
Meeting Date: 1/23/06 *Parties Consulted:* World Bank – Tenzin Dolma Norbhu Senior ICT Policy Specialist	1. Afghanistan Reconstruction Trust Fund (ARTF) Telecommunications Project 2. Emergency Communications Development Project (ECDP) 3. Afghan Computer Center (see below) 4. Back Office and billing systems for Afghan Telecom 5. Assistance to ATRA in the area of numbering; inter-connection; spectrum management and the development of a USO type fund to hook up the provinces.
Meeting Date: 2/10/06 *Parties Consulted:* USAID, Christopher Broughton Assistant Desk Officer for Afghanistan Bureau for Asia and the Near East Robert Aten Deputy Chief Economist	Various USAID initiatives
Meeting Date: 2/10/06 *Parties Consulted:* Ambassador Said F. Jawad Embassy of Afghanistan Ms Khaleda Atta Acting Commercial Attaché	Various MOC initiatives
Meeting Date: 4/5/06 *Parties Consulted:* MOC/ATRA and Advisors Jim Craft, State Department Antonio Lodà, Economic Governance and Strengthening, Bearing Point Ahmed Zaki Royan, Senior Advisor to MOC, Bearing Point Muhammed Murjan, General Director ICT, MOC Oliver Dziggel, Bearing Point, ATRA	1. National Data Center 2. Telecom Development Fund 3. First Responder Network (FRN, see below)

Meeting Date: 4/5/06 *Parties Consulted:* H.E. Amirzai Sangin, Minister of Communications Ministry of Communications Jim Craft, State Department	1. Telecom Development Fund (see below) 2. Audit assistance with ongoing national Fiber Optic network contract.(see below) 3. Orientation Support for the regulator, ATRA (see below) 4. First Responder Network (FRN) 5. Rural Access and DCN
Meeting Date: 4/5/06 *Parties Consulted:* Mohamed Bhat, Chief Technology Officer, MOC	1. Fiber Optic Network 2. DCN and GSN initiatives 3. Rural connectivity issues.
Meeting Date: 4/5/06 *Parties Consulted:* Roshan, Frank Chapman, Chief Financial Officer	1. Issues associuated with ATRA 2. Issue of rural connectivity 3. National Fiber Optic project
Meeting Date: 4/5/06 *Parties Consulted:* Asian Development Bank Michaela Prokop, Economist	1. Various regional projects in transport (see report) 2. Loan to Roshan for expansion
Meeting Date: 4/6/06 *Parties Consulted:* United Nations Development Program, Tamin Samee	1. Various UNDP projects most notably civil service pay reform and the Afghan Computing Center
Meeting Date: 4/6/06 *Parties Consulted:* Jim Craft, Senior Telecommunications Advisor, Afghanistan Reconstruction Group, Lane Smith USAID	1.Telecom Development Fund (see below) 2. Cellular expansion 3. DCN (see below) 4. ADSV (Digital Solar Village) 5. Work IT Force Study (see below) 6. Kabul University ICT/E-platform Policy and Regulatory Training (see below)
Meeting Date: 4/6/06 *Parties Consulted:* US Embassy Doug Climan, Economic Counselor, US Embassy Kabul	Various
Meeting Date: 4/14/06 *Parties Consulted* United States Department of State Robert Watts, Director South and Central Asia, International Communications & Information Policy	Various

B. Project Opportunity Descriptions

In the course of these meetings the DM Contractor defined in more detail the following project opportunities. These projects are referenced in the table above and were also ranked in the attached EXCEL spreadsheet.

Audit of National Fiber Optic Network

A project possibility that would in effect be an extension of USTDA's previous assistance with the planning and deployment of the national fiber-optic network. This would involve Technical Assistance in the form of audit/oversight over the actual deployment of the network, with a view to ensuring that the necessary work is performed in accordance with the contractual specifications. The audit would also extend to a review of the project implementation plan.

National Data Center

This would take the form of a Technical Assistance that would examine a number of aspects: 1) definition of the technical and functional requirements of the Data Center; 2) a plan for structuring and governance of the Data Center as an institution; 3) a financing plan.

Telecom Development Fund

A Technical Assistance that would identify how best to implement the Telecom Development Fund, as prescribed by the Telecom Law, so as to maximize its effectiveness for improving rural access. Such Technical Assistance would intersect with, and build upon, the current DCN and LFSP initiatives, and would presumably include both technical and economic components. An important aspect of the technical component would be to ensure proper integration and interoperability of systems at the local, district and national levels. A further aspect of the Technical Assistance would be to examine mechanisms by which both existing operators and new entrants could be incentivized to participate in rural development.

Orientation Assistance to MOC/ATRA

A Technical Assistance with both policy and regulatory components, whose overall objective would be to bring current MOC policy and ATRA regulation more up to date and more able to accommodate new technologies and applications (e.g., WiMAX, Voice over IP, calling cards), while maintaining continuity with the existing policy/regulatory framework.

"First Responder" Network (FRN)

A Feasibility Study to address the development and coordination of an emergency response system throughout Afghanistan. Issues to be covered would include: a) What are the best international practices with respect to a first responder network (FRN); b) What is the critical path for achieving a FRN for Afghanistan (including key milestones);

c) Who are – or who should be – included as stakeholders; d) Who should be the "lead" agency; e) What elements should be captured in a requirements study; f) Can any of the existing VHF/UHF systems be retained, and if so, integrated into the FRN; g) Integration of the existing GSM "pilot project" equipment; h) What are the appropriate frequencies for the FRN; i) What are the core service features (e.g., automatic number identification); j) How much will the FRN cost to acquire, deploy and operate; k) How should funding and ongoing costs be apportioned; and l) What funding sources (donor assistance) may be applied.

IT Workforce Survey and Strategy Development

Feasibility Study to address a national capacity building initiative for development of the Afghan IT workforce, given the anticipated demand for skills (technical, managerial, administrative, literacy/language) across the economy. The FS would assess potential sources/providers of such skills (e.g., Cisco, USTTI) and would consider and recommend appropriate mechanisms to put in place to match supply and demand. The FS would further consider potential "touchpoints" to US industry.

Kabul University ICT / E-platform Policy and Regulatory Training

The primary focus would be to augment/extend USAID's current efforts to create a dynamic ICT leadership and build a constituency for change in the ICT/telecom policy and regulatory area, through (among others) bilateral exchange programs involving Kabul University. The effort would draw upon initiatives and models that have been successfully employed in similar environments, such as the AVOIR program among universities in Africa.

C. Discussion of Project Opportunity Rankings

In order to facilitate evaluation of projects, the DM Contractor employed a ranking methodology for projects listed above where sufficient information was available. The DM Contractor employed a ranking system for two primary reasons.

First, it is essential to provide a reasonably "objective" method for ranking projects that need to be considered against each other for their relative merit. This is important when projects under consideration are close to each other in terms of their relative strengths and weaknesses. The ranking methodology also allowed for a weighting of various factors (as can be seen below) and an ability to measure all projects using the same criteria.

The second reason for development of a ranking methodology is to gain a better sense of a project's "absolute" merit. Absolute merit is based on the DM Contractor's assessment of how USTDA would assess specific factors within the context of their developmental mandate and budgetary effectiveness. While ranks assigned to each criterion are by nature subjective, the use of methodology yields the benefit of consistent evaluation with the same metric in addition to providing a relative sense of merit when competition for limited resources is at issue.

*3 is low risk, 1 is high risk

Rank	Project Opportunity Name	Potential Benefits	General	USTDA Developmental				Country-Specific				Timeframe	Implementation	US Exports	USTDA-Specific		Other		Ranking
			CAIII Fit	Infra-structure	Capacity Building	Tech Transfer	Market-Oriented Reforms	Country Priority	Private Sector Use/Funding	Grantee Viability	Sponsor Priority/ Commitment	Non-Time-Criticality	Financing Probability	Export Potential (1 to 3 is high or low)	Project Profile "Fit"	"Successful TDA Bid" Factor	"Intervening Events" Factor	"Known Knowledge Base" Factor	
	Provisional Factor Weightings		5%	10%	5%			20%	5%			10%	10%	10%	15%	5%	10%		
3	**National Fiber-Optic Backbone Implementation Audit / Oversight**	Ensures proper deployment of a FO network for which substantial resources have been deployed by TDA and the MOC.	1	3	2	2	1	3	1	1	2	1	2	2	1	1	2	1	4.15
2	**National Data Center Planning Assistance**	Would provide economics of scale and coordination for intra-governmental initiatives in the area of e-government and provide additional resources to private sector entities for data exchange and processing.	1	1	2	2	1	3	1	1	3	1	1	1	3	3	1	2	4.3
1	**Telecom Development Fund--Rural Access / Service Technical Assistance**	Provides a clearly definable area of support that addresses many programs being undertaken by the GoA. Some of these initiatives include the DCN initiative, rural access efforts for remote locations not economically served by current operators, the need for proper inter-operability and standardization rules for deployed technlgies, further synthesis of the national network assessment and development of equitable finding mechanisms from operators.	2	3	3	3	3	3	2	2	2	3	1	3	3	3	3	3	6.4
4	**New Technologies / Services Policy and Regulatory Assistance**	Accelerates the planning process that ATRA will need to undertake to ensure that new technolgies are properly licensed, levied and deployed in the telecom sector.	1	1	2	2	1	1	1	2	2	2	1	1	3	2	2	2	3.95
6	**First Responder Network**	Provides immediate assistance for installation of an emergency responder network that can be coordinated and assessed by key services within the MoG. Would also address the creation of a call center for emergency response.	1	2	1	2	1	1	1	1	1	2	1	2	2	2	3	1	3.3

Rank	Project Opportunity Name	Potential Benefits	General	USTDA Developmental				Country-Specific				Timeframe	Implementation	US Exports	USTDA-Specific		Other		Ranking
			CAIII Fit	Infra-structure	Capacity Building	Tech Transfer	Market-Oriented Reforms	Country Priority	Private Sector Use/Funding	Grantee Viability	Sponsor Priority/ Commitment	Non-Time-Criticality	Financing Probability	Export Potential (1 to 3 is high or low)	Project Profile "Fit"	"Successful TDA Bid" Factor	"Intervening Events" Factor	"Known Knowlege Base" Factor	
	Provisional Factor Weighting		10%	20%	5%	5%	5%	20%	5%	5%	5%	10%	10%	10%	5%	5%	10%	5%	
			3 is low risk, 1 is high risk																
5	IT Workforce Survey and Strategy Development	Proivdes long term planning and metrics for overall capacity building on the Afghan economy.	1	1	3	2	1	2	1	1	2	3	1	1	1	1	1	1	2.0
7	Kabul University ICT/E-platform Policy and Regualtory Training	Provides tangible sources and means for development of critical skills in the ICT/telecoms sector to ensure sustainable development.	1	1	2	2	1	1	1	1	1	3	1	1	1	1	1	1	2

ANNEX 3

USTDA Nationality, Source, and Origin Requirements

U.S. TRADE AND DEVELOPMENT AGENCY
Arlington, VA 22209-2131

NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS

The purpose of USTDA's nationality, source, and origin requirements is to assure the maximum practicable participation of American contractors, technology, equipment and materials in the prefeasibility, feasibility, and implementation stages of a project.

USTDA STANDARD RULE (GRANT AGREEMENT STANDARD LANGUAGE):

Except as USTDA may otherwise agree, each of the following provisions shall apply to the delivery of goods and services funded by USTDA under this Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from host country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for implementation of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in host country are not subject to the above restrictions. USTDA will make available further details concerning these standards of eligibility upon request.

NATIONALITY:

1) Rule

Except as USTDA may otherwise agree, the Contractor for USTDA funded activities must be either a U.S. firm or a U.S. individual. Prime contractors may utilize U.S.

subcontractors without limitation, but the use of host country subcontractors is limited to 20% of the USTDA grant amount.

2) Application

Accordingly, only a U.S. firm or U.S. individual may submit proposals on USTDA funded activities. Although those proposals may include subcontracting arrangements with host country firms or individuals for up to 20% of the USTDA grant amount, they may not include subcontracts with third country entities. U.S. firms submitting proposals must ensure that the professional services funded by the USTDA grant, to the extent not subcontracted to host country entities, are supplied by employees of the firm or employees of U.S. subcontractor firms who are U.S. individuals.

Interested U.S. firms and consultants who submit proposals must meet USTDA nationality requirements as of the due date for the submission of proposals and, if selected, must continue to meet such requirements throughout the duration of the USTDA-financed activity. These nationality provisions apply to whatever portion of the Terms of Reference is funded with the USTDA grant.

3) Definitions

A "U.S. individual" is (a) a U.S. citizen, or (b) a non-U.S. citizen lawfully admitted for permanent residence in the U.S. (a green card holder).

A "U.S. firm" is a privately owned firm which is incorporated in the U.S., with its principal place of business in the U.S., and which is either (a) more than 50% owned by U.S. individuals, or (b) has been incorporated in the U.S. for more than three (3) years prior to the issuance date of the request for proposals; has performed similar services in the U.S. for that three (3) year period; employs U.S. citizens in more than half of its permanent full-time positions in the U.S.; and has the existing capability in the U.S. to perform the work in question.

A partnership, organized in the U.S. with its principal place of business in the U.S., may also qualify as a "U.S. firm" as would a joint venture organized or incorporated in the United States consisting entirely of U.S. firms and/or U.S. individuals.

A nonprofit organization, such as an educational institution, foundation, or association may also qualify as a "U.S. firm" if it is incorporated in the United States and managed by a governing body, a majority of whose members are U.S. individuals.

SOURCE AND ORIGIN:

1) Rule

In addition to the nationality requirement stated above, any goods (e.g., equipment and materials) and services related to their shipment (e.g., international transportation and insurance) funded under the USTDA Grant Agreement must have their source and origin in the United States, unless USTDA otherwise agrees. However, necessary purchases of goods and project support services which are unavailable from a U.S. source (e.g., local food, housing and transportation) are eligible without specific USTDA approval.

2) Application

Accordingly, the prime contractor must be able to demonstrate that all goods and services purchased in the host country to carry out the Terms of Reference for a USTDA Grant Agreement that were not of U.S. source and origin were unavailable in the United States.

3) Definitions

"Source" means the country from which shipment is made.

"Origin" means the place of production, through manufacturing, assembly or otherwise.

Questions regarding these nationality, source and origin requirements may be addressed to the USTDA Office of General Counsel.

ANNEX 4

USTDA Grant Agreement, Including Mandatory Contract Clauses

AFG
USTDA# 07-81089A

DEC 15 2006

GRANT AGREEMENT

This Grant Agreement is entered into between the Government of the United States of America, acting through the U.S. Trade and Development Agency ("USTDA") and the Afghanistan Telecommunications Regulatory Authority ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Agreement US$404,500 ("USTDA Grant") to fund the cost of goods and services required for Technical Assistance ("TA") on the proposed Telecommunications Development Fund project ("Project") in Afghanistan ("Host Country").

1. USTDA Funding

The funding to be provided under this Grant Agreement shall be used to fund the costs of a contract between the Grantee and the U.S. firm selected by the Grantee ("Contractor") under which the Contractor will perform the TA ("Contract"). Payment to the Contractor will be made directly by USTDA on behalf of the Grantee with the USTDA Grant funds provided under this Grant Agreement.

2. Terms of Reference

The Terms of Reference for the TA ("Terms of Reference") are attached as Annex I and are hereby made a part of this Grant Agreement. The TA will examine the technical, financial, environmental, and other critical aspects of the proposed Project. The Terms of Reference for the TA shall also be included in the Contract.

3. Standards of Conduct

USTDA and the Grantee recognize the existence of standards of conduct for public officials, and commercial entities, in their respective countries. The parties to this Grant Agreement and the Contractor shall observe these standards, which include not accepting payment of money or anything of value, directly or indirectly, from any person for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the TA.

4. Grantee Responsibilities

The Grantee shall undertake its best efforts to provide reasonable support for the Contractor, such as local transportation, office space, and secretarial support.

5. USTDA as Financier

(A) USTDA Approval of Competitive Selection Procedures

Selection of the U.S. Contractor shall be carried out by the Grantee according to its established procedures for the competitive selection of contractors with advance notice of the procurement published online through *Federal Business Opportunities (www.fedbizopps.gov)*. Upon request, the Grantee will submit these contracting procedures and related documents to USTDA for information and/or approval.

(B) USTDA Approval of Contractor Selection

The Grantee shall notify USTDA at the address of record set forth in Article 17 below upon selection of the Contractor to perform the TA. Upon approval of this selection by USTDA, the Grantee and the Contractor shall then enter into a contract for performance of the TA. The Grantee shall notify in writing the U.S. firms that submitted unsuccessful proposals to perform the TA that they were not selected.

(C) USTDA Approval of Contract Between Grantee and Contractor

The Grantee and the Contractor shall enter into a contract for performance of the TA. This contract, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing. To expedite this approval, the Grantee (or the Contractor on the Grantee's behalf) shall transmit to USTDA, at the address set forth in Article 17 below, a photocopy of an English language version of the signed contract or a final negotiated draft version of the contract.

(D) USTDA Not a Party to the Contract

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of the contract and any amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of funding the TA and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar the Grantee or USTDA from asserting any right they might have against the

Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Grantee or USTDA.

(E) Grant Agreement Controlling

Regardless of USTDA approval, the rights and obligations of any party to the contract or subcontract thereunder must be consistent with this Grant Agreement. In the event of any inconsistency between the Grant Agreement and any contract or subcontract funded by the Grant Agreement, the Grant Agreement shall be controlling.

6. Disbursement Procedures

(A) USTDA Approval of Contract Required

USTDA will make disbursements of Grant funds directly to the Contractor only after USTDA approves the Grantee's contract with the Contractor.

(B) Contractor Invoice Requirements

The Grantee should request disbursement of funds by USTDA to the Contractor for performance of the TA by submitting invoices in accordance with the procedures set forth in the USTDA Mandatory Clauses in Annex II.

7. Effective Date

The effective date of this Grant Agreement ("Effective Date") shall be the date of signature by both parties or, if the parties sign on different dates, the date of the last signature.

8. TA Schedule

(A) TA Completion Date

The completion date for the TA, which is February 15, 2008, is the date by which the parties estimate that the TA will have been completed.

(B) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this Grant Agreement for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

9. USTDA Mandatory Clauses

All contracts funded under this Grant Agreement shall include the USTDA mandatory clauses set forth in Annex II to this Grant Agreement. All subcontracts funded or partially funded with USTDA Grant funds shall include the USTDA mandatory clauses, except for clauses B(1), G, H, I, and J.

10. Use of U.S. Carriers

(A) Air

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(B) Marine

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

11. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from Host Country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for performance of the TA and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to TA support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions. USTDA will make available further details concerning these provisions upon request.

12. Taxes

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country. Neither the Grantee nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

13. Cooperation Between Parties and Follow-Up

The parties will cooperate to assure that the purposes of the Grant Agreement are accomplished. For five (5) years following receipt by USTDA of the Final Report (as defined in Clause I of Annex II), the Grantee agrees to respond to any reasonable inquiries from USTDA about the status of the Project.

14. Implementation Letters

To assist the Grantee in the implementation of the TA, USTDA may, from time to time, issue implementation letters that will provide additional information about matters covered by the Grant Agreement. The parties may also use jointly agreed upon implementation letters to confirm and record their mutual understanding of matters covered by the Grant Agreement.

15. Recordkeeping and Audit

The Grantee agrees to maintain books, records, and other documents relating to the TA and the Grant Agreement adequate to demonstrate implementation of its responsibilities under the Grant Agreement, including the selection of contractors, receipt and approval of contract deliverables, and approval or disapproval of contractor invoices for payment by USTDA. Such books, records, and other documents shall be separately maintained for three (3) years after the date of the final disbursement by USTDA. The Grantee shall afford USTDA or its authorized representatives the opportunity at reasonable times to review books, records, and other documents relating to the TA and the Grant Agreement.

16. Representation of Parties

For all purposes relevant to the Grant Agreement, the Government of the United States of America will be represented by the U. S. Ambassador to Host Country or USTDA and Grantee will be represented by the Chairman. The parties hereto may, by written notice, designate additional representatives for all purposes under the Grant Agreement.

17. Addresses of Record for Parties

Any notice, request, document, or other communication submitted by either party to the other under the Grant Agreement shall be in writing or through a wire or electronic medium which produces a tangible record of the transmission, such as a telegram, cable or facsimile, and will be deemed duly given or sent when delivered to such party at the following:

To: Mr. Zakaria Hassan
Chairman
Afghanistan Telecommunications Regulatory Authority
Ministry of Communications Bldg, 10th floor

Mohd. Jan Khan St.
Kabul

Phone: (+93 20) 210 1179
Email: Hassan.z@trb.gov.af

To: U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009

All such communications shall be in English, unless the parties otherwise agree in writing. In addition, the Grantee shall provide the Commercial Section of the U.S. Embassy in Host Country with a copy of each communication sent to USTDA.

Any communication relating to this Grant Agreement shall include the following fiscal data:

Appropriation No.:	117/81001
Activity No.:	2007-81009A
Reservation No.:	078109062
Grant No.:	GH078109062

18. Termination Clause

Either party may terminate the Grant Agreement by giving the other party thirty (30) days advance written notice. The termination of the Grant Agreement will end any obligations of the parties to provide financial or other resources for the TA, except for payments which they are committed to make pursuant to noncancellable commitments entered into with third parties prior to the written notice of termination.

19. Non-waiver of Rights and Remedies

No delay in exercising any right or remedy accruing to either party in connection with the Grant Agreement shall be construed as a waiver of such right or remedy.

20. U.S. Technology and Equipment

By funding this TA, USTDA seeks to promote the project objectives of the Host Country through the use of U.S. technology, goods, and services. In recognition of this purpose, the Grantee agrees that it will allow U.S. suppliers to compete in the procurement of technology, goods and services needed for Project implementation.

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the Government of the United States of America and the Afghanistan Telecommunications Regulatory Authority, each acting through its duly authorized representative, have caused this Agreement to be signed in the English language in their names and delivered as of the day and year written below. In the event that this Grant Agreement is signed in more than one language, the English language version shall govern.

For the Government of the United States of America

By: Richard B. Nuley

Date: Dec. 12, 2006

For the Afghanistan Telecommunications Regulatory Authority

By:

Date: 12 Dec. 2006.

Witnessed:

By:

Witnessed:

By:

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses

Annex I

Terms of Reference

The fundamental objective of the Technical Assistance (TA) is to assist the Grantee, and indirectly the Ministry of Communications (MOC), in the area of rural telecom development in Afghanistan, with a particular focus on how best to implement and administer the Telecom Development Fund (TDF), as prescribed by the Telecom Law, so as to maximize the effectiveness of the TDF as an instrument for improving rural access.

The establishment of the TDF, as well as the recent commencement of operation of the Grantee, which is designated by the Telecom Law as the TDF administering entity, have created certain prerequisites for coordinated rural development. Additionally, the MOC is moving forward with certain infrastructure and licensing initiatives, in particular the Government Communications Network (GCN) and District Communications Network (DCN) projects, and Local Fixed Service Provider (LFSP) licenses, all of which have definite implications for the development of rural telecom in Afghanistan.

The proposed TA intersects with, and builds upon, these prerequisites and initiatives, and includes technical, economic/financial and administrative components. An important aspect of the technical component is to ensure that initiatives at the local/rural level can properly integrate and interoperate with systems at the district and national levels. Interoperability is the capability of Information and Communication Technologies (ICT) systems and of the applications they support to exchange data and to enable sharing of information and knowledge, in particular in a multivendor/multiplatform environment. Interoperability does not necessarily extend in this case to "cultural" issues such as provision of local language content, although these issues may be pertinent to user accessibility to, and ease of use of, the systems and applications in question. A further aspect of the TA is to examine mechanisms by which both existing operators and new entrants can be incentivized to participate in rural development, as well as mechanisms to promote community "buy-in" to rural communications facilities.

It is expected that close liaison and coordination with the Grantee and the MOC, as well as with other actors in the telecom sector, will be required in the course of the TA.

SCOPE OF THE TECHNICAL ASSISTANCE

The specific tasks of the TA are enumerated below.

Task 1: Survey and Assessment of Rural Telecom Development (RTD) Initiatives
Primary Task Location: U.S.

The Contractor shall conduct a survey and assessment of RTD initiatives worldwide, with particular reference to countries or regions comparable to Afghanistan and to countries where Telecom Development Funds (TDFs) have been applied. The survey shall include both an overview and no less than six more in-depth "case studies." The case studies shall

be comprised of a reasonably representative sample of the larger picture and drawn from a range of technical solutions, economic and business models, and rural community environments.

In both the broad overview and the case studies, particular attention shall be paid to the following:

- Technology platforms employed, as well as associated economic issues (see also Task 4b below)
- Business-related issues, including business models, financing/subsidization mechanisms, partnering arrangements, sustainability issues (see also Task 4 below)
- Manner of establishment, administration and utilization of TDFs (see also Task 6 below)
- Strategies and mechanisms for incentivizing operators/licensees to participate in RTD, and for achieving community "buy-in" (see also Tasks 7a and 7b below)

Particular attention shall be paid to the identification and assessment of factors (of whatever nature) that have impacted the relative success or failure of the RTD initiatives.

Task 2: Initial Visit and Assessment of the Current Situation in Afghanistan
Primary Task Location: Afghanistan

After award of the Contract but prior to arrival in Afghanistan, the Contractor shall develop and submit to the MOC a Preliminary Information Request (PIR). The Contractor should consult the Web sites of the MOC (www.moc.gov.af) and the Grantee (www.trb.gov.af) for general background information.

The Contractor shall travel to Afghanistan to conduct an initial familiarization and assessment visit. The visit shall include: meetings with the Grantee, the MOC and other major stakeholders in RTD initiatives; a review and assessment of the state of RTD initiatives in the country, in the context of the telecom development initiatives and policies of the Government of Afghanistan (GoA) and the broader economic/social/political realities of the country; and familiarization with the major players (e.g., wireless and wireline telecom operators, Internet Service Providers (ISP), equipment/solution suppliers) and with the sets of services currently offered or contemplated.

Specifically, Task 2 includes three sub-tasks, as follows:

Sub-Task 2a: Meetings with Stakeholders and Interested Parties. The Contractor shall meet with interested stakeholders in RTD initiatives. In addition to the Grantee, these will include the MOC, local operators/licensees, the Ministry of Finance (if appropriate), as well as a number of domestic and foreign organizations in Afghanistan working on aspects of rural connectivity and Digital Inclusion.

Sub-Task 2b: Macro Level Survey. The Contractor shall conduct a general survey of the economic, social and political situation of Afghanistan, particularly as it affects RTD initiatives, the telecom sector and the prospects for further sector development and liberalization.

Sub-Task 2c: Assessment of Service Regime. The Contractor shall conduct an assessment of the telecom sector, with an emphasis on the major operators/licensees and their market position, services offered or contemplated, service availability, coverage and quality, and rates and tariffs. Particular attention shall be paid to those providers (e.g., existing or forthcoming cellular operators) who could act as "enablers" of RTD initiatives.

Upon completion of this task, the Contractor shall produce an Inception Report (see below). The Contractor shall obtain the formal approval of the Inception Report from the Grantee, thus indicating satisfactory performance of Tasks 1 and 2.

Task 2 Deliverable: *An Inception Report shall be produced in English describing the findings to date and their implications for RTD, as well as the implications for the work plan pursuant to which the contractor will perform Tasks 3 through 9 below.*

Task 3: Legal/Policy/Regulatory Review
Primary Task Location: Part Afghanistan, Part U.S.

Implementation of RTD solutions in Afghanistan must take account of a number of aspects of the legal/regulatory regime, which could significantly impact the technical and/or commercial feasibility of the solutions proposed. These aspects may include:

- Position and status of RTD within the broader and still evolving legal/policy/regulatory framework, with particular reference to the status of provision of Universal Access under the Telecom Law; and the definition of Universal Service and the Universal Service Obligation;
- Revenue-sharing mechanisms (e.g., Sender Keep All) and interconnection issues as they affect RTD, e.g., interconnection between local/rual and long-distance providers;
- Status of, and prospects for, funding mechanisms for RTD initiatives (e.g., subsidy mechanisms apart from the TDF itself; franchising); and
- Rural telecom licensing issues.

The Contractor shall seek to identify potential legal/policy/regulatory obstacles to the implementation of RTD solutions in Afghanistan. To the extent practicable, the Contractor shall indicate what needs to be done to overcome or mitigate the obstacles in question, and what appropriate actions, if any, should be undertaken by the Grantee, MOC or other interested stakeholders.

Task 3 Deliverable: *A report comprising a review of pertinent legal/policy/regulatory issues, with supporting rationale and recommendations.*

Task 4: Evaluation of Key RTD Technological Solutions, Architectures, and Their Attendant Economics and Risks/Benefits; Identification of U.S. -Based Suppliers
Primary Task Location: U.S.

Task 4 is comprised of three sub-tasks, as follows:

Task 4a: Technical Evaluation of RTD Platforms. Using the findings of Task 2 as a point of departure, the Contractor shall evaluate key current and identifiable forthcoming technological platforms, solutions and options utilized in RTD initiatives. Since the particular solutions considered should be feasible under conditions prevailing in Afghanistan, it is anticipated that the list of particular platforms/solutions to be evaluated will be subject to agreement with the MOC. Provisionally, it is expected that this list will emphasize wireless solutions (e.g., conventional and advanced cellular, WLL, WiFi, Wi-MAX, CDMA-450, satellite), although wireline solutions are not excluded.

The evaluation shall include, but is not necessarily limited to, consideration of the following:

- Performance / reliability / Quality of Service parameters;
- Ease of deployment, management, maintenance, support;
- Scaleability;
- Compatibility / interoperability with one another and with existing / planned infrastructure initiatives (e.g., GCN, DCN);
- Use of open versus proprietary standards/protocols;
- Spectrum requirements; and
- Backhaul/interfacing requirements.

Task 4b: Economic Evaluation of RTD Platforms and Developmental Impact Assessment. Additionally, the Contractor shall review available cost data on, and analyze and compare the economics of, the various platforms considered (capital cost, rates of return per unit, etc.). To the extent practicable, the Contractor shall calculate fully loaded costs per subscriber unit, or similar comparison metric, for representative deployments.

The Contractor shall also seek to identify and compare technological and/or economic risks and benefits associated with the various platforms/solutions.

The Contractor shall also assess the expected development benefits of the proposed TA (i.e., expansion of rural telecommunications development) focusing on what the economic development outcomes shall be when and if the rural telecommunications improvements are implemented. This section should focus on key development impact issues such as infrastructure/industrialization, human capacity building, technology transfer and productivity, and market oriented reform. The Contractor shall discuss the following development impact categories quantifying the impacts in as detailed and concrete terms as possible, including those listed as follows and others that may be appropriate:

- Market-Oriented Reform: Identification of the facilitation of market-oriented reforms resulting from increased rural telecommunications development in Afghanistan.
- Infrastructure: Identification of telecommunications infrastructure that may be constructed as a result of this TA.
- Human Capacity Building: Discussion of training components improvements.
- Technology Transfer and Productivity Improvement: Discussion of the introduction of advanced technologies that improve processes and/or systems, resulting in greater economic productivity or more efficient use of resources.
- Other: Other development benefits not captured by the above categories - examples include enhanced government revenue, increased good governance or spin-off projects.

Task 4c: Identification of U.S. Suppliers. The Contractor shall prepare a comprehensive list of U.S. suppliers of RTD technological solutions and equipment. The list shall include the following:

- Identification and contact information (including the name, phone and fax numbers and e-mail address of a suitable contact representative);
- Description of the particular technological solutions and/or equipment supplied, including basic technical characteristics;
- Identification of significant RTD environments worldwide, and in particular in environments comparable to Afghanistan, in which such solutions and/or equipment have been or are being deployed; and
- An indication of the supplier's overseas sales/support capabilities, with particular reference to Afghanistan and neighboring countries.

Task 4 Deliverables: *1) A report describing the agreed-upon technological platforms/solutions and options (e.g., types in common use in RTD, how to implement them, how to integrate them with existing infrastructure); 2) an economic analysis of the platforms/solutions in question; and 3) a listing of U.S. suppliers of RTD technological solutions and equipment, as described above.*

Task 5: Review and Evaluation of RTD Business and Funding Models
Primary Task Location: U.S.

Using the findings of Task 2 as a point of departure, the Contractor shall review, evaluate and classify the business models that currently underlie pertinent RTD initiatives.

As is well known, attraction of investment into rural telecom is generally problematic. At the same time, available information suggests that successful RTD initiatives have employed a considerable range of innovative business models. For example, such initiatives may be sponsored entirely by the private sector; entirely by the public sector; or through some form of public-private partnership. Conceivably, they could involve the creation of a special-purpose company via which operators can share network facilities

and sites without the obligation of ownership. Funding mechanisms are correspondingly diverse.

The Contractor shall provide a detailed review and analysis of these issues. Further aspects of this task include a general assessment of the factors (CAPEX and rate of return parameters such as IRR) that determine the choice of business model, as well as of the factors that affect the longer-term sustainability of RTD initiatives. Finally, to the extent practicable, interrelationships between business models and technological solutions/architectures shall be explored.

Task 5 Deliverable: *A report describing the pertinent findings and the typology of business models. Relevant strategies and techniques for implementing such models shall also be described.*

Task 6: Development of Recommendations on Optimum Utilization of TDF
Primary Task Location: U.S.

Based on the results of Tasks 1–5, the Contractor will develop recommendations on how the TDF can best be utilized to solve problems of providing rural connectivity in Afghanistan. Such utilization could involve a range of possibilities, including direct investments in particular improvements, subsidies, franchises, etc. Separately, the Contractor will also develop recommendations as to how the TDF can be best administered by the Grantee, given the profile and capabilities of the latter – for example, the TDF could be administered by a department under the Grantee or by a functionally separate entity. The Contractor shall estimate the associated manpower and skill requirements.

Task 6 Deliverable: *A report describing the pertinent findings of Task 6, along with the corresponding recommendations, with supporting rationale as necessary and appropriate.*

Task 7: Elaboration of Strategies and Mechanisms for Incentivization of RTD
Primary Task Location: U.S.

Task 7 is comprised of two sub-tasks, as follows:

> **Task 7a: Incentivization of Operators/Licensees:** Using the findings of Task 2 as a point of departure, and in consultation with the MOC, the Contractor shall develop appropriate strategies for incentivizing current and future operators to engage in RTD. Such strategies might involve, inter alia, more favorable licensing conditions, concessional mechanisms, subsidies (under the TDF or otherwise), partial or full exemption from TDF contributions under certain circumstances (so-called "pay-or-play" schemes), the use of government-supported dedicated financing vehicles or guarantees, etc.

Task 7b: Achievement of Community "Buy-In": Using the findings of Task 2 as a point of departure, and in consultation with the Grantee, the Contractor shall carry out an assessment of the various strategies and mechanisms by which RTD initiatives have achieved community and/or stakeholder "buy-in," and how such strategies/mechanisms might be applicable to Afghanistan. Of particular interest are methods of:

- Establishing a shared vision;
- Outreach and engagement strategies; and
- Identifying and recruiting key local stakeholders.

While strategies/mechanisms leading to "success stories" are obviously of interest, attention should also be paid to instances in which these or other strategies/mechanisms have not been notably successful, and correspondingly to the factors that tend to affect the success or failure of the outcome.

Task 7 Deliverable: *A report offering a detailed examination of the relevant operator/licensee incentivization and community buy-in issues. If the Grantee so wishes, the community buy-in portion of the report may be formatted as a practical "how-to" guide and with draft text of appropriate sections (e.g., "Establishing a shared vision"; "Outreach and engagement strategies"; "Identifying and recruiting key local stakeholders," as applicable). The Grantee and the Contractor shall agree in advance on the scope and general content of any such "how-to" guide draft text that may be provided.*

Task 8: In-Country Presentation and Workshop
Primary Task Location: Afghanistan

The Contractor shall conduct an in-country presentation ("Presentation") of the findings to date, with a particular emphasis on the findings of Tasks 2–7, to the Grantee, MOC and other interested stakeholders. Additionally, the Contractor shall conduct a workshop ("Workshop") with the Grantee, MOC and other interested stakeholders, with the objective of facilitating knowledge transfer and the "localization" and adaptation to local conditions of the findings.

The Contractor and Grantee will agree on the time, venue, approximate size and composition of the intended audience, format, content, working language(s) and similar details of the Presentation and Workshop sufficiently in advance of these events for all necessary preparations to be carried out. The Contractor shall furnish all necessary Presentation and Workshop materials (e.g., PowerPoint® presentations, handouts, Workshop session summaries), in the appropriate language(s), while MOC will provide the Presentation and Workshop venues.

Task 8 Deliverable: *The primary deliverables of Task 8 shall be the successful and timely execution of the Presentation and the successful organization and timely execution of the Workshop. Additionally, the Contractor shall prepare a report summarizing the*

Workshop findings, conclusions, recommendations, etc., regarding localization/ adaptation of RTD initiatives to conditions prevailing in Afghanistan.

Task 9: Draft and Final Reports

The Contractor shall prepare Draft and Final Reports for submission to the Grantee. The Grantee shall be given adequate time to review the Draft Report and to propose modifications or amendments (if any) for incorporation into the Final Report. The Draft and Final Reports are to be supplied in English.

The Final Report shall comprise a substantive and comprehensive report of all work performed in Tasks 1 through 8. The Final Report shall be organized according to the above tasks, and shall include all deliverables and documents that have been provided to the Grantee.

The Final Report shall be prepared in accordance with Clause I of Annex II of the Grant Agreement. The Contractor shall identify prospective U.S. sources of supply in the Final Report as submitted to USTDA, in accordance with Clause I of Annex II of the Grant Agreement. (See also Task 4c.)

In the event that the complete version of the Final Report contains confidential information the Contractor shall ensure that any such confidential information is clearly marked in that version of the Final Report, as provided for by Clause I(2)(a) of Annex II of the Grant Agreement.

Notes:

(1) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.

(2) The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.

(3) The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.

Annex II

USTDA Mandatory Contract Clauses

A. USTDA Mandatory Clauses Controlling

The parties to this contract acknowledge that this contract is funded in whole or in part by the U.S. Trade and Development Agency ("USTDA") under the Grant Agreement between the Government of the United States of America acting through USTDA and the Afghanistan Telecommunications Regulatory Authority ("Client"), dated _____ ("Grant Agreement"). The Client has selected _____ ("Contractor") to perform Technical Assistance ("TA") for the Telecommunications Development Fund project ("Project") in Afghanistan ("Host Country"). Notwithstanding any other provisions of this contract, the following USTDA mandatory contract clauses shall govern. All subcontracts entered into by Contractor funded or partially funded with USTDA Grant funds shall include these USTDA mandatory contract clauses, except for clauses B(1), G, H, I, and J. In addition, in the event of any inconsistency between the Grant Agreement and any contract or subcontract thereunder, the Grant Agreement shall be controlling.

B. USTDA as Financier

(1) USTDA Approval of Contract

All contracts funded under the Grant Agreement, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing in order to be effective with respect to the expenditure of USTDA Grant funds. USTDA will not authorize the disbursement of USTDA Grant funds until the contract has been formally approved by USTDA or until the contract conforms to modifications required by USTDA during the contract review process.

(2) USTDA Not a Party to the Contract

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of this contract and amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of financing the TA and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or

liability to such parties. Any approval or failure to approve by USTDA shall not bar the Client or USTDA from asserting any right they might have against the Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Client or USTDA.

C. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from Host Country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for performance of the TA and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to TA support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions. USTDA will make available further details concerning these provisions upon request.

D. Recordkeeping and Audit

The Contractor and subcontractors funded under the Grant Agreement shall maintain, in accordance with generally accepted accounting procedures, books, records, and other documents, sufficient to reflect properly all transactions under or in connection with the contract. These books, records, and other documents shall clearly identify and track the use and expenditure of USTDA funds, separately from other funding sources. Such books, records, and documents shall be maintained during the contract term and for a period of three (3) years after final disbursement by USTDA. The Contractor and subcontractors shall afford USTDA, or its authorized representatives, the opportunity at reasonable times for inspection and audit of such books, records, and other documentation.

E. U.S. Carriers

(1) Air

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(2) Marine

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

F. Workman's Compensation Insurance

The Contractor shall provide adequate Workman's Compensation Insurance coverage for work performed under this Contract.

G. Reporting Requirements

The Contractor shall advise USTDA by letter as to the status of the Project on March 1st annually for a period of two (2) years after completion of the TA. In addition, if at any time the Contractor receives follow-on work from the Client, the Contractor shall so notify USTDA and designate the Contractor's contact point including name, telephone, and fax number. Since this information may be made publicly available by USTDA, any information which is confidential shall be designated as such by the Contractor and provided separately to USTDA. USTDA will maintain the confidentiality of such information in accordance with applicable law.

H. Disbursement Procedures

(1) USTDA Approval of Contract

Disbursement of Grant funds will be made only after USTDA approval of this contract. To make this review in a timely fashion, USTDA must receive from either the Client or the Contractor a photocopy of an English language version of a signed contract or a final negotiated draft version to the attention of the General Counsel's office at USTDA's address listed in Clause M below.

(2) Payment Schedule Requirements

A payment schedule for disbursement of Grant funds to the Contractor shall be included in this Contract. Such payment schedule must conform to the following USTDA requirements: (1) up to twenty percent (20%) of the total USTDA Grant amount may be used as an advance payment; (2) all other payments, with the exception of the final payment, shall be based upon contract performance milestones; and (3) the final payment may be no less than fifteen percent (15%) of the total USTDA Grant amount, payable upon receipt by USTDA of an approved Final Report in accordance with the specifications and quantities set forth in Clause I below. Invoicing procedures for all payments are described below.

(3) Contractor Invoice Requirements

USTDA will make all disbursements of USTDA Grant funds directly to the Contractor. The Contractor must provide USTDA with an ACH Vendor Enrollment Form (available from USTDA) with the first invoice. The Client shall request disbursement of funds by USTDA to the Contractor for performance of the contract by submitting the following to USTDA:

(a) Contractor's Invoice

The Contractor's invoice shall include reference to an item listed in the Contract payment schedule, the requested payment amount, and an appropriate certification by the Contractor, as follows:

(i) For an advance payment (if any):

"As a condition for this advance payment, which is an advance against future TA costs, the Contractor certifies that it will perform all work in accordance with the terms of its Contract with the Client. To the extent that the Contractor does not comply with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA. "

(ii) For contract performance milestone payments:

"The Contractor has performed the work described in this invoice in accordance with the terms of its contract with the Client and is entitled to payment thereunder. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(iii) For final payment:

"The Contractor has performed the work described in this invoice in accordance with the terms of its contract with the Client and is entitled to payment thereunder. Specifically, the Contractor has submitted the Final Report to the Client, as required by the Contract, and received the Client's approval of the Final Report. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(b) Client's Approval of the Contractor's Invoice

(i) The invoice for an advance payment must be approved in writing by the Client.

(ii) For contract performance milestone payments, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement."

(iii) For final payment, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and terms and conditions of the USTDA Grant Agreement. The Final Report submitted by the Contractor has been reviewed and approved by the Client. "

(c) USTDA Address for Disbursement Requests

Requests for disbursement shall be submitted by courier or mail to the attention of the Finance Department at USTDA's address listed in Clause M below.

(4) Termination

In the event that the Contract is terminated prior to completion, the Contractor will be eligible, subject to USTDA approval, for reasonable and documented costs which have been incurred in performing the Terms of Reference prior to termination, as well as reasonable wind down expenses. Reimbursement for such costs shall not exceed the total amount of undisbursed Grant funds. Likewise, in the event of such termination, USTDA is entitled to receive from the Contractor all USTDA Grant funds previously disbursed to the Contractor (including but not limited to advance payments) which exceed the reasonable and documented costs incurred in performing the Terms of Reference prior to termination.

I. USTDA Final Report

(1) Definition

"Final Report" shall mean the Final Report described in the attached Annex I Terms of Reference or, if no such "Final Report" is described therein, "Final Report" shall mean a substantive and comprehensive report of work performed in accordance with the attached Annex I Terms of Reference, including any documents delivered to the Client.

(2) Final Report Submission Requirements

The Contractor shall provide the following to USTDA:

(a) One (1) complete version of the Final Report for USTDA's records. This version shall have been approved by the Client in writing and must be in the English language. It is the responsibility of the Contractor to ensure that confidential information, if any, contained in this version be clearly marked. USTDA will maintain the confidentiality of such information in accordance with applicable law.

and

(b) Three (3) copies of the Final Report suitable for public distribution ("Public Version"). The Public Version shall have been approved by the Client in writing and must be in the English language. As this version will be available for public distribution, it must not contain any confidential information. If the report in (a) above contains no confidential information, it may be used as the Public Version (provided USTDA receives a total of four (4) copies). In any event, the Public Version must be informative and contain sufficient Project detail to be useful to prospective equipment and service providers.

The Contractor shall also provide one (1) copy of the Public Version of the Final Report to the Foreign Commercial Service Officer or the Economic Section of the U.S. Embassy in Host Country for informational purposes.

(3) Final Report Presentation

All Final Reports submitted to USTDA must be paginated and include the following:

(a) The front cover of every Final Report shall contain the name of the Client, the name of the Contractor who prepared the report, a report title, USTDA's logo, USTDA's mailing and delivery addresses, and the following disclaimer:

> "This report was funded by the U.S. Trade and Development Agency (USTDA), an agency of the U. S. Government. The opinions, findings, conclusions or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of USTDA. USTDA makes no representation about, nor does it accept responsibility for, the accuracy or completeness of the information contained in this report."

(b) The inside front cover of every Final Report shall contain USTDA's logo, USTDA's mailing and delivery addresses, and USTDA's mission statement. Camera-ready copy of USTDA Final Report specifications will be available from USTDA upon request.

(c) The Contractor and any subcontractor that performs work pursuant to the Grant Agreement must be clearly identified in the Final Report. Business name,

point of contact, address, telephone and fax numbers shall be included for Contractor and each subcontractor.

(d) The Final Report, while aiming at optimum specifications and characteristics for the Project, shall identify the availability of prospective U.S. sources of supply. Business name, point of contact, address, telephone and fax numbers shall be included for each commercial source.

(e) The Final Report shall be accompanied by a letter or other notation by the Client which states that the Client approves the Final Report. A certification by the Client to this effect provided on or with the invoice for final payment will meet this requirement.

J. Modifications

All changes, modifications, assignments or amendments to this contract, including the appendices, shall be made only by written agreement by the parties hereto, subject to written USTDA approval.

K. TA Schedule

(1) TA Completion Date

The completion date for the TA, which is February 15, 2008, is the date by which the parties estimate that the TA will have been completed.

(2) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this contract for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

L. Business Practices

The Contractor agrees not to pay, promise to pay, or authorize the payment of any money or anything of value, directly or indirectly, to any person (whether a governmental official or private individual) for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the TA. The Client agrees not to receive any such payment. The Contractor and the Client agree that each will require that any agent or representative hired to represent them in connection with the TA will comply with this paragraph and all laws which apply to activities and obligations of each party under this Contract, including but not limited to those laws and obligations dealing with improper payments as described above.

M. USTDA Address and Fiscal Data

Any communication with USTDA regarding this Contract shall be sent to the following address and include the fiscal data listed below:

U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009

Fiscal Data:

Appropriation No.:	117/81001
Activity No.:	2007-81009A
Reservation No.:	078109062
Grant No.:	GH078109062

N. Definitions

All capitalized terms not otherwise defined herein shall have the meaning set forth in the Grant Agreement.

O. Taxes

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country. Neither the Client nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

ANNEX 5

Terms of Reference
(from USTDA Grant Agreement)

Annex I

Terms of Reference

The fundamental objective of the Technical Assistance (TA) is to assist the Grantee, and indirectly the Ministry of Communications (MOC), in the area of rural telecom development in Afghanistan, with a particular focus on how best to implement and administer the Telecom Development Fund (TDF), as prescribed by the Telecom Law, so as to maximize the effectiveness of the TDF as an instrument for improving rural access.

The establishment of the TDF, as well as the recent commencement of operation of the Grantee, which is designated by the Telecom Law as the TDF administering entity, have created certain prerequisites for coordinated rural development. Additionally, the MOC is moving forward with certain infrastructure and licensing initiatives, in particular the Government Communications Network (GCN) and District Communications Network (DCN) projects, and Local Fixed Service Provider (LFSP) licenses, all of which have definite implications for the development of rural telecom in Afghanistan.

The proposed TA intersects with, and builds upon, these prerequisites and initiatives, and includes technical, economic/financial and administrative components. An important aspect of the technical component is to ensure that initiatives at the local/rural level can properly integrate and interoperate with systems at the district and national levels. Interoperability is the capability of Information and Communication Technologies (ICT) systems and of the applications they support to exchange data and to enable sharing of information and knowledge, in particular in a multivendor/multiplatform environment. Interoperability does not necessarily extend in this case to "cultural" issues such as provision of local language content, although these issues may be pertinent to user accessibility to, and ease of use of, the systems and applications in question. A further aspect of the TA is to examine mechanisms by which both existing operators and new entrants can be incentivized to participate in rural development, as well as mechanisms to promote community "buy-in" to rural communications facilities.

It is expected that close liaison and coordination with the Grantee and the MOC, as well as with other actors in the telecom sector, will be required in the course of the TA.

SCOPE OF THE TECHNICAL ASSISTANCE

The specific tasks of the TA are enumerated below.

Task 1: Survey and Assessment of Rural Telecom Development (RTD) Initiatives
Primary Task Location: U.S.

The Contractor shall conduct a survey and assessment of RTD initiatives worldwide, with particular reference to countries or regions comparable to Afghanistan and to countries where Telecom Development Funds (TDFs) have been applied. The survey shall include both an overview and no less than six more in-depth "case studies." The case studies shall

be comprised of a reasonably representative sample of the larger picture and drawn from a range of technical solutions, economic and business models, and rural community environments.

In both the broad overview and the case studies, particular attention shall be paid to the following:

- Technology platforms employed, as well as associated economic issues (see also Task 4b below)
- Business-related issues, including business models, financing/subsidization mechanisms, partnering arrangements, sustainability issues (see also Task 4 below)
- Manner of establishment, administration and utilization of TDFs (see also Task 6 below)
- Strategies and mechanisms for incentivizing operators/licensees to participate in RTD, and for achieving community "buy-in" (see also Tasks 7a and 7b below)

Particular attention shall be paid to the identification and assessment of factors (of whatever nature) that have impacted the relative success or failure of the RTD initiatives.

Task 2: Initial Visit and Assessment of the Current Situation in Afghanistan
Primary Task Location: Afghanistan

After award of the Contract but prior to arrival in Afghanistan, the Contractor shall develop and submit to the MOC a Preliminary Information Request (PIR). The Contractor should consult the Web sites of the MOC (www.moc.gov.af) and the Grantee (www.trb.gov.af) for general background information.

The Contractor shall travel to Afghanistan to conduct an initial familiarization and assessment visit. The visit shall include: meetings with the Grantee, the MOC and other major stakeholders in RTD initiatives; a review and assessment of the state of RTD initiatives in the country, in the context of the telecom development initiatives and policies of the Government of Afghanistan (GoA) and the broader economic/social/political realities of the country; and familiarization with the major players (e.g., wireless and wireline telecom operators, Internet Service Providers (ISP), equipment/solution suppliers) and with the sets of services currently offered or contemplated.

Specifically, Task 2 includes three sub-tasks, as follows:

Sub-Task 2a: Meetings with Stakeholders and Interested Parties. The Contractor shall meet with interested stakeholders in RTD initiatives. In addition to the Grantee, these will include the MOC, local operators/licensees, the Ministry of Finance (if appropriate), as well as a number of domestic and foreign organizations in Afghanistan working on aspects of rural connectivity and Digital Inclusion.

Sub-Task 2b: Macro Level Survey. The Contractor shall conduct a general survey of the economic, social and political situation of Afghanistan, particularly as it affects RTD initiatives, the telecom sector and the prospects for further sector development and liberalization.

Sub-Task 2c: Assessment of Service Regime. The Contractor shall conduct an assessment of the telecom sector, with an emphasis on the major operators/licensees and their market position, services offered or contemplated, service availability, coverage and quality, and rates and tariffs. Particular attention shall be paid to those providers (e.g., existing or forthcoming cellular operators) who could act as "enablers" of RTD initiatives.

Upon completion of this task, the Contractor shall produce an Inception Report (see below). The Contractor shall obtain the formal approval of the Inception Report from the Grantee, thus indicating satisfactory performance of Tasks 1 and 2.

Task 2 Deliverable: *An Inception Report shall be produced in English describing the findings to date and their implications for RTD, as well as the implications for the work plan pursuant to which the contractor will perform Tasks 3 through 9 below.*

Task 3: Legal/Policy/Regulatory Review
Primary Task Location: Part Afghanistan, Part U.S.

Implementation of RTD solutions in Afghanistan must take account of a number of aspects of the legal/regulatory regime, which could significantly impact the technical and/or commercial feasibility of the solutions proposed. These aspects may include:

- Position and status of RTD within the broader and still evolving legal/policy/regulatory framework, with particular reference to the status of provision of Universal Access under the Telecom Law; and the definition of Universal Service and the Universal Service Obligation;
- Revenue-sharing mechanisms (e.g., Sender Keep All) and interconnection issues as they affect RTD, e.g., interconnection between local/rual and long-distance providers;
- Status of, and prospects for, funding mechanisms for RTD initiatives (e.g., subsidy mechanisms apart from the TDF itself; franchising); and
- Rural telecom licensing issues.

The Contractor shall seek to identify potential legal/policy/regulatory obstacles to the implementation of RTD solutions in Afghanistan. To the extent practicable, the Contractor shall indicate what needs to be done to overcome or mitigate the obstacles in question, and what appropriate actions, if any, should be undertaken by the Grantee, MOC or other interested stakeholders.

Task 3 Deliverable: *A report comprising a review of pertinent legal/policy/regulatory issues, with supporting rationale and recommendations.*

Task 4: Evaluation of Key RTD Technological Solutions, Architectures, and Their Attendant Economics and Risks/Benefits; Identification of U.S. -Based Suppliers
Primary Task Location: U.S.

Task 4 is comprised of three sub-tasks, as follows:

Task 4a: Technical Evaluation of RTD Platforms. Using the findings of Task 2 as a point of departure, the Contractor shall evaluate key current and identifiable forthcoming technological platforms, solutions and options utilized in RTD initiatives. Since the particular solutions considered should be feasible under conditions prevailing in Afghanistan, it is anticipated that the list of particular platforms/solutions to be evaluated will be subject to agreement with the MOC. Provisionally, it is expected that this list will emphasize wireless solutions (e.g., conventional and advanced cellular, WLL, WiFi, Wi-MAX, CDMA-450, satellite), although wireline solutions are not excluded.

The evaluation shall include, but is not necessarily limited to, consideration of the following:

- Performance / reliability / Quality of Service parameters;
- Ease of deployment, management, maintenance, support;
- Scaleability;
- Compatibility / interoperability with one another and with existing / planned infrastructure initiatives (e.g., GCN, DCN);
- Use of open versus proprietary standards/protocols;
- Spectrum requirements; and
- Backhaul/interfacing requirements.

Task 4b: Economic Evaluation of RTD Platforms and Developmental Impact Assessment. Additionally, the Contractor shall review available cost data on, and analyze and compare the economics of, the various platforms considered (capital cost, rates of return per unit, etc.). To the extent practicable, the Contractor shall calculate fully loaded costs per subscriber unit, or similar comparison metric, for representative deployments.

The Contractor shall also seek to identify and compare technological and/or economic risks and benefits associated with the various platforms/solutions.

The Contractor shall also assess the expected development benefits of the proposed TA (i.e., expansion of rural telecommunications development) focusing on what the economic development outcomes shall be when and if the rural telecommunications improvements are implemented. This section should focus on key development impact issues such as infrastructure/industrialization, human capacity building, technology transfer and productivity, and market oriented reform. The Contractor shall discuss the following development impact categories quantifying the impacts in as detailed and concrete terms as possible, including those listed as follows and others that may be appropriate:

- Market-Oriented Reform: Identification of the facilitation of market-oriented reforms resulting from increased rural telecommunications development in Afghanistan.
- Infrastructure: Identification of telecommunications infrastructure that may be constructed as a result of this TA.
- Human Capacity Building: Discussion of training components improvements.
- Technology Transfer and Productivity Improvement: Discussion of the introduction of advanced technologies that improve processes and/or systems, resulting in greater economic productivity or more efficient use of resources.
- Other: Other development benefits not captured by the above categories - examples include enhanced government revenue, increased good governance or spin-off projects.

Task 4c: Identification of U.S. Suppliers. The Contractor shall prepare a comprehensive list of U.S. suppliers of RTD technological solutions and equipment. The list shall include the following:

- Identification and contact information (including the name, phone and fax numbers and e-mail address of a suitable contact representative);
- Description of the particular technological solutions and/or equipment supplied, including basic technical characteristics;
- Identification of significant RTD environments worldwide, and in particular in environments comparable to Afghanistan, in which such solutions and/or equipment have been or are being deployed; and
- An indication of the supplier's overseas sales/support capabilities, with particular reference to Afghanistan and neighboring countries.

Task 4 Deliverables: *1) A report describing the agreed-upon technological platforms/solutions and options (e.g., types in common use in RTD, how to implement them, how to integrate them with existing infrastructure); 2) an economic analysis of the platforms/solutions in question; and 3) a listing of U.S. suppliers of RTD technological solutions and equipment, as described above.*

Task 5: Review and Evaluation of RTD Business and Funding Models
Primary Task Location: U.S.

Using the findings of Task 2 as a point of departure, the Contractor shall review, evaluate and classify the business models that currently underlie pertinent RTD initiatives.

As is well known, attraction of investment into rural telecom is generally problematic. At the same time, available information suggests that successful RTD initiatives have employed a considerable range of innovative business models. For example, such initiatives may be sponsored entirely by the private sector; entirely by the public sector; or through some form of public-private partnership. Conceivably, they could involve the creation of a special-purpose company via which operators can share network facilities

and sites without the obligation of ownership. Funding mechanisms are correspondingly diverse.

The Contractor shall provide a detailed review and analysis of these issues. Further aspects of this task include a general assessment of the factors (CAPEX and rate of return parameters such as IRR) that determine the choice of business model, as well as of the factors that affect the longer-term sustainability of RTD initiatives. Finally, to the extent practicable, interrelationships between business models and technological solutions/architectures shall be explored.

Task 5 Deliverable: *A report describing the pertinent findings and the typology of business models. Relevant strategies and techniques for implementing such models shall also be described.*

Task 6: Development of Recommendations on Optimum Utilization of TDF
Primary Task Location: U.S.

Based on the results of Tasks 1–5, the Contractor will develop recommendations on how the TDF can best be utilized to solve problems of providing rural connectivity in Afghanistan. Such utilization could involve a range of possibilities, including direct investments in particular improvements, subsidies, franchises, etc. Separately, the Contractor will also develop recommendations as to how the TDF can be best administered by the Grantee, given the profile and capabilities of the latter – for example, the TDF could be administered by a department under the Grantee or by a functionally separate entity. The Contractor shall estimate the associated manpower and skill requirements.

Task 6 Deliverable: *A report describing the pertinent findings of Task 6, along with the corresponding recommendations, with supporting rationale as necessary and appropriate.*

Task 7: Elaboration of Strategies and Mechanisms for Incentivization of RTD
Primary Task Location: U.S.

Task 7 is comprised of two sub-tasks, as follows:

> **Task 7a: Incentivization of Operators/Licensees:** Using the findings of Task 2 as a point of departure, and in consultation with the MOC, the Contractor shall develop appropriate strategies for incentivizing current and future operators to engage in RTD. Such strategies might involve, inter alia, more favorable licensing conditions, concessional mechanisms, subsidies (under the TDF or otherwise), partial or full exemption from TDF contributions under certain circumstances (so-called "pay-or-play" schemes), the use of government-supported dedicated financing vehicles or guarantees, etc.

Task 7b: Achievement of Community "Buy-In": Using the findings of Task 2 as a point of departure, and in consultation with the Grantee, the Contractor shall carry out an assessment of the various strategies and mechanisms by which RTD initiatives have achieved community and/or stakeholder "buy-in," and how such strategies/mechanisms might be applicable to Afghanistan. Of particular interest are methods of:

- Establishing a shared vision;
- Outreach and engagement strategies; and
- Identifying and recruiting key local stakeholders.

While strategies/mechanisms leading to "success stories" are obviously of interest, attention should also be paid to instances in which these or other strategies/mechanisms have not been notably successful, and correspondingly to the factors that tend to affect the success or failure of the outcome.

Task 7 Deliverable: *A report offering a detailed examination of the relevant operator/licensee incentivization and community buy-in issues. If the Grantee so wishes, the community buy-in portion of the report may be formatted as a practical "how-to" guide and with draft text of appropriate sections (e.g., "Establishing a shared vision"; "Outreach and engagement strategies"; "Identifying and recruiting key local stakeholders," as applicable). The Grantee and the Contractor shall agree in advance on the scope and general content of any such "how-to" guide draft text that may be provided.*

Task 8: In-Country Presentation and Workshop
Primary Task Location: Afghanistan

The Contractor shall conduct an in-country presentation ("Presentation") of the findings to date, with a particular emphasis on the findings of Tasks 2–7, to the Grantee, MOC and other interested stakeholders. Additionally, the Contractor shall conduct a workshop ("Workshop") with the Grantee, MOC and other interested stakeholders, with the objective of facilitating knowledge transfer and the "localization" and adaptation to local conditions of the findings.

The Contractor and Grantee will agree on the time, venue, approximate size and composition of the intended audience, format, content, working language(s) and similar details of the Presentation and Workshop sufficiently in advance of these events for all necessary preparations to be carried out. The Contractor shall furnish all necessary Presentation and Workshop materials (e.g., PowerPoint® presentations, handouts, Workshop session summaries), in the appropriate language(s), while MOC will provide the Presentation and Workshop venues.

Task 8 Deliverable: *The primary deliverables of Task 8 shall be the successful and timely execution of the Presentation and the successful organization and timely execution of the Workshop. Additionally, the Contractor shall prepare a report summarizing the*

Workshop findings, conclusions, recommendations, etc., regarding localization/ adaptation of RTD initiatives to conditions prevailing in Afghanistan.

Task 9: Draft and Final Reports

The Contractor shall prepare Draft and Final Reports for submission to the Grantee. The Grantee shall be given adequate time to review the Draft Report and to propose modifications or amendments (if any) for incorporation into the Final Report. The Draft and Final Reports are to be supplied in English.

The Final Report shall comprise a substantive and comprehensive report of all work performed in Tasks 1 through 8. The Final Report shall be organized according to the above tasks, and shall include all deliverables and documents that have been provided to the Grantee.

The Final Report shall be prepared in accordance with Clause I of Annex II of the Grant Agreement. The Contractor shall identify prospective U.S. sources of supply in the Final Report as submitted to USTDA, in accordance with Clause I of Annex II of the Grant Agreement. (See also Task 4c.)

In the event that the complete version of the Final Report contains confidential information the Contractor shall ensure that any such confidential information is clearly marked in that version of the Final Report, as provided for by Clause I(2)(a) of Annex II of the Grant Agreement.

Notes:

(1) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.

(2) The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.

(3) The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.