Consultancy Services For "Project Management Services & Technical Assistance for Implementation of Strategy & Action Plan to Enhance LGED IT-ICT-MIS Resources & Capacity under Second Rural Transport Improvement Project (RTIP-II)"
Contract Package: No: IT-ICT-S1; Credit No: 5107-BD

Key Deliverable 2
"Submission of a comprehensive detail Action Plan Report for implementing the existing IT-ICT-MIS Strategy & Action Plan of LGED, outlining the phase wise implementation plan as well as cost requirement."

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Implementation Plan as per the existing ICT Strategy Report 2012

In the inception report we gave a preliminary assessment of the ICT Strategy Report 2012. For ready reference we are copying it here:

"The ICT strategy prepared by LGED in 2012 is more or less a broad guideline on ICT usage and implementation designs. The document lays out various ICT-centric strategic options for LGED and has a reasonably detailed assessment of ICT hardware in use (servers, PCs and network assets). However, it fails to address (might be due to paucity of engagement time) all other aspects of ICT related business matters such as detailed assessments of applications in use, specific recommendations on ICT policy and usage, ICT Unit's business functions, service level agreements with vendors, etc. in sufficient details. This lack of specificity of the report makes it more of an academic exercise rather than a strategic blueprint for ICT goals of LGED. The second deliverable of this assignment will address the recommendations of the ICT Strategy Report 2012 in specific details and also present an actionable work-plan and bill of materials to be procured in line with the recommendations made in the report."

The ICT Strategy Report 2012 (hereafter referred to as 'ISR2012') has itemized most strategic interventions necessary for a robust IT system in LGED at a bullet-point level. Based on the recommendations in the report a five-year implementation action-plan is given below.

5-Year Action Plan

The action plan involves all items mentioned in the ISR2012. However, itemized details and timeframes are not mentioned in the report. In fact the 5-year action plan is simply a compilation of ICT wish-lists without any actionable agenda or timeframe. The salient points of the ISR2012 are responded to in more details in the following pages.

Data Center and Disaster Recovery Site

The ISR2012 has emphasized the need for a high availability central data center as the repository of all computer data and applications. It lays out ICT system availability target at 99.99% meaning the system can only be out of service for 52 minutes in one year. However, it does not provide specifics on how this level of availability would be achieved. This level of availability can only be ensured with a Tier-4 certified data center infrastructure which can easily cost USD50 Million or more (Taka 400 Crore or more). However, a tier-4 level data center is not necessary for LGED digital services. Even at 99% availability the ICT system will only be out of service for less than 4 days in a year. If maintenance shutdowns are scheduled during weekends or holidays then such outage will not disrupt day-to-day operations at all.

We recommend a 99% level of availability which means the data center can only be out of service a total of 3 to 4 days a year. This level of availability can be ensured with a full-fledged data center with adequate provisions against any type of disruption of power, storage, processor, network, etc. and protections against accidents such as overheating, condensation, fire, etc. The data center BOM and BOQ have been prepared with this in mind.

However, the ISR2012 does not specify a disaster recovery site in case of fire, earthquake or other calamities. Nonetheless a DRS is a must for data safekeeping as well as to guarantee continuity of ICT system operations in the direst of situations.

The data center is planned for design approval in 2015 while the procurement and implementation will take till middle of 2016. The procurements of data center components can be done in multiple phases also. In the first phase the physical infrastructure and a minimum set of servers and network devices can be procured while more advanced components (such as NOC, security solutions, IP telephony, DRS etc.) can be procured in 2017 and 2018. This will allow the budgetary allocations to be spread over 3-4 years as well as allow LGED to usher in the new system gradually with minimal disruptions to day to day operations.

WAN, LAN and NOC

ISR2012 gives a very good theoretical framework for a secure WAN and LAN design. However, it did not provide the detailed design and management model for the network assets. It also did not plan for Network Operations Center (NOC) which is essential for a WAN/LAN system serving such a large geographical area (the whole country) and catering to thousands of users.

The Network Operations Center (NOC) is crucial for a large organization such as LGED. This will allow LGED to visually monitor all network assets in real time and take pre-emptive actions in case of any problems. With thousands of active ICT system users spread across the country the network architecture of LGED calls for a multi-tiered design catering to the connectivity and bandwidth requirements of all users at all geographical locations. Redundancies are required at all levels to ensure accessibility in case of any network link failures.

IP Telephony

ISR2012 mentions IP PBX and video conferencing which can be highly beneficial to LGED in the long run. However, no details were provided.

The IP telephony system is designed to offer a seamless integration between IT and communication systems which will not only lower the overall communication costs but more importantly will bring voice, video and data connectivity onto a single platform and thus provide unprecedented levels of information availability and use of that information for productive purposes.

uFMS, PIMS & PMS

These applications are meant for feasibility assessment and upgradation to web-based versions so that they can be readily accommodated into the IDSS to be implemented in LGED. Although the upgradation work as per contract only included the PIMS and PMS applications, the uFMS upgradation work has been included under special arrangements.

The upgradation work is being carried out as per the gap assessments on these applications. The formal gap assessment reports will be provided along with the revised ICT strategy report by mid-May

2015. The gap assessment reports duly approved by RTIP II will be the reference for the upgradation work of the three applications.

IDSS

A preliminary conceptual model of the IDSS was submitted with the inception report in February 2015. The full feasibility report on IDSS is due in May. However, we are submitting a draft feasibility report on the IDSS along with this report. We propose a joint review of the draft report on IDSS to ascertain the exact scope and operational features for incorporation into the final feasibility report.

Other Enterprise Applications

Besides uFMS, PIMS and PMS several other enterprise-wide applications have been identified for integration with the IDSS. These are Mechanical Equipment Management System (MEMS), and Audit Observations Monitoring System (not yet developed). Eventually (in subsequent phases) all enterprise-wide applications will feed data into the IDSS.

Workflow Automation, Electronic Document Management, Collaborative Tools

LGED currently has no enterprise-wide applications for the above. However, for realizing a Digital LGED these applications are essential. To keep paper-based filing and decision-making to a minimum and to keep track of existing paper documents these three related applications will need to be introduced gradually. The revised ICT strategy document will include these in the action plan.

Help Desk

The ICT-based work culture transformation towards a Digital LGED will have teething pains which will need to appropriately addressed through a professionally managed Help Desk operation. This will be a call center with as few as three seats to begin with and operating in two shifts that will take calls from all LGED users from 7 in the morning till 11 in the evening on weekdays and 10 am to 6pm on weekends and other holidays. Over phone and email the Help Desk agents will help users resolve any immediate problems they may be facing while using any of the enterprise-wide applications such as uFMS, PIMS, PMS, MEMS or IDSS. The number of agents can be increased or decreased based on demand.

ITIL, Business Continuity and Security Strategies

These are part of the current assignment and will be dealt with as per delivery timeline. These strategies and operational guidelines will provide a framework for operating, managing, protecting and securing the ICT assets of LGED.

ICT Management Plan

The ISR2012 envisaged a self-catered ICT management system where all ICT services are managed in-house. It also outlined the theoretical framework for an always-on ICT infrastructure with

accompanying capacity upgradation in ICT management through ITIL implementation and other systemic improvements.

HR Structure

ISR2012 proposed an ICT department with a personnel-strength of 100 officers with a view to carrying out all ICT related services including application development, support and maintenance through in-house ICT professionals. Accordingly there are *86 positions of software developers* in the proposed organogram. Software development is not a core activity of LGED and as such managing such a large number of software developers and getting appropriate output from them would be a huge challenge for LGED. Moreover, LGED's organizational imperative is leveraging ICTs to increase productivity, improve accountability and enhance transparency in its operations and engineering services delivery mechanisms in line with the ICT Policy guidelines of the government.

Continued Access to Skilled Resources through Outsourcing

ISR2012 also emphasized on having access to external pool of skilled ICT resources, presumably through outsourcing arrangements. However, there is no mention of any arrangements or coordination between in-house and outsourced resources. It appears that ISR2012 looked at ICT based operational goals at a functional level without any linkage to organizational business and productivity goals.

Service Level Agreements (SLAs)

The ISR 2012 mentions the need for service level agreements (SLAs) with vendors but does not mention the SLA benchmarks or objectives.

Training and Certification of ICT Staff

The ISR2012 outlines PMP and ITIL training and certification for ICT Unit officers. However, several other trainings and certifications, such as, in the areas of ICT security and business continuity are equally important but were not mentioned.

Document Naming and Coding Conventions

For any organization to manage its information resources effectively several document management techniques need to be in place, most important of which is document naming conventions as well as coding conventions for employees, vehicles, fixed assets, etc.

Revised ICT Strategy Document and Five-Year ICT Program

As can be seen from the forgoing that the ICT Strategy Document (ISD) and the Five-Year ICT Program (FIP) require major revisions to overcome the lacunae mentioned above. We propose joint reviews to address the gaps and prepare a revised ISD and FIP for carrying out the necessary organizational changes and ICT procurements to achieve the strategic objectives agreed upon.