



Technical Assistance Report

Project Number: 38347
August 2006

Nepal: Preparing the Information and Communications Technology (ICT) Development Project (Financed by the Japan Special Fund)

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 5 June 2006)

Currency Unit	–	Nepalese rupee/s (NRe/NRs)
NRe1.00	=	\$0.0136
\$1.00	=	NRs73.36

ABBREVIATIONS

ADB	–	Asian Development Bank
HLCIT	–	High-Level Commission for Information Technology
ICT	–	information and communications technology
NTA	–	Nepal Telecommunications Authority
PMU	–	project management unit
TA	–	technical assistance

TECHNICAL ASSISTANCE CLASSIFICATION

Targeting Classification	–	General intervention
Sector	–	Transport and communications
Subsector	–	Telecommunications and communications
Themes	–	Sustainable economic growth, inclusive social development

NOTE

In this report, "\$" refers to US dollars.

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I. INTRODUCTION

1. The Government of Nepal has requested the Asian Development Bank (ADB) for project preparatory technical assistance (TA) to prepare the Information and Communications Technology (ICT) Development Project, included in the country strategy and program 2005–2009.¹ The TA is programmed for ADB's 2006 TA program for Nepal. The TA Fact-Finding Mission was carried out in Nepal from 27 to 30 March 2006, and agreement was reached with the Government on the TA's goal, purpose, scope, implementation arrangements, costs and financing plan, and outline terms of reference for consulting services.² A preliminary design and monitoring framework is in Appendix 1.

II. ISSUES

2. Nepal is one of the poorest countries in the region, with about 24 million people scattered throughout remote mountainous areas, a GDP per capita of \$270, and a poverty incidence of 38%. The geographic isolation and exclusion of the hilly and mountainous areas have been obstacles to inclusive pro-poor development. They hinder connection to markets and services, and access to information and opportunities. The Government recognizes ICT as the most effective means to bring down the country's geographical barriers, enable information and knowledge management, provide new means for service delivery, introduce innovation, and thereby create opportunities for economic and social development. The Millennium Development Goals (MDGs) include ICT accessibility as a target, as it is important by itself and can help attain other goals such as establishing rural community access points to integrate villages into the information network. The Second World Summit on the Information Society held in Tunis in December 2005 thus urged governments to use ICT to create public systems of information on laws and regulations, expanding public access points and making information broadly available.

3. To harness the huge potential of ICT, the Government set up the policy direction under its first Information Technology (IT) Policy 2000 as well as the revised IT Policy 2005, with an integrated action plan for 2005–2007. Following the Telecommunications Act and Policy,³ the Government has also (i) liberalized the telecommunications sector; (ii) introduced competition through open licensing; (iii) restructured the former state-owned incumbent provider, Nepal Telecom (NT);⁴ and (iv) promoted private investment. The Nepal Telecommunications Authority (NTA) was established in 1998 as an autonomous and corporate body. Amendments to the Telecommunications Act have been drafted to strengthen the regulatory environment, including NTA's autonomy, and will be enacted within 2006. The Electronic Transactions Act (2004) provides legal support for the recognition of digital signatures and electronic documents. The High-Level Commission for Information Technology (HLCIT), which was formed in 2003 and chaired by the Prime Minister, oversees national IT policy and strategy and provides strategic policy direction and support to the Government.

4. Nevertheless, ICT accessibility, particularly in remote rural areas, is limited, hindering benefits from it, and requires extensive investment. Although NT started mobile services in 1999

¹ ADB. 2004. *Nepal Country Strategy Program 2005–2009*. Manila.

² The TA first appeared in *ADB Business Opportunities* in April 2006.

³ The Telecommunications Act 1997, the Telecommunications Regulations 1997, and the Telecommunications Policy 1999 are the main policies for telecommunications and internet providing legal and policy framework.

⁴ It was formerly the Nepal Telecommunications Corporation (NTC), which was the incumbent public telecommunications operator, and monopolized all aspects of telecommunications until the recent entry of private operators in the sector.

with the global system for mobile communications (GSM) technology and will deploy a new code division multiple access (CDMA)-2000 network of 1 million lines in a 5-year period, the overall level of telephone density for fixed and mobile services is as low as 1.54%, compared with developing countries' average of 15.5%, the world average of 23.5%, and developed countries' average of 65.5%.⁵ Telephone density also varies widely between urban and rural areas. Kathmandu, with less than 5.00% of the population, has a telephone density of 18.20%, much higher than the rural areas' 0.06%.

5. Nepal's internet market was dramatically boosted in mid-1999, when internet service providers (ISPs) were allowed to have their own international gateways, and the use of very small aperture terminal (VSAT) was liberalized. The price of internet service fell to \$0.2 per hour, the lowest in South Asia. Twenty-six ISPs serve around 200,000 users, of whom about 40,000 are subscribers. More than 1,000 internet access points exist all over Nepal, with half in Kathmandu. The construction of an 880 km fiber optic cable is almost completed along the east–west highway with the assistance of the Government of India. Recently Nepal and the People's Republic of China (PRC) agreed to build a 115 km fiber optic network linking Kathmandu to the border of the PRC (Aniko highway). Internet infrastructure and services, although greatly improved during the past few years, are still in dire need of expansion and enhancement, particularly in remote rural areas.

6. To bridge the urban–rural digital divide, the tenth 5-year plan (2002–2007) targeted establishing telecenters for at least 1,500 village development committees all over the country. However, only about 250 telecenters are in place, of which about 30 are funded by the Government and international funding agencies such as the United Nations Development Programme (UNDP) and the World Bank; the rest are sponsored by nongovernment organizations. The telecenters are an efficient and cost-effective means of providing remote rural areas with ICT access and various ICT-enabled services. Telephones, photocopiers, fax machines, internet access, ICT training, electronic government forms, and market and job information can become available to the rural poor. Telecenters also provide offline content on health, education, agriculture, forestry, and social campaign programs. To speed up ICT accessibility in the difficult terrain of remote rural areas, the Government should be encouraged to establish a telecenter for every VDC as quickly as possible.

7. Expanded ICT accessibility should be complemented by suitable e-services. The Government has been pursuing an e-government⁶ initiative to improve accessibility, efficiency, and usability of public service through electronic means. The development of the Government portal site,⁷ which provides links to the websites of all government ministries, departments, and agencies, and enables the public to download 32 critical government forms such as citizenship certificate, driver license, and passport application is part of such efforts. Despite the increasing presence of e-government, its further development is hindered by obstacles such as (i) poor Government network and facilities to support the adoption of ICT to improve public services among Government ministries, departments, and agencies, and between central and local government;⁸ (ii) lack of coordination and cooperation in developing information systems among ministries, departments, and agencies, which limits the efficient use of shared information, knowledge, practice, and statistics; (iii) lack of a single-point delivery mechanism for most

⁵ International Telecommunications Union. 2006. *World Telecommunication/ICT Development Report*. Geneva.

⁶ It refers to the use of ICT by Government agencies, making their communications and interactions more efficient and transparent with citizens, business, and other arms of government.

⁷ <http://www.nepalhmg.gov.np>

⁸ To resolve the problem, the Government plans to construct a fiber optics network in central Government offices with the assistance of NT and the World Bank in 2006.

Government services;⁹ (iv) lack of ready access to basic information and services; and (v) the persistent perception that public services should be provided face-to-face.¹⁰

8. Recognizing the importance of a concerted and collective approach to improving ICT accessibility and pursuing e-government, the Government is developing a master plan that will guide investments in e-government.¹¹

III. THE TECHNICAL ASSISTANCE

A. Impact and Outcome

9. The TA aims to help the Government prepare an investment project that will support economic growth and reduce poverty, including in remote rural areas, by improving ICT accessibility and developing e-government applications in accordance with the road map to be identified by the e-government master plan. The TA will also help improve the legal, regulatory, and institutional framework to expand ICT accessibility and implement the e-government applications, as well as develop institutional and human technical capacity in managing ICT infrastructure and operating e-government applications.

10. The TA outputs will include (i) an investment plan for improving ICT accessibility in remote rural areas; (ii) design of selected e-government applications; (iii) a legal, regulatory, and institutional framework to expand ICT accessibility and implement selected e-government applications; (iv) institutional and human resource development programs; and (v) a feasibility assessment of the investment project package.

B. Methodology and Key Activities

11. **Development of an Investment Plan to Improve ICT Accessibility in Remote Rural Areas.** The TA will examine the ICT sector's deficiencies in telephone density and internet accessibility, infrastructure provision, and sector reform and development. The Government's telecenter initiative will also be assessed to develop a sustainable telecenter model to be rolled out by the ensuing project as well as by the Government's ongoing telecenter initiative.

12. **Design of Selected E-Government Applications.** The TA will reengineer business processes to develop e-government applications for selected priority services to be identified by the master plan, and develop the common architecture of applications. Based on the reengineering results and the common architecture, the TA will design information systems and applications for selected e-government services, referring to recent successful Indian e-government initiatives and considering the lessons from them.

13. **Development of a Legal, Regulatory, and Institutional Framework, and Human Resource Development Programs.** The TA will (i) assess the existing legal, regulatory, and institutional framework; and (ii) identify areas for improvement so that they support e-government. The TA will develop the strategy, licensing policy, and regulatory framework to improve ICT accessibility in remote rural areas. The TA will also (i) assess the needs for the

⁹ Duplicate structures of government at all levels require users to go to several agencies to access even simple services.

¹⁰ This adds substantially to the costs of service delivery as physical connections to Kathmandu and the district headquarters are not good.

¹¹ The Korean IT Industry Promotion Agency (KIPA) provides TA to develop the master plan, which will be finalized by the end of August 2006.

related institutional and human capacity development, (ii) develop and implement human resource development programs, and (iii) recommend a strategy to enhance organizational function and structure in training.

14. **Feasibility Assessment for the Whole Package of ADB-Financed Projects.** The TA will formulate an investment project suitable for ADB financing, and carry out the preparatory studies required to examine the feasibility of each project component and to comply with ADB's safeguard and other policies and requirements for possible loan financing. These include (i) economic and financial analyses, (ii) a poverty and social assessment, (iii) performance measurement and monitoring and evaluation system development, (iv) an environmental and social impact assessment, and (v) an indigenous people's development plan if required. An initial poverty and social analysis is in Appendix 2.

C. Cost and Financing

15. The cost of the TA is estimated at \$725,000, of which the Government requested ADB to finance \$600,000 equivalent. The TA will be financed on a grant basis by the Japan Special Fund contributed by the Government of Japan. The Government will finance the remaining \$125,000 equivalent to cover the costs of counterpart staff, office accommodation and office utilities, office equipment, and local communications. The Government has been informed that TA approval does not commit ADB to finance any ensuing project. Further details of cost estimates are in Appendix 3.

D. Implementation Arrangements

16. HLCIT will be the Executing Agency. A project management unit (PMU) will be established under HLCIT to implement the TA and supervise the consultants. The PMU will be headed by a project director (member secretary, HLCIT) and will consist of the e-government task force established under the National Information Technology Centre and full-time representatives from the Ministry of Environment, Science and Technology; the Ministry of Information and Communications; and NTA. The head of the e-government task force will act as project manager and be responsible for day-to-day TA implementation. The project manager will report to the project director, who will regularly report to HLCIT and ADB about TA progress.

17. The consultants will organize workshops to advise all stakeholders of TA progress and seek feedback. Under the PMU, a business process reengineering unit will be set up, to be headed by a consultant for reengineering government administrative procedures, and staffed with full-time personnel from all ministries whose administrative procedures are to be reengineered through the TA. The unit will report to the project manager on reengineering progress.

18. HLCIT will provide overall guidance to the PMU. HLCIT will review and endorse all the consultants' recommendations and suggestions to be made as part of the TA outputs. An ADB project specialist, with the aid of the Nepal Resident Mission, will work closely with HLCIT in supervising the consultants and monitoring TA progress. HLCIT will ensure that all ministries and agencies concerned are represented in the PMU.

19. The TA will be implemented over 6 months, from September 2006 to February 2007. Individual international consultants will provide a total of 16 person-months of services, and national consultants 34 person-months, in accordance with ADB's *Guidelines on the Use of Consultants*. International consultants will consist of (i) a team leader and e-government

specialist, (ii) an ICT technical specialist, (iii) an e-center specialist, and (iv) a project economist. National consultants will consist of (i) a public administration specialist, (ii) a reengineering specialist, (iii) an ICT engineer, (iv) a project analyst, (v) a social development and resettlement specialist, (vi) an environment specialist, and (vii) a legal and/or governance specialist. The outline terms of reference for consultants are in Appendix 4.

20. The consultants will submit an inception report, which should outline any changes in the approach, methodology, or work plan, as well as cost implications for the consultants' services. Monthly progress reports and interim reports will be submitted to ADB and HLCIT so that they can monitor TA progress. After all external and internal human resource development programs and workshops, reports evaluating them should be submitted. The reports should summarize program input, output, and outcomes, and workshop proceedings and achievements. The final TA report, including manuals for reengineered administrative procedures for ministries, will be submitted after reflecting comments on the draft final report from the Government and ADB.

IV. THE PRESIDENT'S DECISION

21. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$600,000 on a grant basis to the Government of Nepal for preparing the Information and Communications Technology (ICT) Development Project, and hereby reports this action to the Board.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>Impact ICT made more accessible to remote rural areas, and delivery of government services improved through the ICT network</p>	<p>Provision of telecenters for all village development committees within 5 years after project completion</p> <p>Increase in access to Government portals by 10% per annum for 5 years after project completion</p> <p>Increase in the ratio of online to over-the-counter Government services by 10% per annum for 5 years after project completion</p> <p>Improvement in the weighted average composite index of e-readiness in the United Nations Global E-Government Readiness Report to the level of 0.5 within 5 years after project completion</p>	<p>Compilation of Government statistics</p> <p>ADB's TA review missions</p>	<p>Assumptions Government's commitment to reengineer public administrative procedures to be suitable for electronic delivery of public services</p> <p>Appropriate budgetary support</p>
<p>Outcome Agreed design for the loan project, and improved capacity of Government staff to implement e-government applications</p>	<p>Identification of project components, including their estimated costs, and preliminary assessment of safeguard compliance issues within 3 months after the TA starts</p> <p>Finalization of all project features, including the scope, cost estimate, financing plan, implementation arrangements, implementation schedule, detailed analysis of safeguard compliance issues, and economic/financial viability, within 5.5 months after the TA starts</p> <p>Training of a sufficient number of Government staff members who will take charge of implementing the project, through external and internal training programs at TA completion</p>	<p>Consultant's interim and draft final report</p> <p>Consultant's report on evaluation of human resource development programs</p> <p>ADB TA review missions</p>	<p>Assumptions Completion of the e-government master plan as scheduled</p> <p>Development of a comprehensive and quality e-government master plan</p>
<p>Outputs 1. Investment plan to improve accessibility in remote rural areas 2. Design of e-government applications</p>	<p>ICT infrastructure and telecenter expansion plan to be developed within 3 months after the TA starts</p> <p>Common architecture to be developed within 3 months after the TA starts</p> <p>Manuals for reengineered administrative</p>	<p>Consultants' progress, interim, and draft final reports</p> <p>ADB missions to assess TA implementation</p>	<p>Assumption Government's full support for consultant's works as committed</p>

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
3. Legal, regulatory, and institutional framework 4. HRD program 5. Feasibility assessment for the ensuing project	<p>procedures available within 6 months after the TA starts, for use in human resource development programs</p> <p>Detailed design of information systems and service applications available within 3 months after the TA starts, for costing and economic and financial assessment</p> <p>Legal, regulatory, and institutional framework for e-government available within 3 months after the TA starts</p> <p>HRD program and enhanced human and institutional capacity in e-government</p> <p>Feasibility study for the ensuing project available at TA completion</p>		
Activities with Milestones			Inputs
<ol style="list-style-type: none"> 1. Identify investment requirements for ICT network, including telecenters within 3 months after the TA starts 2. Reengineer the business process of selected government services and develop the common architecture of e-government applications throughout the TA period 3. Develop the information systems and applications, which will be delivered through improved accessibility with 3 months after the TA starts 4. Develop a plan to improve the existing legal, regulatory, and institutional framework to expand ICT accessibility and to electronically provide selected government services within 3 months after the TA starts 5. Assess the needs for the related institutional and human capacity development, and develop and implement HRD programs throughout the TA period 6. Formulate an investment project suitable for ADB financing, and carry out the preparatory studies required to examine the feasibility of each project component and to comply with ADB's safeguard and other policies, including economic and financial analyses, poverty and social assessment, performance measurement and monitoring and evaluation system development, environmental and social impact assessment, and indigenous people's development plan if required, at TA completion 			<p>TA financing of \$600,000 on a grant basis by ADB's TA funding program</p> <p>Government's in-kind contribution to TA</p> <p>16 person-months of international and 34 person-months of national consulting services</p>

ADB = Asian Development Bank, HRD = human resource development, ICT = information and communications technology, TA = technical assistance.

INITIAL POVERTY AND SOCIAL ANALYSIS

A. Linkages to the Country Poverty Analysis

Is the sector identified as a national priority in country poverty analysis? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the sector identified as a national priority in country poverty partnership agreement? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Contribution of the sector or subsector to reduce poverty in Nepal: The project will help reduce poverty by (i) creating an equitable environment for ensuring economic growth, employment, and human development; (ii) setting up a system where public services are accessible in all areas, particularly in remote rural and semi-urban areas, and helping meet the needs of low-income groups; (iii) pursuing innovative, cost-effective approaches, and building local capacity to use information technology to enhance long-term sustainability; (iv) providing broadened access to communications in underserved rural areas; and (v) enhancing the efficiency and effectiveness of access to markets and jobs, health services, education, and other help.	

B. Poverty Analysis

Targeting Classification: General intervention

What type of poverty analysis is needed? The poverty and social analysis should do the following: <ul style="list-style-type: none"> (i) Show how the project relates to national priorities as identified in the country poverty reduction strategy. (ii) Identify project beneficiaries and the likely barriers to their participating in and benefiting from the project. (iii) Assess affordability of accessing information and communications technology (ICT)-based public service for low-income people. (iv) Identify how ICT can provide various channels to help reduce poverty and how the poor can take advantage of these interventions.

C. Participation Process

Is there a stakeholder analysis? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
The TA will follow a participatory approach—the key to build consensus on strategy development and feasibility study—through a series of workshops, seminars, conferences, training, and consultation for all stakeholders.
Is there a participation strategy? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
A participatory strategy will be developed to promote local capacity and ownership by (i) working with ICT institutions and local communities and/or NGOs to use ICT facilities for public services, and (ii) broader community empowerment through pro-poor project design.

D. Gender Development

Strategy to maximize impacts on women: Women's participation in project design will be ensured during project preparation by consulting village development committees. The project is anticipated to have a positive impact on men and women by (i) increasing access to basic public services (jobs and business opportunities, schools, health care); and (ii) creating jobs in project implementation.
Has an output been prepared? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

E. Social Safeguards and Other Social Risks

Item	Significant/ Not Significant/ None	Strategy to Address Issues	Plan Required
Resettlement	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	Possible involuntary resettlement impacts of telephone line installation will be determined during the TA.	<input type="checkbox"/> Full <input checked="" type="checkbox"/> Short <input type="checkbox"/> None
Affordability	<input checked="" type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None	If cost recovery is introduced for electronic delivery of public services, plans for social protection and pro-poor mechanisms will be established.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Labor	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	No labor retrenchments are envisaged as a result of the project.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Indigenous Peoples	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	Impacts on ethnic minorities (if any) will be determined and, if required, an indigenous peoples' development plan or specific actions to address indigenous peoples' issues will be developed during the TA.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Other Risks and/or Vulnerabilities	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	No other social risks are anticipated as a result of the project. It will follow national core labor standards.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

ICT = information and communications technology, TA = technical assistance.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Total Cost
A. Asian Development Bank (ADB) Financing ^a	
1. Consultants	
a. Remuneration	
i. International Consultants	272.0
ii. National Consultants	102.0
b. Per Diem for International Consultants	48.0
c. International and Local Travel	20.0
2. Vehicle Rental (two vehicles, including operating cost)	20.0
3. Human Resource Development ^b	50.0
4. Workshops	10.0
5. Surveys	15.0
6. Reports and Documents ^c	4.0
7. Miscellaneous Administration and Support Costs	3.0
8. Contingencies	56.0
Subtotal (A)	600.0
B. Government Financing	
1. Counterpart Staff	50.0
2. Office Space and Utilities	30.0
3. Office Equipment	15.0
4. Communications ^d	15.0
5. Others	15.0
Subtotal (B)	125.0
Total	725.0

^a Financed by the Japan Special Fund funded by the Government of Japan.

^b The budget for human resource development will be directly managed by ADB without being included in the contract with consultants.

^c Including books and periodicals.

^d Including fixed line phones and facsimile machine.

Source: ADB estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. Scope of Work

1. The TA will be implemented by a team of four international consultants for 16 person-months service and eight national consultants for 34 person-months service. Consultants' responsibilities are described below.

1. International Consultants (16 person-months)

a. Team Leader and e-Government Specialist (6 person-months)

2. As a team leader, the e-Government Specialist will undertake the following:

- (i) Refine and modify terms of reference for national consultants in all aspects in consultation with information and communications technology (ICT) technical specialist and project economist.
- (ii) Ensure that international and national consultants and local counterparts fulfill their terms of reference.
- (iii) Be responsible for the programming, coordination, and direction of the work and specialist inputs.
- (iv) Conduct a baseline survey and collect baseline performance indicators presented in the technical assistance design and monitoring framework.
- (v) Encourage the participatory approach to various stakeholders to ensure full understanding and ownership of the technical assistance (TA); present interim and final findings, conclusions, recommendations, and proposals and facilitate discussion in informal meetings and consultations; organize workshops, seminars, and meetings with stakeholders.
- (vi) Liaise with the consultants from the TA on governance reforms and decentralization cluster program so as to ensure synergy between the two support programs.
- (vii) Identify lessons learned from similar e-Government initiatives pursued by other countries such as India, Republic of Korea, Singapore, and Sri Lanka, and reflect them in the design of the ensuing project.
- (viii) Be responsible for the timely delivery and quality of the outcomes of the six components mentioned above in the standard format of the Asian Development Bank (ADB) report.
- (ix) Prepare terms of reference for loan consulting services consultants.
- (x) Draft a procurement plan for the subsequent loan project in line with ADB's guidelines.
- (xi) Assist ADB and HLCIT in drafting the project administration memorandum.
- (xii) Examine ICT sector performance in terms of teledensity; infrastructure provision; market reform and development; and licensing and regulatory framework.
- (xiii) Assess the Government's telecenter initiative, evaluate the performance of existing telecenters, and develop a sustainable telecenter model to be rolled out by the ensuing project as well as through the Government's ongoing telecenter initiative.
- (xiv) Develop an ICT infrastructure investment plan that will be financed by the ensuing project.
- (xv) Based on the e-Government master plan, identify the priority e-services to be covered by the ensuing project.
- (xvi) Analyze the work flow of selective government services and reengineer the corresponding procedures to make them more service-oriented, if necessary.

- (xvii) Develop common architecture for e-government applications.
- (xviii) Develop survey questionnaire and develop focus group discussion guide questions.
- (xix) Organize focus group discussion comprising of citizen, business and government officials; conduct survey; and supervise the survey team.
- (xx) Outline development/improvement for one stop government portal for G2G, G2C, and G2B.
- (xxi) Identify the institutional links between central and local government and communication opportunities between villages to villages.
- (xxii) Develop information systems and applications through one-stop portal sites as well as for government intranet and village intranet.
- (xxiii) Recommend the way to encourage local private sector participation in developing information systems and applications.
- (xxiv) Identify the areas for change in ICT institution, regulation, guidelines and legislations to support the expansion of ICT accessibility and provision of e-service.
- (xxv) Formulate policies and plans for development and operation of one stop government portal, government intranet, and village intranet.

- (xxvi) Develop promotion plan to increase public awareness for e-service and village intranet through popular media (TV and radio) as tools for all citizens with particular focus on rural area.
- (xxvii) Assess e-capacity of the Government and identify development needs.
- (xxviii) Recommend institutional and human resource development programs for e-government initiative.
- (xxix) Develop and implement training programs for government employees.
- (xxx) Formulate regional cooperation program for knowledge sharing (e.g., study tours to the advanced countries in e-government).
- (xxxi) Ensure that the study focus on, and take full account of, poverty issues, improve external funding agency coordination.
- (xxxii) Develop a project monitoring and evaluation system based on sound methodology.
- (xxxiii) Collect baseline values of the performance indicators specified in the project framework and of other relevant ones, which will be used in the framework.

b. ICT Technical Specialist (4 person-months)

3. The specialist will conduct the following under the supervision of the team leader:

- (i) Assess current infrastructure status including ICT network, facilities, hardware and software at all levels of government, business and village.
- (ii) Design the technological architectures for information systems and applications for e-service as well as for one stop government portal, government intranet, and village intranet considering of international standards and interoperability.
- (iii) Identify the related investment requirements at all levels of government, business and village.
- (iv) Define goods and software specifications to be procured.
- (v) Recommend network architecture and data communication architecture.
- (vi) Recommend security architecture.
- (vii) Prepare terms of reference for local consultants in respect of ICT network and infrastructure.
- (viii) Assist the team leader as required.

c. e-Center Specialist (3 person-months)

4. The specialist will conduct the following under the supervision of the team leader:
- (i) Assess all telecenter programs run by the Government, NGOs, and development partners.
 - (ii) Evaluate the performance of the existing telecenters and analyze the success and failure factors.
 - (iii) Develop the e-center model to sustain its operation under different economic, demographic, and geographic conditions.
 - (iv) Design the village intranet model to roll out e-government applications as well as other e-applications based on local demands and village knowledge.
 - (v) Develop the performance measure, survey form for evaluation, and the framework of evaluation and monitoring.

d. Project Economist (3 person-months)

5. The specialist will conduct the following under the supervision of the team leader:
- (i) Formulate project profiles for e-service, information systems and applications to be delivered through One Stop Government Portal, G-Net and V-Net with the required investment needs.
 - (ii) Design the feasibility study for each project formulated above and provide guidance to ICT engineer and local consultants for the required data collection.
 - (iii) Establish the investment, replacement and recurrent cost requirement for the project.
 - (iv) Establish the economic study framework for measuring cost reduction and benefit increase in line with ADB's *Guidelines for the Economic Analysis of Projects* and ADB's *Guidelines for the Economic Analysis of Telecommunications Projects*.
 - (v) Assess the economic life of the project, and identify economic benefits from the project comparing the "with-project" and "without-project" situations.
 - (vi) Establish minimum cost recovery for project facilities investment, replacement, and recurrent costs.
 - (vii) Calculate the economic internal rate of return (EIRR) for the project.
 - (viii) Conduct sensitivity tests for the EIRR calculated appropriately varying benefits, and project costs.
 - (ix) Establish the economic viability of the project comparing the EIRR with the benchmark EIRR.
 - (x) Propose how to redesign the project so as to make it economically viable in case that the project as formulated is found economically not viable.
 - (xi) Assist the team leader as required.

2. National Consultants (34 person-months)

6. The national consultant team will be comprised of (i) public administration specialist (6 person-months); (ii) two reengineering specialists (6 person-months each); (iii) two ICT engineers (4 person-months each); (iv) project analyst (3 person-months); (v) social development specialist (2 person-months), (vi) environment specialist (1 person-month); and (vii) legal/governance specialist (2 person-months) and will undertake the following:

- (i) Carry out works specified in the terms of reference that will be refined by team leader (international).

- (ii) Provide specialist local knowledge and inputs into the work of the team and ensure that international specialists are fully aware of national situations, conditions, policies, and issues.
- (iii) Be responsible for effective field implementation and fulfillment of all local research studies and survey work under the general guidance of the international consultants.
- (iv) Provide administrative and logistic supports to organize seminars, workshops and meetings.
- (v) Assist the team leader and international consultants as required.

a. Public Administration Specialist (6 months)

7. The specialist will be required to do the following:

- (i) Lead the national consultant team.
- (ii) Assist international consultants and reengineering specialist, particularly on institutional assessment, reengineering of administration procedures, and architecture design.
- (iii) Assess the capacity development needs at all levels in government, business, and village.
- (iv) Recommend the way to improve legal, regulatory and institutional framework as well as to enhance human capacity in e-government.
- (v) Carry out all necessary e-government and ICT related training programs for the government participants.
- (vi) Liaise with the consultants from the TA on Governance Reforms and Decentralization Cluster Program to ensure synergy between the two support programs.

b. Reengineering Specialist (2 persons, 6 months each)

8. The specialist will be required to do the following:

- (i) Work with the public administration specialist, and assist international consultants, to analyze administration procedures.
- (ii) Recommend the way to improve the legal, regulatory, and institutional framework.
- (iii) Prepare manuals describing administration procedures for the priority e-service.
- (iv) Liaise with the consultants from the TA on Governance Reforms and Decentralization Cluster Program to ensure synergy between the two support programs.

c. ICT Engineer (2 persons, 4 months each)

9. The specialist will be required to do the following:

- (i) Assist international consultants in all tasks particularly focus on recommendation on hardware and software investment at all levels in government, business, and village as well as network and telecommunication architectures and network security.
- (ii) Assess the existing network at all levels in government, business, and village to incorporate quality of services and enhancement of cyber security.
- (iii) Create and maintain documentation for maintaining government networks.
- (iv) Assess the ICT skill levels and needs of the government employees and administration personals.

- (v) Provide basic IT training for the government employees.

d. Project Analyst (3 months)

10. The specialist will be required to do the following:

- (i) Assist the project economist (international) in all tasks particularly focusing on surveys for project benefit identification and collection of baseline data.
- (ii) Assist the project economist (international) in preparing preliminary draft economic analysis and poverty reduction impact report.
- (iii) Carry out other tasks as instructed by the project economist (international).

e. Social Development/Resettlement Specialist (2 months)

11. The specialist will be required to do the following:

- (i) Based on review of data and reports, and field investigations, prepare a poverty and social analysis for project in accordance with *Guidelines for the Incorporation of Social Dimensions in ADB Operations* and *ADB's Handbook on Poverty and Social Analysis*.
- (ii) Assess how the project will contribute to national priorities as identified in the country poverty analysis and ICT sector analysis.
- (iii) Prepare a study of the socioeconomic and poverty status of the project areas of influence, including the nature, extent and determinants of poverty in these areas, and identify and estimate the likely socioeconomic and poverty reduction impacts of the project, and prepare proposals for monitoring and evaluating the benefits and impacts before and after the project.
- (iv) Determine the presence of indigenous peoples/ ethnic minorities in the project area
- (v) Based on the findings of (i) and (iv), prepare an indigenous peoples development plan or formulate specific actions for indigenous people, if required, in accordance with *ADB's Policy on Indigenous Peoples*.
- (vi) Conduct gender analysis and identify project design elements that have the potential to address gender equity in ICT.
- (vii) Assess all project components, identify potential land acquisition, involuntary resettlement impacts as defined in *ADB's Involuntary Resettlement Policy (2005)* and *Operations Manual Section F2 on Involuntary Resettlement (2003)*.
- (viii) Prepare a resettlement plan in accordance with *ADB's Involuntary Resettlement Policy* and *Operations Manual Section F2* and in reference to *ADB's Handbook on Resettlement* as a guide.

f. Environment Specialist (1 month)

12. The specialist will be required to do the following:

- (i) Assess direct and in-direct environmental impacts as well as accumulated impacts associated with the proposed project.
- (ii) Prepare the initial environment examination (IEE) or environmental impact assessment (EIA) on the basis of environment impact assessment in accordance with (a) *ADB's Environmental Assessment Guidelines (2003)*, (b) *ADB's Environment Policy*, and (iii) the Government's environmental acts and regulations.
- (iii) Prepare a summary IEE (SIEE) or EIA (SEIA) in ADB format.

- (iv) Prepare the environmental management and monitoring plans which includes the costs to implement the plans as well as institutional arrangement including potential involvement of NGOs.

g. Legal/Governance Specialist (2 months)

13. The specialist will be required to do the following:

- (i) Review present institutional structure, legal, and administrative regulations in promoting e-service, information systems and applications through One Stop Government Portal, G-Net and V-Net and identify the constraints.
- (ii) Recommend and draft legal documents and administrative regulations.

B. Reporting Requirement

14. The following reports, all in the English language, will be submitted by the consultants to the Government and ADB. The final report will also be submitted in CD ROM.

- (i) **Inception report.** Inception report should be submitted within 1 month of the start of the services. It should outline any changes in the approach, methodology, or work plan, as well as cost implications for the consultants' services (contained in the consultants' proposal) that are required to fulfill the terms of reference.
- (ii) **Monthly progress report.** Monthly progress report should be submitted for the components of (a) development of common architecture, (b) design of information systems and service applications, and (c) development of human resource development programs within 2 weeks of the following month.
- (iii) **Interim report.** Interim report should be submitted for the components of (a) development of legal, regulatory, and institutional framework; and (b) preparatory studies for ADB-financed project within 3 months of the start of the services.
- (iv) **Report on evaluation of human resource development programs and workshops.** This report should be submitted within 2 weeks after completion of all human resource development programs provided externally or internally and workshops and summarizes input, output, and outcomes of all human resource development programs and proceedings and achievement of workshops.
- (v) **Draft final TA report.** To be submitted within 5.5 months of the start of the services.
- (vi) **Final TA evaluation report.** To be submitted within 1 month of receipt of comments on the draft final report from the Government and ADB.