

AFRICAN DEVELOPMENT FUND



PROJECT: eGOVERNMENT INFRASTRUCTURE

COUNTRY: KINGDOM OF LESOTHO

PROJECT APPRAISAL REPORT

OITC DEPARTMENT

October 2013

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Currency Equivalents

As of July 2013

UA 1	=	USD 1.50
UA 1	=	EUR 1.15
UA 1	=	LSL 15.03

Fiscal Year

1 January – 31 December

Weights and Measures

1 metric tonne	=	2204 pounds (lbs)
1 kilogramme (kg)	=	2.200 lbs
1 metre (m)	=	3.28 feet (ft)
1 millimetre (mm)	=	0.03937 inch (“)
1 kilometre (km)	=	0.62 mile
1 hectare (ha)	=	2.471 acres

LIST OF ABBREVIATIONS	
AfDB	African Development Bank Group
ADF	African Development Fund
CSP	Country Strategy Paper
EASSy	Eastern Africa Submarine Cable System
eGovTC	eGovernment Technical Committee
GoL	Government of Lesotho
EGDI	The United Nations e-government development index
ESIA	Environmental Impact Assessment
ESMP	Environmental and Social Management Plan
ICT	Information and Communication Technology
ITU	International Telecommunications Union
IFMIS	Integrated Financial Management Information System
LCA	Lesotho Communications Authority
LTS	Long Term Strategy
M&E	Monitoring and Evaluation
MDG	Millennium Development Goals
MCST	Ministry of Communication, Science & Technology
MoDP	Ministry of Development Planning
MoH	Ministry of Health
MoHPS	Ministry of Home Affairs and Public Safety
NSDP	National Strategic Development Plan
PAR	Project Appraisal Report
PCN	Project Concept Note
PCR	Project Completion Report
PFM	Public Financial Management
PESI	Information Society Strategic Program
PM	Project Management
PMU	Project Management Unit
PRSP	Poverty Reduction Strategy Plan
PSC	Project Steering Committee
UA	Units of Account
USD	United States Dollars
SADC	Southern African Development Community
SARC	Southern Africa Resource Center

Loan and Grant Information

Client's information

BORROWER/RECIPIENT: Kingdom of Lesotho

EXECUTING AGENCY: Ministry of Communications, Science and Technology

Financing plan

Source	Amount (UA)	Instrument
ADF	2.7 million	ADF Loan
ADF	4.8 million	ADF Grant
Lesotho Government	1.06 million	Counterpart Funding
TOTAL COST	8.55 million	

ADB's key financing information

Loan currency	USD
Loan/Grant	USD 11.28 million (4.06/7.22 million)
Interest type*	N/A
Interest rate spread*	N/A
Commitment fee*	0.50% yearly on the undisbursed portion of the loan starting 120 days after the signing of the loan agreement
Other fees*	0.75% service charge yearly on the disbursed and outstanding portion
Tenor	50 years
Grace period	10 years
EIRR (base case)	29.2% real (NPV USD 5.34 million) at 12% real

Timeframe - Main Milestones (expected)

Concept Note approval	June, 2013
Project approval	September, 2013
Effectiveness	December, 2013
Last Disbursement	August, 2018
Completion	December, 2018

Project Summary

1. Project Overview: The objective of the project is the enhancement of good governance by the deployment of a modern and secure e-government broadband infrastructure. Specifically, the project shall enhance coordination of public service delivery across ministries, key agencies and local governments. The Project will also strengthen existing Government data centers and portals; and improve access to e-services for state building such as automated administrative services including e-payroll; civil registration; e-health, e-procurement, e-customs; and, revenue management. The total estimated cost of the project is USD 12,825,000 million (UA 8.55 million). It is proposed to meet the cost through an ADF loan (UA 2.7 million) and an ADF grant (UA 4.8 million) to the Kingdom of Lesotho, and counterparty funding is LSL 15.9million (UA 1.06million) which is 12% of the total project cost from the Kingdom of Lesotho.

2. Needs assessment: The Lesotho eGovernment project is in line with the current Country Strategy Paper (CSP) 2013-2017 focus on two pillars: (i) infrastructure development; and, (ii) institutional capacity building aimed at improving governance and accountability. The project will help realise the country's vision of stable democracy through improved governance, and also help address those governmental institutional capacity challenges addressable by Information and Communication Technology (ICT) which were identified during the last CSP (2008-2012). The project will also exploit economies of scale by scaling up delivery of public services while strengthening institutional linkages between and among the tiered government structures and enhance awareness and build the skills base of citizens in e-applications such as mobile financial services so supporting sustainable development goals.

3. Bank Group's value added: The Bank Group will advise on implementation based on its own experience in establishing Special Vehicle Entities; its knowledge of open access concepts in fibre submarine cable systems and associated Virtual Landing Points for land locked countries; and its appreciation of e-Government objectives and techniques. The Bank Group's support is expected to complement the Government's efforts to implement its ICT Policy, adopted in 2005 which aims at bringing innovation in ICT sector. Further, it will create opportunities for the government to consolidate and strengthen its e-Government services that will foster universal access to a diverse range of high-quality online services to the citizens.

4. Knowledge management: The project design has innovative aspects such as cloud computing which is a current trend in the ICT industry. The Bank Group intends to capture the knowledge of cloud computing during implementation of the project. The project design recognises the importance of knowledge transfer and includes a component of skills development.

Country and project name: Lesotho eGovernment Infrastructure project : Purpose of the project: To foster good governance through use of ICTs						
RESULTS CHAIN		PERFORMANCE INDICATORS			MEANS OF VERIFICATION	RISKS/MITIGATION MEASURES
		Indicator (including CSI)	Baseline (2012)	Target		
IMPACT	Contributing to the realization of the country's vision of a stable democracy through promoting peace, democratic governance and building effective institutions.	Ibrahim Index of African Governance	61 (out of 100)	70 (out of 100 in 2020)	Ibrahim Index	
OUTCOMES	Outcome 1: Improved investment climate and public service delivery	The Global Competitiveness Index framework	137 (out of 144)	125 (out of 144 in 2017)	World Economic Forum (WEF)	Risk: Design and reality gap: The larger the gap between design and reality, the greater the chance that the project will fail. Mitigation: Careful consideration will be given to end-users needs, culture, emotions during design of envisaged services and skills development on provision side. Risk: The risk of disruptions due to dependence on neighbouring South Africa infrastructure for international links: Mitigation: Satellite links for core services will be considered as a backup.
	Outcome 2: Increased level of online services access and Citizen participation	Country Online Index	0.3007	0.4	MCST/EGDI	
	Outcome 3: Improved ICT skills for government workforce (men & women)	% of ICT projects success	40%	75%	MCST	
OUTPUTS	Core Network Infrastructure established <ul style="list-style-type: none"> Metropolitan fibre network Fibre link to M'Hoek Telecom Towers in rural areas 	- km of fibre cable constructed - network speed improved -No towers installed in rural areas - NoCommon Service centres established	okm 4/10Mbps 0 0	100km cable 10/>20Mbps 4 4	MCST/ MoHPS /LCA MCST/ LCA	Technological Risk: Damage to the fibre with little redundancy available; and delays in project implementation may lead to technological obsolescence. These will be mitigated through installing fibre over the power cables, not in the ground; provision of a comprehensive Technical Assistance Support and strengthening of the Project Implementation Unit.
	Data Centres Strengthened <ul style="list-style-type: none"> Capacity & storage improved of 2 DCs 	-No of servers & software upgrade - security features , renovation & cooling system upgrade	4servers, upgrade 0-	10 servers, upgrade 2 data centres	MCST/ MoF; MoHPS	
	Government E-Portal established <ul style="list-style-type: none"> National Portal Line ministries portals Call centre 	-No of online services & levels -No of hits on a government portal - No of ministries portals & levels - % of e-services users who are women	4 –passive 50/week 3.86 20%	8 (6 interactive; 2 transactional) 5000/week 8 (Level-I) 5 45%	MCST/ EGDI ITU e-Gov Toolkit MCST/	Risk: there is a lack of content or that the Government does not maintain content, leading to reduced reliance on the portal. Mitigation: behavioural and technical training to enable easy use of the portal to ensure up-to-date information is uploaded.
	Skills development <ul style="list-style-type: none"> Training Labs VC facility Training Programme 	- No of ICT professional trained - No of awareness campaigns held - No of Computer lab renovated & equipped -Training facility & video conference established -No of courses held and students trained	0 0 0 0 0	500 18 1 (Lerotholi) 1 (MCST) 20/400	MCST/ ME((Lerotholi)	
	Component 5: Project Audit completed	Final project audits submitted	0	1	MCST	
	Component 5: Project Audit completed	Final project audits submitted	0	1	MCST	
KEY ACTIVITIES	COMPONENTS					
	COMPONENT 1: Core Network Infrastructure COMPONENT 2: Strengthening Data Centres COMPONENT 3: Government E-Portal COMPONENT 4: Skills Development COMPONENT 5: Project Management				2.7 mil ADF loan/4.8 mil UA Grant Total: 7,504.67 Component 1: 4,789 Component 2: 0.560 Component 3: 0,340 Component 4: 0,633 Component 5: 0,533	

Project Timeframe

Task Name	Start	Finish	Pr	12	2013		2014		2015		2016		2017		2018	
				H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2
1 LESOTHO eGOVERNMENT INFRASTRUCTURE PROJECT	Thu 9/26/13	Sat 7/1/17				9/26										
2 Project Cycle Information	Wed 9/25/13	Fri 9/28/18														
3 Loan approval	Wed 9/25/13	Tue 10/22/13														
4 General Procurement Notice	Wed 10/23/13	Fri 11/22/13	3													
5 Loan agreement signing	Mon 11/25/13	Tue 12/24/13	4													
6 Loan effectiveness	Wed 12/25/13	Wed 1/22/14	5													
7 Project launching	Thu 1/30/14	Fri 2/7/14	6													
8 Supervision mission	Mon 5/26/14	Sat 7/1/17	7													
9 Mid-term review mission	Mon 11/16/15	Tue 12/1/15														
10 Completion report mission	Fri 3/30/18	Wed 5/9/18	9													
11 Component 1 &2 – Construction of fibre cable; metropolitan IRU and equipping of I	Tue 1/21/14	Sat 7/1/17														
12 Launch RFPs for firms for detailed network and cable designs ; and data centre layouts	Tue 1/21/14	Thu 3/20/14														
13 Recruit a firm for detailed design & cable engineering design	Mon 4/14/14	Fri 7/11/14	12													
14 Review and approval of bidding documents	Mon 7/21/14	Mon 8/18/14	13													
15 Tendering and contract award for fibre construction & Installation of BTS (Towers)	Wed 8/27/14	Fri 9/26/14	14													
16 Implementation of works	Tue 12/2/14	Thu 4/28/16														
17 Tendering & contract award for equipment and metropolitan network IRU	Mon 9/22/14	Fri 11/28/14														
18 Delivery, installation & conf. of equipment -data centre	Mon 9/8/14	Sat 7/1/17														
19 Component 3 – Redesigning of Web Portals & Public Access Points	Wed 8/27/14	Sat 7/1/17														
20 Launch RFPs for firm for the detailed national portal archt.design & line ministries /agenci	Wed 8/27/14	Fri 10/24/14														
21 Recruit a firm for detailed web portal design	Tue 11/25/14	Mon 2/23/15	20													
22 Review and approval of bidding documents	Tue 2/24/15	Tue 3/24/15	21													
23 Tendering and contract award for civil works for 4 BTSand acce points & renovation of VC	Tue 4/21/15	Thu 5/21/15	22													
24 Implementation of works	Wed 10/15/14	Fri 11/25/16														
25 Tendering & contract award for equipment	Mon 3/2/15	Thu 3/31/16														
26 Delivery, installation & conf. of equipment	Mon 7/4/16	Sat 7/1/17														
27 Component 3 – Capacity Building / Training	Mon 3/3/14	Sun 12/31/17														
28 Launch RFPs for firm to renovate Lerotoli Training Lab & MCST Training Lab	Mon 7/28/14	Tue 10/14/14														
29 Launch bidding documents, request of proposals and recruit technical assistance	Mon 5/5/14	Wed 7/23/14														
30 Training Programme	Mon 3/3/14	Fri 12/29/17														
31 Component 4 Project Management	Mon 8/5/13	Fri 8/31/18														
32 Supervision of works	Mon 8/5/13	Sat 7/1/17														
33 Audit of the project	Mon 8/5/13	Fri 8/31/18														

REPORT AND RECOMMENDATION OF THE MANAGEMENT TO THE BOARD OF DIRECTORS ON A PROPOSED LOAN AND GRANT TO LESOTHO FOR THE DEVELOPMENT OF EGOVERNMENT INFRASTRUCTURE

Management submits the following report and recommendation on a proposed ADF loan for UA 2.7 million and ADF grant for UA 4.8 million to the Kingdom of Lesotho to finance the eGovernment Infrastructure Project.

I – STRATEGIC THRUST & RATIONALE

1.1 Project linkages with country strategy and objectives

1.1.1 The objective of the Lesotho eGovernment Infrastructure project is the enhancement of good governance by the deployment of a modern and secure e-government broadband infrastructure. The project focuses on the utilization of ICT on governance frameworks that underpin the effectiveness of public sector institutions. The project further aims to develop institutions and processes that allow the private sector to provide and the people to partake of the benefits of newer technologies. The outcome of the project will include improved internal workings of the public sector leading to reduced financial costs and transaction times; better integrated work flows and processes that would enable effective resource utilization across ministries and various public sector agencies. Specifically, the project shall: i) enhance coordination across ministries, key agencies and local governments; ii) strengthen existing Government data centres and portals; iii) and improve provision of e-services for state building such as automated administrative services including e-payroll, civil registration, e-health, e-procurement, e-customs and revenue management.

1.1.2 The project is aligned with: i) Lesotho's National Vision 2020¹ to be, *inter alia*, a stable democracy with a well-developed human resource base and a well-established technology base; ii) Lesotho's National Strategic Development Plan (NSDP 2012/2013-2016/2017) which has six strategic pillars². Of these, those on the development of key infrastructure and on the promotion of peace, democratic governance and effective institutions are directly addressed by the proposed project; iii) The Country Strategy Paper (CSP 2013-2017) approved by the Boards of Directors in March 2013. The project supports the two main pillars of the CSP: (I) infrastructure development; and (II) institutional capacity building, by providing infrastructure and applications to improve governance and accountability; iv) the Bank Group's 2013 – 2022 Strategy regarding infrastructure development with the specific ICT operations strategy (2012 – 2014) and v) the Regional Integration Strategy Paper (RISP-2011-15) for Southern Africa under Pillars 1 on *Regional Infrastructure; Focus 1.3 on Information and Telecommunications Technology*.

1.2 Rationale for Bank Group's involvement

1.2.1 In 2012 the Board of Directors approved the Bank Group's mid-term review of the ICT Operations strategy 2010-14³. The Board therefore adopted the support of ICT Applications including e-Government, as one of the three strategic thrusts for the medium term action plan (2012-2014) of the Bank Group's ICT Operation Strategy⁴. In doing so, it recognised that ICT

¹ The components of the Vision Statement are clustered as: Stable democracy (governance, media, gender); United nation (culture); Nation at peace with itself and its neighbors (peace); Healthy and well developed human resource base (health, HIV and AIDS, education, sports); Strong economy and prosperous nation (economy, prosperity); Well managed environment (environment); Well established technology (information, communication, science, technology)

² The six pillars are: (i) pursue inclusive growth; (ii) develop key infrastructure; (iii) enhance skills base, technology adoption and foundation for innovation; (iv) improve health, combat HIV and AIDS and reduce vulnerability; (v) reverse environmental degradation and adapt to climate change; and (vi) promote peace and democratic governance and build effective institutions.

⁴ Pillars of the ICT Operation Strategy in the medium term (2012-2014) are: (i) enhancement of regional/national ICT infrastructure (ii) Policy and regulatory environment (iii) ICT Applications including e-Government, e-Education and e-Health.

supports effective development across many sectors and has had, and will continue to have, a catalysing effect on economic growth and social inclusiveness.

1.2.2 The mid-term review of the Kingdom of Lesotho's completed CSP (2008-2012) indicated that the country is facing governance and public service institutional challenges that are addressable by harnessing ICTs. For example, while the country was ranked 9 out of 53 African countries with the score of 61 points out of 100. Lesotho is behind Botswana, South Africa and Namibia among the SACU countries in the 2012 Ibrahim Index of African Governance. The country also ranked poorly in Public Management (ranking 23). On investment climate, the major constraints to private sector growth in the country were found to include inadequate infrastructure, cumbersome business procedures, poor customs administration, lack of capacity in Government to implement reforms, as well as skills gaps in certain economic sectors. The *Global Competitiveness Report* ranked Lesotho 137 out of 144 countries in the 2012. The Government has made substantive progress in addressing the competitiveness challenges including those relating to business environment and support private sector participation in national building. In this regard, the government embarked on public financial management (PFM) reforms since 2009 when the Integrated Financial Management Information System (IFMIS) was rolled out. However, the project appraisal mission was informed of the need to upgrade the computer equipment and software of the Data Centre facility at the Ministry of Finance that houses the IFMIS and other government integrated systems including the human resource and health integrated systems.

1.2.3 The Lesotho eGovernment project will facilitate realisation of the country's vision of stable democracy through improved governance. This is expected to be achieved through strengthening the public service for effective service which was identified as one of the key challenges under governance pillar in the country's vision 2020. The project will particularly address the challenges that were identified in the completed CSP (2008-2012) mentioned above. The Bank Group's expertise in a range of broadband infrastructure issues likely to arise during the project as it has substantial experience in developing undersea cable connectivity and virtual landing stations in land-locked countries. In addition, the Bank Group's experience of e-Government places it in a position to oversee effectively the application of ICT infrastructure usage for Government work and behaviors. Lastly, the Board of Directors has just approved ADB financing to Cape Verde for a Technology Park. The strengthening of data centre infrastructure envisaged in the Lesotho project is well within the compass of the Bank Group already and is similar to components of the Cape Verde project. In addition, the project recognizes the transformative effect ICT can have on, in this case, the Government sector. Lastly, the Bank Group has the expertise already to manage the project and ensure development outputs are met.

1.3 Donors coordination

Table 1.3: Donor Contribution to the sector

<i>Players – Public Annual Expenditure – Lesotho Communications Sector (Average in Millions LSL)</i>						
				<i>Donor Coordination</i>		
<i>Year</i>		<i>Total</i>	<i>Government</i>	<i>MCC</i>	<i>IDA</i>	<i>UNDP/Ireland</i>
2009-2010	<i>LSLin m</i>	266.8	225	22.3	8.3	11.2
	<i>%</i>	100	84	8.3	3.5	4.2
<i>Level of Donor Coordination</i>						
<i>Existence of Thematic Working Groups</i>						Y
<i>Existence of SWAPs or Integrated Sector Approaches</i>						N, evolving
<i>ADB's involvement in donors coordination</i>						none

1.3.1 There are 15 development partner agencies that are active in Lesotho. The United Nations Development Programme through Development Partners Consultative Forum (DPCF) coordinates all the donors including UN agencies, the Bank Group, the Millennium Challenge Account - Lesotho (MCA -L) and the United States Agency for International Development (USAID). ICT activities undertaken by various donors include implementation of the PAN African e-network project sponsored by the Government of India covering e-Health and e-Education. The project is being implemented under the auspices of the Africa Union. The Ministry of Health (MH) is implementing various e-Health projects supported by development partners. These include rolling out of network infrastructure in all hospitals supported by the Government of Ireland; District Health Management Team (DHMT) for all 10 districts and the Electronic Medical Record (EMR) management system, and Inventory Asset Management System (IAMS) supported by Millennium Challenge Account (MCA); and Laboratory Information System (LIS) supported by USAID. The MH depends on the two government data centres for data storage.

II – PROJECT DESCRIPTION

The broad project objective is to foster good governance through the use of ICT. Specifically, the project will improve the country's public service delivery through the establishment of a modern core e-Government infrastructure and services. Further, it aims at strengthening access to government shared services, including data centres and portals, and facilitation access of e-Applications for government such as automated administrative services including e-payroll, civil registration, e-health, e-procurement, e-customs and revenue management.

The key components of the project are: i) strengthening of core government controlled fibre network infrastructure which will require optimizing an existing metropolitan fibre network linking ministries and the data centres, improving bandwidth access to submarine cable systems for e-Government services, and extending ICT coverage to four selected rural areas under the Universal Access Program; ii) strengthening of two data centers which will include equipment and software upgrades, as well as improvement in the operations of the data center; iii) Improvement of a Government portal providing access to government services for the benefit of all citizens; iv) Skills development program to and support access to government services and v) Project Management

2.1 Project components

Table 2.1: Project Components

No.	Component name	Est. cost (USD,000)	Component description
1.	Strengthening of Core Government Network Infrastructure	7,779	<ul style="list-style-type: none"> Construction of fibre over Lesotho Electricity Company (LEC) power lines: Maseru-Mahale's Hoek Acquisition of a Government controlled dark fibre metropolitan network through Indefeasible Right of Use (IRU) for 10 years (life time of a metropolitan fibre cable): Tendering and installation of a Virtual Landing Point (VLP) for international access and acquisition of an IRU on a fibre link between Maseru – Mohale's Hoek Tender for installation of telecommunications towers (Base Transceiver Stations-BTS) in 4 new rural areas including installation and commissioning. This is to be done jointly with the Universal Access Fund (UAF).

2.	Strengthening of Data Centres (DCs):	1,040	<ul style="list-style-type: none"> ▪ Upgrading the secure energy supply facilities ▪ supervising restructuring and renovation of the data centres ▪ Provision of IT equipment and software ▪ Configuration of Servers and Storage Area Network ▪ Provision of furniture and accessories
3.	Improvement of the Government E-Portal	884	<ul style="list-style-type: none"> ▪ Re-designing of the Government Portal ▪ Development and linking of line ministries portal ▪ Purchase of web servers and software ▪ Renovation of office space and equipping a call centre ▪ Construction of service centre building (15m x 12m) in 4 rural areas ▪ Computer equipment, connectivity and furniture for service centres
4.	Skills development	1,050	<ul style="list-style-type: none"> • Renovation of office space capacity for 30 participants: Area: approximately 110 sq meters (1,200 sqft) • Furniture, lighting and sound treatment for acoustics (soft furnishings, drapes and carpets). • Purchase & installation equipment for video conference facility and multimedia training lab • Renovation of Lerotholi Training lab • Purchase & Installation of Computer lab equipment, networking , software and furniture
5.	Project management	1,122	<ul style="list-style-type: none"> ▪ Detailed design and optimization of the core government infrastructure; ▪ Detailed design of fibre cable system on power lines ▪ Detailed design of facilities for e-Government services for 4 rural areas ▪ Detailed layout of video conference facility ▪ Supervision of works ▪ Annual auditing during the entire project duration

2.2 *Technical solution retained and other alternatives explored*

2.2.1 Core government fibre network connecting ministries and data centres: The Government is currently leasing a dark fibre network for interconnecting all ministries in Maseru including connections between the data centres and it has, in addition, fibre based access to all district headquarters in Lesotho. The networks are poorly configured resulting in excessive operating costs. In order to reduce costs and establish a secure, robust and scalable core metropolitan e-Government fibre infrastructure, a tender for an Indefeasible Right of Use (IRU) of a dark fibre network has been adopted for this project. The approach will optimize the cutting edge network configuration in laying out the metropolitan network ring which will reduce the km run of dark fibre and hence the cost. It will further upgrade the fibre capacity and enhance security of the core government infrastructure network. An IRU is a one-time payment made upfront and gives the purchaser the right to use the fibre pair for the expected economic life of the cable and only pay a minimal yearly maintenance fee. The cost of an IRU will be determined taking into account several aspects such as future interest rates (used for discounting leasing costs), the cost of capital for the cable owner, the risk exposure and the alternative use of capacity. It is expected that a tender for an IRU of a properly designed and optimized fibre network would result in significant cost savings to the Government.

2.2.2 Fibre Link to Mohale's Hoek data centre: Installation of fibre optic facilities on the LEC power line has been found to be the least-cost solution in the industry for guaranteeing the availability of the connection to the data centre in Mohale's Hoek. To achieve adequate availability and security, back-up link will be procured over another link over the low voltage power line or on the improved temporary arrangement that Econet Telecom Lesotho (Pty) Ltd (ETL) is providing over telephone poles.

2.2.3 Access to national and international bandwidth: The current costs of international bandwidth to the Government are far above what is paid by other landlocked countries in the region. Prices are rapidly declining due to increased competition caused by the arrival of several new submarine cables. It is envisaged that the Government will require increased bandwidth following introduction of e-services. To reduce international bandwidth costs, the project will include installation of a Virtual Landing Point (VLP) as part of the e-Government infrastructure. A VLP is a Point-of-Presence (PoP) for an international submarine cable operator and when implemented in the region has resulted in substantially reduced prices. It serves as an access point for high capacity international access, available on open access principles at a central location in a landlocked country.

Table 2.2: project alternatives considered and reasons for rejection

Alternative name	Brief description	Reasons for rejection
Installation of new metropolitan fibre network	Installation of new fibre network to connect ministries and government two data centres	The cost of digging ducts leading to all ministries and data centres in a city environment would have high costs and more serious environmental implications. The maintenance costs are also comparatively high. The adopted solution is cheaper and has no significant environmental impacts and provides an opportunity for Public Private Partnership (PPP) and government ownership of the required capacity for the lifetime of the cable. Since both ETL and LEC have existing ducts to major buildings in Maseru, a tender for an IRU is expected to result in bids both from the existing supplier and a constellation of competing operators.
Installation of underground fibre link to Mohale's Hoek data centre	Installation of underground fibre line 100km long along road from Maseru to Mahales	The solution would have big environmental impact as it would involve digging trenches along the road and passing through populated areas and at least two towns (Morja and Mafeteng) where it would have necessitate displacement of people. The route also makes the cable less secure due to likelihood of frequent cutting by other human activities or vandalism. The fibre over power line is less prone to such risks.
Purchase of Band-width from local Operators	Monthly purchase of internet bandwidth for government operations including Voice over IP and international connectivity	Under this arrangement the average bandwidth cost the government is paying is about USD 615 per Mbps/month as opposed to USD 150 per Mbps/month elsewhere in the SADC region. The status quo would make operational cost high considering the bandwidth demand that comes with provision of e-services

2.3 Project type

This is a stand-alone operation, financed by ADF loan and grant. There is no Government policy yet on ICT projects to be financed through sector budget support.

2.4 Project cost and financing arrangements

2.4.1 The total project cost is estimated at LSL 128.25 million (USD 12.83 million or UA 8.55 million), of which UA 7.40 million (i.e. 87%) is in foreign currency and UA 1.15 million (i.e. 13%) is in local currency. The project costs have been estimated with the assistance of an independent technical expert and in consultation with the Ministry of Communications, Science and Technology, which is responsible for ICT projects implementation in the country. The budget includes physical contingency of 3% and price contingency of 5%. The project is expected to be implemented over a four-year period. An exchange rate of 10 LSL/USD has been used in the cost estimates. Table 2.3 shows the summary of the project budget.

Table 2.3: Summary of Estimated Project Costs (LSL, USD and UA ‘000s)

Description	LSL (000)			USD (000)			UA (000)			% of For.	% of Base
	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total	Exchange	Costs
1 Network Infrastructure	5,956	71,833	77,789	596	7,183	7,779	397	4,789	5,186	92.3	65.5
2 Strengthening of Data Centres	2,000	8,400	10,400	200	840	1,040	133	560	693	80.8	8.8
3 Government E-Portal	3,743	5,101	8,844	374	510	884	250	340	590	57.7	7.4
4 Skills Development & Capacity Planning	1,000	9,500	10,500	100	950	1,050	67	633	700	90.5	8.8
5 Project Implementation Unit	3,216	8,000	11,216	322	800	1,122	214	533	748	71.3	9.4
Total Base Costs	15,915	102,834	118,749	1,592	10,283	11,875	1,061	6,856	7,917	86.6	100.0
Physical Contingencies	477	3,085	3,562	48	309	356	32	206	237	86.6	3.0
Price Contingencies	796	5,142	5,937	80	514	594	53	343	396	86.6	5.0
Total Project Costs	17,188	111,060	128,249	1,719	11,106	12,825	1,146	7,404	8,550	86.6	108.0

2.4.2 A total amount of UA 7.50 million (approximately USD 11.233 million) is the proposed AfDB funding to Government of Lesotho (GoL); while USD 1.592 million (UA 1.06 million) will be the Government counterpart funding. The Bank Group funding package would comprise an ADF grant of UA 4.8 million (approximately USD 7.2 million) and an ADF loan of UA 2.7 million (approximately USD 4.05 million). Table 2.4 presents the financing sources. The 12.4% GoL contribution ensures a strong level of project ownership by the GoL, which has proven to be a key indicator of successful project implementation.

Table 2.4.1 shows the tentative projection of budget and funding by period of implementation of this 4-year project. The exact timing of each component spending is subject to consequent review and detailed design of the project. Project costs by category for the ADF Grant and ADF Loan are shown in tables 2.42 and 4.2.3 respectively. Technical Annex B2 provides detailed cost estimates.

Table 2.4.1: Project Cost Estimates and Funding by Period (USD ‘000s)

Description	Sum	2014	2015	2016	2017
Network Infrastructure	7.78	1.60	3.22	2.36	0.60
Strengthening of Data Centres	1.04	0.24	0.72	0.04	0.04
Government E-Portal	0.88	0.57	0.10	0.10	0.10
Skills Development & Capacity Planning	1.05	0.53	0.28	0.12	0.12
Project Implementation Unit	1.12	0.28	0.28	0.28	0.28
Total Base Costs	11.87	3.22	4.60	2.91	1.14
Physical Contingencies	0.36	0.09	0.09	0.09	0.09
Price Contingencies	0.59	0.15	0.15	0.15	0.15
Total Project Costs	12.82	3.46	4.84	3.15	1.38
Funding					
Sub-Total Government Contribution	1.59	0.31	0.54	0.39	0.35
Sub-Total AfDB Funding	11.23	3.15	4.29	2.76	1.03
ADF grant	7.19	2.72	2.68	1.15	0.63
ADF loan	4.04	0.40	1.62	1.62	0.40
Total Funding	12.82	3.46	4.84	3.15	1.38

Table 2.4.2 : Project Cost by Category of Expenditure (UA,000) - ADF GRANT

Categories of Expenditure	Foreign Currency	Local currency	Total Cost
Works			
Goods	3,959		3,959
Services	841		841
TOTAL COSTS	4,800		4,800

Table 2.4.3 : Project Cost by Category of Expenditure (UA,000)- ADF LOAN

Categories of Expenditure	Foreign Currency	Local currency	Total Cost
Works	1,592		1,592
Goods	1,108		1,108
TOTAL COSTS	2,700		2,700

2.5 Project's target area and population.

2.5.1 Through this project the government will reform the systems through which services are delivered in a way that maximizes development and minimizes natural resource degradation. Embedded in the concept of sustainability is the viability of (i) national and local governance systems that are citizen-centric, socially inclusive and participatory; and (ii) the associated government operations and services that affect development outcomes. Through exploitation of economies of scale, pooling of government infrastructure will include unified data centres, government-wide ICT network, web portal equipment and shared information centres. Operations of all 23 government ministries and 8 key agencies will be impacted. In addition, provision of e-services will enhance government's accountability, transparency and collaboration.

2.5.2 Due to the low number of internet users in the country, it is estimated that the usage will be in the range of 10-15% of the country's population. However, as e-applications are offered across mobile platforms, the percentage is expected to rise significantly. Currently, 3G mobile penetration is at 10% but is expected to reach almost 50% by end-2017. GSM penetration is already at that level but will only be able to support a narrower range of e-services. Installation of telecommunications towers in four targeted rural areas will extend access to e-services to a further 20,000 people. The identified areas are Mahlachaneng (Qhoali valley) with 11 villages along the Qhoali River towards Nts'upe range, bordering Lesotho and RSA in the Mphaki area. There are 2 primary schools in the area. Moremoholo Valley with 15 villages; Rankakala area with 16 villages; and Motete villages in Botha Bothe district area with eight villages. Motete has a health centre and two schools (primary and secondary).

2.6 Participatory process for project identification, design and implementation

2.6.1 During the formulation and preliminary assessments of the Project, various government ministries including key ministries that will be involved in project execution were consulted. Other stakeholders and the public were actively engaged and participated in identifying priority e-government services that touch upon the daily lives of citizens and need to be given first attention. Subsequent to the preliminary assessments phase, the Bank Group's preparation and appraisal missions visited the target project areas and consulted with stakeholders. The consultation process also made use of the existing ICT Government Forum which meets monthly under the chairmanship of the Ministry of Communications, Science and Technology (MCST) to

get the views of various ministries on the focus of the proposed project and issues to be considered during project preparation and components design.

2.6.2 The participatory consultation process which started in 2012 involved over 25 consultations which covered the contextual analysis and formulation of the project as well as discussions on the strategic vision of the ICT sector in the country. The process involved the following key stakeholders: Ministry of Development Planning (MoDP), Ministry of Communications, Science and Technology (MCST), Ministry of Home Affairs and Public Safety (MoHPS) Ministry of Education (MoE), Ministry of Health, (MoH), Lesotho Electricity Company, Lesotho Communications Authority (LCA), Department of Environment, Lerotholi Polytechnic, Vodacom, and Econet Telecom Lesotho (ETL). The aim for these consultations was to establish level of impacts on potential beneficiaries and to existing service providers. This gave the opportunity to all role players to express their views and concerns. Overall, the project was welcomed by all key stakeholders and issues raised have been taken into consideration in the project design.

2.7 Bank Group experience, lessons reflected in project design

2.7.1 Bank Group portfolio in Lesotho comprised three public sector operations (in power, water and education) with a total commitment of UA19.9 million as at December 2012. The portfolio was funded from ADF resources (comprising 80 percent loans and 18 percent grants) and the African Water Facility (2 percent). Two ongoing projects were approved in 2007, and one in 2009.

2.7.2 The Bank Group's ICT intervention in Lesotho dates back to year 2001 in a joint Public Utilities Sector Reform Programme which aimed at improving Lesotho's international competitiveness by restructuring the Lesotho Electricity Company, promoting private sector participation, reinforcing the reform of the telecommunications sector as well as the development of an effective regulatory framework to oversee activities in the public utilities sector. The programme cost was USD39.4million. Bank Group contributed USD 8.6million while the GoL and World Bank Group contributed the rest. The early support resulted in building independent, innovative and dynamic utilities agencies such as the Lesotho Communications Authority and the Lesotho Electricity Company with outstanding records in the region.

2.7.3 The Bank Group has also financed several ICT projects at national and multinational levels such as the regional ICT centres of excellence in Mali and Rwanda. The Bank Group has also supported submarine cable systems including EASSY and Main One contributing considerably in the increase of international bandwidth to Africa and helped in slashing the Internet prices. Involvement of the Bank Group in structuring funding of the two submarine cable systems has given opportunities to acquire experience in handling PPP and ownership issues including establishing Special Vehicle Entities, open access concept, cable system and its maintenance, IRU, and establishment of Virtual Landing Points for land locked countries. These experiences will be useful for the proposed project.

2.7.4 Other lessons learnt from implementing these projects include: (i) the need to conduct preliminary architectural design and detailed feasibility study including business plan to ensure quality at entry, and (ii) the need to have partnership agreements with private sector to increase opportunities for new businesses in the country. In addition, there is a need for a detailed schedule of requirements prior to project implementation. This has been considered in the design of this project.

2.8 Key performance indicators

2.8.1 The indicators proposed to monitor the implementation of the e-government are: *Impact indicators* Ibrahim Index of African Governance,; *Outcome indicators*:(i) *Global Competitiveness Index* (ii) Country Online Index, (iii) % of ICT projects success; *Output indicators* : (i) km of fibre cable constructed (ii) network speed improved (Mbps) (iii) number of towers installed in rural areas (iv) Common Service centres established-(v) number of servers and software upgrade (vi) security features, renovation & cooling system upgrade (vii) number of online services & levels (viii) Number of hits on a government portal (ix) number of ministries portals & levels (x) % of e-services users who are women (xi) number of ICT professional trained (xii) number of awareness campaigns held (xiii) number of computer lab renovated (xiv) number of training facility & video conference established (xv) number of training programme held and individual trained.

2.8.2 The preliminary assessment of the status of the existing government data network and data centres; of the national web portal and of the county's Universal Access Programme provided acceptable baseline data. The data to access output and outcomes indicators will be collected and analysed by the Monitoring and Evaluation experts at the Ministry of Development Planning.

III – PROJECT FEASIBILITY

3.1 Economic and financial performance

Table 3.1: Key Economic and Financial Indicators

EIRR (base case)	29.2% real	ENPV	USD 5.34 million @ 12% real
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NB: detailed calculations are available in Annex B7

3.1.1 As the project is focused at improvement of government's IT infrastructure and does not really have any revenues from users, the conventional financial analysis (FIRR and FNPV) in terms of investment viability is not appropriate. This, however, had not prevented the Appraisal Team from identifying direct financial impacts associated with the proposed investment. There are three direct cashflow consequences directly caused by the project and affecting the GoL budgets for next years: (1) cash savings of infrastructure rental payments for fibre cable which is currently rented from a private operator at a monthly price of LSL 483,311 (USD 48,771) and will be replaced by a long-term IRU capacity purchase; (2) cash savings of internet costs, estimated worth about LSL 4.4 million (USD 0.44 million) a year due to establishment of the Virtual landing Point; and (3) cash savings due to use of the new Call Centre with VoIP technology. The benefits of having an upgraded line to the Mohale's Hoek data centre and additional benefits stemming from installation of the back-up line are hard to quantify and to monetize and therefore have not been calculated.

3.1.2 Experience with e-government portals elsewhere shows that one of tangible benefits of greater transparency and improved access to information comes in the form of increased competition for government's contracts, announced through the portal. It is not uncommon to see increased participation of private providers for various goods and services procured by different ministries, and as a result 5-20% lower prices driven by competitive forces. The analysis makes a few very conservative assumptions about the current and possible future volume of procurement through the government portal and about share of contracts sensitive to competitive forces.

3.1.3 Data centres strengthening are expected to boost the processing and storage capacity of various ministries, update and add new applications that assist in productivity and efficiency across the various government users. Experience from other countries such as Nepal indicates

that there is a substantial gain in productivity and efficiency of the government agencies, resulting in a range of EIRRs from 26% to 30%⁵. The analysis makes a very conservative assumption about expected gains in productivity and efficiency due to the data centres strengthening as a part of the proposed project.

3.1.4 Users of the government portal and the 4 rural centres have also been identified as beneficiaries of the project. They will enjoy time savings otherwise spent for travel to the existing government offices, and also time savings due to improved speed and efficiency of service. Travel costs savings due to improved speed and quality of service will be materialized as people will realize that fewer trips will now be required to government agencies in order to achieve the desired outcomes. Time saved is valued at a very conservative assumption of 0.51 USD/hour.

3.1.5 The resulting ENPV of USD 5.34 million, discounted by 12% hurdle rate real, is an indicator of solid contribution to the well-being of the Lesotho economy by the proposed project. The EIRR of 29.2% real is well above the economic opportunity cost of capital set at 12% real, thus providing a strong economic justification for the project. The calculated economic returns are very well in line with benchmark ranges of EIRR returns on different IT investments, as reported by Asian Development Bank Group and shown in Annex B7, with EIRR ranging from -4% (Criminal Records System, pessimistic) to 59% (E-Passport, optimistic).

3.1.6 Table 3.2 shows the allocation of stakeholder impacts created by the project in terms of present value (real) over the life of the project during 2014-2023. The citizens of Lesotho are expected to benefit from the project due to time saved for travel to government agencies and time saved due to increased efficiency and quality of service. Additional labour earnings represent additional benefit for those employed by the project locally. The GoL is the largest stakeholder that will experience both positive and negative impacts because of the proposed project. The impact of the project on the ADF is accounted as initial negative flows necessary to finance the project and a positive stream of the ADF loan repayments in later years. In short, the GoL appears to be the main stakeholder benefiting most from the proposed project.

Table 3.2: Stakeholder Impact Assessment (Present Value, USD '000s)

Stakeholder	PV USD '000
LESOTHO	5,341
Government of Lesotho	9,602
Savings of infrastructure rental payments	2,382
Savings of internet costs	1,897
Data centers improvement	655
Call centre savings with VoIP	1,284
Procurement transparency and competitiveness	8,299
GoL project contribution	-2,488
ADF loan repayment	-2,898
Foreign exchange and indirect taxes	152
Personal income tax and social security	319
Citizens of Lesotho	1,807
Time savings of rural users	655
Time savings of eGovernment web users	490
Training and capacity building	573
Additional labour earnings	89
Donor (ADF)	-6,067
ADF grant	-5,859
ADF loan	-3,106
ADF loan repayment	2,898

3.1.7 A number of sensitivity tests were carried out as a part of the analysis and Table 3.3: summarizes the most important sensitivity tests. Overall, the sensitivity analysis has confirmed that the project economic rationale is based on solid fundamentals, addressing a diversified set of infrastructure and service efficiency needs for both the government and public at large. Under the

⁵ Source: <http://www.adb.org/sites/default/files/projdocs/2007/38347-NEP-DPTA.pdf>

vast majority of different sensitivity scenarios affecting a multitude of parameters, the EIRR stays above the cut off rate of 12% real with a strong positive ENPV. Lesotho is better off with the proposed ICT infrastructure investment, and any delay in the delivery of the project will be costly to the GoL and to Lesotho as whole.

Table 3.3 : Summary of Sensitivity Analysis

Scenario	Parameter	Funding Gap (USDm)	EIRR (% real)	ENPV (USDm real)
Base Case		0.0	29.2%	5.3
Delay (BaseCase = no delay)	Delay 6m	0.0	28.5%	4.6
	Delay 12m	0.0	27.9%	3.5
	Delay 18m	0.0	25.7%	2.8
Capex (BaseCase = 100%)	110%	-1.0	23.9%	4.5
	120%	-2.0	19.4%	3.6
	130%	-3.1	15.5%	2.8
Opex (BaseCase = 100%)	110%	-0.2	28.2%	5.2
	120%	-0.5	27.3%	5.0
	130%	-0.7	26.4%	4.9
Exchange Rate (BaseCase = 10 LSL/USD)	9.5	-0.2	31.5%	5.9
	10.5	0.2	27.1%	4.8
	11.0	0.3	25.1%	4.4
Rural users: travel time savings (BaseCase = -17 min/visit)	-15.0	0.0	29.1%	5.3
	-10.0	0.0	28.9%	5.3
	-5.0	0.0	28.6%	5.2
Travel costs per visit (BaseCase = LSL 20)	-15.0	0.0	28.5%	5.1
	-10.0	0.0	27.9%	4.9
	-5.0	0.0	27.2%	4.7
eGovernment web users: time savings (BaseCase = 10 min/visit)	8.0	0.0	29.2%	5.3
	6.0	0.0	29.2%	5.3
	4.0	0.0	29.1%	5.3
Communication cost reduction with VoIP (BaseCase = 50%)	40%	0.0	28.3%	5.1
	30%	0.0	27.5%	4.8
	20%	0.0	26.6%	4.6
Procurement through website (BaseCase = 30%)	20%	0.0	22.2%	3.9
	15%	0.0	15.6%	2.4
	10%	0.0	9.7%	1.0
Share of purchases sensitive to competition (BaseCase = 30%)	25%	0.0	22.5%	4.0
	20%	0.0	16.3%	2.6
	15%	0.0	10.5%	1.2
Price discount due to competition (BaseCase = 10%)	8%	0.0	21.2%	3.7
	6%	0.0	13.9%	2.0
	4%	0.0	7.3%	0.4

3.2 Environmental and Social impacts

Environment

3.2.1 The environmental category of the project is 3 since the project has minimal impacts with no potential to cause damage to the biophysical and social environment. The key activities which include Core-network Infrastructure maximisation; connection and upgrading of the cable facilities; upgrading the fibre cable to 10 Gbps; establishing Government web-portal; Capacity Building; equipping computer laboratories; installation of VC facilities, and supporting an Information Technology certification program; and installation of 4 rural Base Transceiver Station (BTSs) have insignificant environmental and social impacts since the methodology to be used in the project design has avoided causing damage to the environment. Installation of the BTSs will involve site grubbing and clearing of vegetation and loose rock material for tower concrete platform foundation of 12m x 15m site (180m²); digging and levelling the tower platform and trenches for the BTS tower; and pouring concrete on the platform foundation before mounting the towers on the concrete bases. The site will have a small house for equipment and controls. To ensure no environmental impacts occur during the installation of the 4 BTSs (Base Transceiver Station), and the OPGW the out sourced companies shall be required to abide by the Lesotho environmental law/ statute embedded in the contracts. The latter will be supervised by the LEC Environmental Unit which has experience in projects of similar nature.

3.2.2 It is expected that once the project is fully implemented there will be improved public service delivery system, human resource management systems (national ID & passport); citizen information, improved back office services within the government; improved communication between central and local governments; and delivery of information through interactive portals. Broadband communication system will boost rural based internet entrepreneurship. Rural under-serviced areas will be serviced and instant reports of civil disobedience and emergencies will be reported through cell phone communication. Data communications in rural clinics and schools will be improved by broadband communication systems. Agricultural business will improve due enhanced communication systems.

3.2.3 Realizing that the project will have tasks of laying the OPGW and the BTSs, limited environmental and social concerns may rise. These may involve management of waste especially cable off-cuts, storage and management of material sites, and above all the safety of workers and communities around the work-sites. Monitoring will therefore be necessary to ensure that the contractors comply with the clauses stipulated in the contractors' contracts in accordance with the Environmental Act of 2008 and Environmental Guidelines of 2010 alongside the Bank's Environmental and Social Assessment Procedures. The monitoring shall be done by the Environmental Impact Assessment (EIA) Section of the Ministry of Tourism, Environment and Culture, the Lesotho Electricity Company (Environmental Unit) and the Bank staff during regular supervision.

Climate change

3.2.4 The installation of the 100 km fibre cable shall be on existing power transmission lines belonging to Lesotho Electricity Company which monitors its power line towers on regular basis for malfunction caused by adverse weather namely excessive wind and rain fall. The project itself is not expected to contribute to any cause for climate change. Nevertheless the Lesotho Meteorological Services (LMS) carefully monitors the development of climate conditions, manages the change in agricultural landmasses and also assists in creating awareness and sustainable practices. The LMS has also works in collaboration and participation in international climate change initiatives and mechanisms such as UNFCCC (United Nations Framework Convention on Climate Change), CDM (Clean Development Mechanism) dealing primarily with the reduction of carbon and other harmful emissions through working together with industry and AAP (African Adaptation Programme) as part of the CAI (Climate Action Intelligence) process.

3.2.5 The CAI (Climate Action Intelligence) is an analytical process which is spanning and growing momentum throughout various countries in Africa, including Lesotho. By providing important analytical and statistical information, and measuring the relationship between collaborative organizations and other industry players, climate change projects will be better equipped to providing sustainable solutions. Six climate change scenarios for Lesotho have been generated using global circulation models (GCMs) using historical data which indicate that Lesotho was likely to get warmer and drier hence working on country's adaptation strategy to reduce its vulnerability to such changes. On its part the project will facilitate data transfer from different sites of the country including those resulting from emergencies caused by severe weather. In addition, the project results will mean reduced CO₂ emissions emanating from movements in vehicles to obtain services that will now be available at local levels and in rural areas.

Gender

3.2.6 It is not envisaged that the project will have negative gender impacts neither during implementation nor during operation. On the contrary it will support gender institutions in data access and creation of gender awareness. During implementation, the project will create employment for both men and women; and during operation the project will facilitate the

fundamentals of governance. Evidence shows that Lesotho has no pronounced gender biases in occupational categories. While women predominate as labourers (67%) and health workers (60%), they are fairly represented in political, office and government spheres. Gender and Governance statistics as presented in the Gender Equality Index (HDR-2011) confirm the progress made by Lesotho in women participation. For example, in 2011 Local Government elections had 49% of seats going to women; 26% women as parliamentarians; 22% in cabinet; and 33% in management of the public sector.

3.2.7 The project will support an awareness building program for e-government services on Radio and TV. Findings of the Gender and Media Progress Study (2010) show 73% of employees in media houses as female. The media is critical in lobbying and advocacy of the Protocol on Gender and Development and the project will hence the opportunity for achieving this goal. Secondly, the project will provide support to Lerotholi Polytechnic by renovating the training labs, and providing computer lab equipment, networking, software and furniture. Participation of female students outnumbers that of male at tertiary level (59%) hence this support to the Polytechnic will offer another opportunity of ensuring equity in benefiting both male and female students.

Social

3.2.8 The project will contribute to poverty reduction through creation of short-term employment during implementation and by reducing data transfer costs and communication services, mostly through the VLP and reduced cost of leasing the dark fibre. Mounting of the OPGW and the insulation of the 4 Base Transceiver Stations (BTSs) will create 120 jobs for at least 8 months. In addition, the enhanced e-government will make it possible for the population to access government services such as civil registration, accessing advanced banking services without incurring costs of travel to Maseru or other town centers. The project will also facilitate creation of an access point for high capacity international service through the VLP which will avail unlimited bandwidth access to all licensed operators to the submarine cable. This will translate in reduced cost of internet in Lesotho.

3.2.9 While the project will not trigger any specific communicable diseases, such as HIV/AIDS, instead it will, by e-Health Information program under the Ministry Health, be instrumental in the provision of health related services to the communities through the eGovernment portal. Most importantly the Ministry of Health would be enabled to capture and transmit data from rural areas and vice-versa especially regarding communicable diseases and other pandemics under the Electronic Record Management System. One issue raised during stakeholder consultations was the inability by Ministry of Gender to access timely civic registration information which is a source of baseline for planning purposes. The connections through the BTSs to rural areas and the capacity for the Traditional Leadership to input data at source will work towards meeting this challenge. Under skills development component, 500 professional will be trained in certified professional courses such as Microsoft and Cisco at Lerotholi Polytechnic and an additional 400 students be trained in networking, data centre management and web portal development and management and e- services provision at MCST. This will allow the graduates to obtain better paying jobs in life.

Involuntary resettlement

3.2.10 There are no assets, social infrastructure and livelihoods affected or displaced by the project activities. The project will occupy small parcels of grassland measuring 15m x 12 m that will be released by the e-Government Infrastructure Project beneficiary local councils. If this shall require occupying private land, the project shall purchase this on a willing-buyer-willing seller basis.

IV – IMPLEMENTATION

4.1 *Implementation arrangements*

4.1.1 The implementation of the project will use existing government structures currently implementing Information Communication and Technology (ICT) projects. An assessment made by the Bank Group on the capacity of the Executing Agency (MCST) revealed that it has implemented other ICT projects financed by other international partners such as India, ITU, EC and USAID. It was also found out that the MCST has the mandate of running the entire government data network including the links to various ministries and two data centres that house the IFMS, civil service Human Resource Information System and the e-Health Information System. MCST was also found to have necessary core ICT skills staff led by the ICT Director General and an ICT Director. The staff includes 5 network operations officers, 3 Internet and Security Administrators, 4 programmers and system support officers; 3 web developers and administrators; 4 research assistants, 3 planning staff, accountant, financial controller, and senior procurement officer.

4.1.2 However, considering the additional work load that the project will place on the GoL, a Project Management Unit will be created within the MCST. A condition precedent before any disbursement under either the loan or grant will be the appointment of a Project Coordinator, a Project Accountant and a Project Procurement Officer to the PMU. All members of the PMU will be engaged and paid by the Government. It is worth mentioning that the proposed project will add considerably to activities being implemented or managed by MCST. The project institutional strengthening and skills development component will address this issue.

4.1.3 Due to the various parties involved in the project, a Project Steering Committee (PSC) will be established by the Ministry of Development Planning comprising Principal Secretaries of key ministries involved in the project including the Managing Director of Lesotho Electricity Company to provide policy and strategic guidance and coordination among various ministries during implementation. The PSC will be assisted technically by the **eGovernment Technical Committee (eGovTC)** comprising technical directors responsible for egovernment services from participating ministries. The Regulator will also be a member of the eGovTC. The eGovTC will provide technical guidance on the project. The Ministry of Development Planning will lead in the role of Monitoring and Evaluation (M&E) of the Project.

4.2 *Financial Management and Disbursement Arrangements*

4.2.1 **Financial Reporting and External Audit:** The project's financial management will be handled within the existing GoL's financial management systems, in consistent with the Bank's commitment to use country systems. The overall responsibility for financial management (including budgeting, accounting, payments, internal controls, transaction processing and quarterly and annual financial reporting) will rests with the Financial Controller, MCST, as the head of the Finance Department. An assessment of the MCST finance department's capacity for the implementation of the project revealed weak staffing capacity which GoL is currently addressing (notably (i) ensuring the existence of a dedicated project accountant with qualifications and experience acceptable to the Fund, (ii) the preparation of a project-specific financial management procedures manual as part of the Project Implementation Manual, acceptable to the Fund, that will provide staff guidance on project financial management procedures, and (iii) the procurement and installation of a simplified stand-alone off-the-shelf accounting software to record and process project's financial transactions). The Project Accountant, with the support of other accounting staff will process all project financial transactions in accordance with GoL payment approval procedures. In accordance with the

Bank's financial reporting and audit requirements, the project will be required to prepare and submit to the Bank Interim Quarterly Progress Report (IQPR) not later than 30 days after the end of each calendar quarter. Annual financial statement prepared and audited by the Office of the Auditor General (OAG), including the auditor's opinion and management letter will be submitted to the Bank not later than six (6) months after the end of each fiscal year. A separate audit opinion will be issued with respect to project Financial Statements, Statement of Expenditures (expenditure eligibility testing) and internal controls environment. The audit of the Project can be subcontracted as necessary to a private audit firm to be procured through shortlist (with the involvement of OAG) using the Bank rules and procedures. The cost of audit will be financed from the loan if carried out by a private firm. Detailed financial management, disbursement and auditing arrangements are included in Annex B.4 of Technical Annexes.

4.2.2 Disbursement Arrangement: The Project will make use of the Bank Group's various disbursement methods as appropriate including (i) Direct Payment, (ii) Special Account (SA) and (iii) Reimbursement methods in accordance with rules and procedures as set out in the disbursement handbook. The Special Account method will be used for smaller local eligible payments whereas the direct payment method will be used for larger (civil works, goods and services) contracts to be agreed under the financing agreement. Two foreign currency denominated Special Accounts (one each for the ADF Loan and Grant respectively to avoid commingling of funds from the different financing windows) would be opened in the Central Bank Group of Lesotho (CBL) and their respective sub-local currency accounts in Maloti/Rand will be opened in a local commercial Bank in Maseru, and acceptable to the Bank Group to be operated by MCST. Preparation of withdrawal applications and justification of funds into the SA, and documentation for all direct payments would be prepared by the dedicated project accountant following Bank Group requirements, and under the overall supervision responsibility of the Financial Controller. The Bank Group will issue a Disbursement Letter of which the content will be discussed and agreed during negotiations.

4.2.3 GoL Counterpart contribution: The contribution of GoL under the project is estimated around 12.4%. This will be in-kind contribution covering office space, project and other counterpart staff salaries, utilities, and vehicle running costs. No separate Bank Group account will therefore be opened for GoL's counterpart contributions.

4.3 Procurement Arrangements

4.3.1 All procurement of goods, works, and acquisition of consulting services financed by the Bank will be in accordance with the Bank's Rules and Procedures: *"Rules and Procedures for Procurement of Goods and Works May 2008 edition, revised July 2012"* and *"Rules and Procedures for the Use of Consultants, dated May 2008, revised July 2012 (as amended from time to time)"* using the relevant Bank Standard Bidding Documents and the provisions stipulated in the financing Agreement. The MCST will carry out all project procurement management functions. The resources, capacity, expertise and experience of MCST are adequate to carry out procurement provided the Government fills the vacant position for Procurement Manager. Table 4.3.1 hereafter summarizes the procurement arrangements and the details are provided in Annex B5

Table 4.3.1: Summary of Procurement Arrangements (UA Million)

Project Categories	[in Million UAC]					
	ICB	NCB	Other*	Short List	Non-Bank-Funded	Total
1. Works						
1.1 Upgrade of metropolitan network	1.471					1.471
1.2 Rehabilitation of Data Centres		0.068				0.068
1.3 Renovation of Conference Centres		0.039				0.039
1.4 Renovation of Polytechnic		0.015				0.015
Sub Total	1.471	0.121				1.592
2. Goods						-
2.1 Virtual Landing Points installations	0.663					0.663
2.1 Installation of Back up link	2.401					2.401
2.2 Support to rural connectivity	0.735					0.735
2.3 Installation of equipment for data strengthening	0.465					0.465
2.4 Software for data centre	0.271					0.271
2.5 Equipment and Furniture for data centres, call centres and polytechnic,	0.538					0.538
Sub total	5.067					5.067
3.0 Consultancy						-
3.1 Detailed Design Consultancy (Firm)				0.432		0.432
3.2 Individual Consultant for web redesign and service servers			0.032	-		0.032
3.3 Consultancy for Capacity Building Programs (Firm)			-	0.288		0.288
3.4 Individual Consultants for web maintenance for 23 ministries			0.038	-		0.038
3.5 Project Audit			-	0.047		0.047
Sub Total			0.070	0.771		0.841
4.0 Operating Costs						
4.1 O&M of fiber cable, data centres, services centres and establishment costs etc.				-	0.531	0.531
4.2 Salaries, Office Space, Shared Staff				-	0.531	0.531
Sub Total				-	1.061	1.061
TOTAL	6.538	0.121	0.070	0.771	1.061	8.561

* Other may be Direct Contracting, Shopping, identification of national/regional training institutions recruitment of individual consultant, price and physical contingency on operating cost that will be financed by the Bank and use of approved Government procedures

4.3.2 Monitoring

Monitoring will be based on the Project log-frame, using project resources. The PMU will be responsible for monitoring and report regularly to the Project Steering Committee (PSC) through the eGovernment Technical Committee (eGovTC) and to the Bank Group. The Department of Environment and the Environmental Unit of the LEC will also monitor the mounting of the fibre cable and the installation of the Base Transceiver Station (BTSs), respectively. Another level of monitoring will be through quarterly progress reports, annual audits and Bank Group supervision missions. The proposed Project will support M&E capacity development.

Table 4.3.2: Project Milestones

<u>Timeframe</u>	<u>Milestone</u>	<u>Monitoring process / feedback loop</u>
December 2013	Project launched, Strengthen the operational and technical capacity of Project Management Team (PMU) PMU is in place	Launching mission is organized with different skills mix
April 2014		Completed terms of reference for the detailed architectural & engineering design document, completed tender document, supervision reports
May 2014	Launch Request For Proposals for the recruitment of a firm for the detailed architectural design	Completed detailed architectural & engineering design document, supervision reports
August 2014	Implementation of works-fibre installation; BTS installations	Contract agreement with the selected construction companies and operators
December 2015	Upgrading and equipping of the DC completed	Quarterly Progress Reports Supervision missions
June 2017	Construction and equipping of the Videoconferencing and training facilities completed	Quarterly Progress Reports Supervision missions
December 2018	Project completed	Last Quarterly Progress Reports. PCR mission planned

4.4 Governance

4.4.1 The overall governance rating of the country is above African average in many fronts and measures. It ranked amongst the top 15 countries performing reasonable in safety and rule of law, participation and human rights, and sustainable economic opportunity. It ranks 9th among African countries according to Mo Ibrahim governance index for 2012. The country has been implementing key economic and financial governance reforms in recent years. Steady progress is being made in PFM and public procurement reforms with support by partners despite the challenges. The Bank Group would be providing support in this area through the proposed Institutional Support project.

4.4.2 On the ICT Sector governance, the country's reforms build on the foundation established by the Lesotho Telecommunications Policy of 1999 which gave way to the establishment of the Lesotho Communications Authority for the sector regulation. In 2005, the National ICT Policy for Lesotho was adopted. The Ministry of Communications, Science and Technology has the mandate of steering the ICT development, monitoring and evaluation in the country.

4.5 Sustainability

4.5.1 The Government's annual budget for running of the national data network is an average of 37million LSL annually. The funds which are channelled through the Ministry of Communications, Science and Technology will be sufficient to sustain the maintenance and operation cost of the data centres, web portal and the fibre network infrastructure.

4.5.2 Without the project, the GoL is highly likely to continue using the rented fibre optic cable, according to terms and conditions of the current contract signed with a private provider. The rental payments for fibre cable are set at a monthly price of LSL 483,311 (USD 48,330). In addition, the GoL will continue purchasing internet bandwidth from private operator(s) at current high rates.

4.5.3 Savings of infrastructure rental payments is calculated based on "without the project" scenario as if the GoL will continue with the existing contract with a private provider, paying out for the rental of fibre optic cable in the metropolitan area and to 10 districts at a rate of LSL

483,311 (USD 48,771) per month (this actually excludes the cost of internet bandwidth). Additionally, savings of internet costs will be realized with the installation and use of the Virtual Landing Point, which will reduce the internet bandwidth bill by an estimated USD 0.44 million a year.

4.5.4 By year 10, the initial capital investment in the Data Centre will have been depreciated. It is possible that additional, new equipment will be required. Given that the business plan by then will have been fully tested - we expect to see substantial gains in productivity and efficiency as a result of the data centre - the Government should be in a position to make a rational decision on further funding. Any funding, given the existence of historic assets, will be less than is currently envisaged by this project.

4.6 Risk management

The project has identified key risks that may negatively affect project outputs and outcomes. The table below presents the main risks, which are elaborated in the results-based logical framework.

Table 4.5: Risks

Risk	Rating	Risk Mitigation Factors
Design and reality gap: The larger the gap between design and reality, the greater the chance that the project will fail.	M	Careful consideration will be given to end-users needs, culture, emotions during design of envisaged services.
The risk of disruptions due to dependence on neighbouring South Africa infrastructure for international links	L	Satellite links for core services will be considered as a backup.
Delays in project implementation may lead to technological obsolescence	L	This will be mitigated through provision of a comprehensive Technical Assistance Support and strengthening of the Project Implementation Unit
Labor mobility to private sector and outside the country	L M	The government (MoDP) is preparing a retention policy which includes incentives and commitment for staff benefitting from government sponsored skills development programmes.

4.7 Knowledge building

4.7.1 The project design has innovative aspects from which it is possible for the Bank Group to acquire knowledge for its future use. The design process of the project involves the project preparation activities such as preliminary master plan design, analysis of technical and financial data, etc. The knowledge will specifically be acquired in the areas of building government networks through the use of Indefeasible Right of Use (IRU) of dark fibre from various operators and utility entities, support of rural connectivity in partnership with RMC's Rural Access Funds, and access of affordable bandwidth through Virtual Landing Points for land locked countries.

4.7.2 The Bank Group will use and disseminate the knowledge generated from the project preparation and implementation activities as well as exchange of experience between the project staff and experts in the Kingdom of Lesotho.

V – LEGAL INSTRUMENTS AND AUTHORITY

5.1 *Financing instrument*

The legal instruments for the project are: (i) a Loan Agreement between the Kingdom of Lesotho and the African Development Fund for a loan of UA 2.7 million and (ii) a Protocol of Agreement between the Kingdom of Lesotho and the African Development Fund for a grant of UA 4.8 million.

5.2 *Conditions associated with Bank's intervention*

A. Condition Precedent to Entry into Force of the Loan Agreement

The entry into force of the Loan Agreement shall be subject to the fulfilment by the Borrower of the provisions of section 12.01 of the General Conditions Applicable to African Development Fund Loan Agreements and Guarantee Agreement.

B. Conditions Precedent to First Disbursement of the Loan

The obligations of the Fund to make the first disbursement of the Loan shall be conditional upon the entry into force of the Loan Agreement and the submission by the Borrower of evidence, in form and substance satisfactory to the Fund, of the fulfillment of the following conditions:

- (i) Evidence of having opened: (i) a foreign currency denominated special account in the Central Bank of Lesotho for the deposit of the proceeds of the Loan; and (ii) a local currency account in Lesotho Maloti or South African Rand in a bank acceptable to the Fund; and
- (ii) Evidence of the establishment of a Project Management Unit (PMU) with terms of reference and staffing acceptable to the Fund. The staffing of the shall include, in addition to certain existing staff of the Executing Agency, a project coordinator, procurement officer, environmental and social officer, and project accountant, each with terms of reference, qualifications and experience acceptable to the Fund.

C. Conditions Precedent to Entry into Force of Protocol of Agreement

- (i) The Protocol of Agreement shall enter into force upon its signature by the Kingdom of Lesotho and the African Development Fund.

D. Conditions Precedent to First Disbursement of the Grant

The obligation of the Fund to make the first disbursement of the Grant shall be conditional upon the entry into force of the Protocol of Agreement and the fulfilment by the Recipient of the following conditions:

- (i) Evidence of having opened: (a) a foreign currency denominated special account in the Central Bank of Lesotho for the deposit of the proceeds of the Grant; and (b) a local currency account in Lesotho Maloti or South African Rand in a bank acceptable to the Fund;
- (ii) Evidence of the establishment of a Project Management Unit (PMU) with terms of reference and staffing acceptable to the Fund. The staffing of the shall include, in addition to certain existing staff of the Executing Agency, a project coordinator, procurement officer,

environmental and social officer, and project accountant, each with terms of reference, qualifications and experience acceptable to the Fund; and

(iii) Entry into force of the Loan Agreement.

E. Other Conditions

- (i) Within [*three (3)*] months of entry into force of the Loan Agreement or Protocol of Agreement, as the case may be, the Recipient shall establish a Project Steering Committee with terms of reference and composition acceptable to the Fund; and
- (ii) Within [*three (3)*] months of entry into force of the Loan Agreement or Protocol of Agreement, as the case may be, the Recipient shall establish the eGovernment Technical Committee with terms of reference and composition acceptable to the Fund.

F. Undertaking

The Recipient shall submit regular sector monitoring report along with project quarterly progress report.

5.3 Compliance with Bank Policies

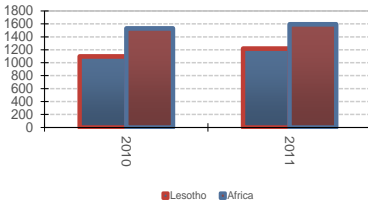
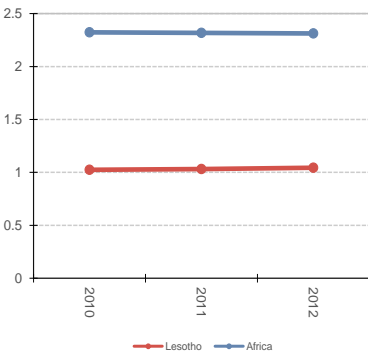
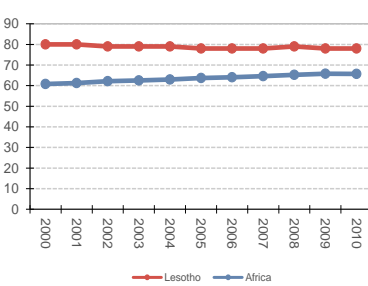
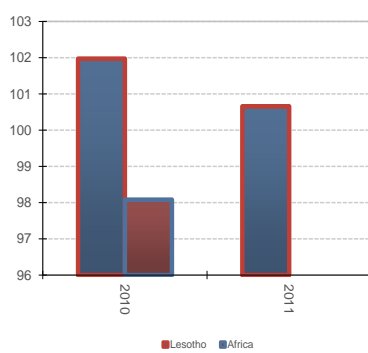
This project complies with all applicable Bank policies.

VI – RECOMMENDATION

Management recommends that the Board of Directors approve the proposed an ADF loan of UA 2.7 million and ADF grant of UA 4.8 million (Total UA 7.5 million) to the Kingdom of Lesotho for the financing of the eGovernment Infrastructure Project, for the purposes and subject to the conditions stipulated in this report.

APPENDIX 1

LESOTHO's Comparative SOCIO-ECONOMIC INDICATORS

Indicator	Year	Lesotho	Africa	Developing Countries	Developed Countries	Charts
Basic Indicators						<div>GNI per Capita (US \$)</div> 
Area ('000 Km²)		30.4	30,046.4	80,976.0	54,658.4	
Total Population (millions)	2012	2.2	1,078.8	5,628.5	1,068.7	
Urban Population (% of Total)	2012	28.4	40.4	44.8	77.7	
Population Density (per Km²)	2012	72.3	35.4	66.6	23.1	
GNI per Capita (US \$)	2011	1,220.0	1,594.2	2,780.3	39,688.1	
Labor Force Participation - Total (%)	2012	39.9	37.4	0.0	0.0	
Labor Force Participation - Female (%)	2012	45.3	42.5	39.8	43.3	
Gender -Related Development Index Value	2007	0.5	0.5	..	0.9	
Human Develop. Index (Rank among 169 countries)	2012	158.0	..	..	..
Popul. Living Below \$ 1 a Day (% of Population)	2003	43.4	..	25.0	..	
Demographic Indicators						<div>Population Growth Rate - Total (%)</div> 
Population Growth Rate - Total (%)	2012	1.0	2.3	1.4	0.7	
Population Growth Rate - Urban (%)	2012	3.7	3.4	2.4	1.0	
Population < 15 years (%)	2012	36.6	40.0	29.2	17.7	
Population >= 65 years (%)	2012	4.3	3.6	6.0	15.3	
Dependency Ratio (%)	2012	69.1	77.3	52.8	..	
Sex Ratio (per 100 female)	2012	97.4	100.0	934.9	948.3	
Female Population 15-49 years (% of total population)	2012	25.7	48.6	53.3	47.2	
Life Expectancy at Birth - Total (years)	2012	48.7	58.1	65.7	79.8	
Life Expectancy at Birth - Female (years)	2012	47.7	59.4	68.9	82.7	
Crude Birth Rate (per 1,000)	2012	27.2	34.2	21.5	12.0	
Crude Death Rate (per 1,000)	2012	15.2	10.9	8.2	8.3	
Infant Mortality Rate (per 1,000)	2012	63.8	70.8	53.1	5.8	
Child Mortality Rate (per 1,000)	2012	92.1	111.3	51.4	6.3	
Total Fertility Rate (per woman)	2012	3.1	4.4	2.7	1.8	
Maternal Mortality Rate (per 100,000)	2010	620.0	417.8	440.0	10.0	
Women Using Contraception (%)	2012	49.9	30.8	61.0	75.0	
Health & Nutrition Indicators						<div>Access to Safe Water (% of Population)</div> 
Physicians (per 100,000 people)	2003	5.0	53.6	77.0	287.0	
Nurses (per 100,000 people)*	2003	62.0	..	98.0	782.0	
Births attended by Trained Health Personnel (%)	2009	61.5	..	39.0	99.3	
Access to Safe Water (% of Population)	2010	78.0	65.7	84.0	99.6	
Access to Health Services (% of Population)	2000	80.0	65.2	80.0	100.0	
Access to Sanitation (% of Population)	2010	26.0	39.5	54.6	99.8	
Percent. of Adults (aged 15-49) Living with HIV/AIDS	2011	23.3	4.6	161.9	14.1	
Incidence of Tuberculosis (per 100,000)	2011	632.0	233.8	..	..
Child Immunization Against Tuberculosis (%)	2011	95.0	81.7	89.0	99.0	
Child Immunization Against Measles (%)	2011	85.0	76.6	76.0	92.6	
Underweight Children (% of children under 5 years)	2010	13.5	..	27.0	0.1	
Daily Calorie Supply per Capita	2009	2,371.0	2,568.8	2,675.2	3,284.7	
Public Expenditure on Health (as % of GDP)	2010	11.8	5.9	4.0	6.9	
Education Indicators						<div>Secondary School - Total</div> 
Gross Enrolment Ratio (%)		..	..	..	..
Primary School - Total	2011	102.4	101.9	106.0	101.5	
Primary School - Female	2011	100.7	98.1	104.6	101.2	
Secondary School - Total	2011	49.2	42.3	62.3	100.3	
Secondary School - Female	2011	57.4	38.5	60.7	100.0	
Primary School Female Teaching Staff (% of Total)	2010	76.9	43.3	..	..
Adult Literacy Rate - Total (%)	2010	89.6	67.0	19.0	..	
Adult Literacy Rate - Male (%)	2010	95.6	58.3	..	..
Adult Literacy Rate - Female (%)	2010	83.3	75.8	..	..
Percentage of GDP Spent on Education	2008	13.0	5.3	..	5.4	
Environmental Indicators						
Land Use (Arable Land as % of Total Land Area)	2011	10.1	8.4	9.9	11.6	
Annual Rate of Deforestation (%)	2000	..	0.6	0.4	-0.2	
Annual Rate of Reforestation (%)		..	..	..	..
Per Capita CO2 Emissions (metric tons)	2011	0.2	1.1	..	..

Sources : ADB Statistics Department Databases; World Bank: World Development Indicators
UNAIDS; UNSD; WHO; UNICEF; WRI; UNDP; Country Reports.

Last update: June 2013

Note : n.a. : Not Applicable ; ... : Data Not Available.

APPENDIX 2

TABLE OF ADB'S PORTFOLIO IN THE COUNTRY

Name	Type ¹	Rating	Amount (UA) (million)	Date approved
Electricity Supply Project	L/G	HS	8.9	04.02.09
			2.1	04.02.09
RWSS Strategic Investment Plan	G	S	0.332	11.05.07
Education Quality Enhancement Project	L/G	S	1.57	04.04.07
			7	04.04.07

MAP OF LESOTHO AND PROJECT LOCATION

