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USAID/ETHIOPIA PRIVATE SECTOR OPPORTUNITY ANALYSIS FOR THE INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT) SECTOR

FINAL REPORT

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USAID/Ethiopia Private Sector Opportunity Analysis for the Information and Communications Technology (ICT) Sector

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ACRONYMS

AIM	African Medical Investments
$M	Millions of USD
AUC	African Union Commission
BOO	Build Own Operate
BOOT	Build Own Operate Transfer
BOT	Build Operate Transfer
CDM	Clean Development Mechanism
CMG	Compressed Bio-methane Gas
COTR or AOTR	Contract or Grants Officer (USAID)
CRGE	Climate Resilient Green Economy
CSOs	Civic Society Organization
DBE	Development Bank of Ethiopia
DCA	Development Credit Authority
EDN	Enterprise Development Network
EEPCo	Ethiopia Electric Power Company
EIA	Ethiopian Investment Agency
EMS	Emergency Services
EMSC	Emergency Medical Services Corporation
EPA	Environmental Protection Authority/Agency
EQR	Emergency Quick Response
ERCA	Ethiopian Revenue and Customs Authority
EU	European Union
FDA	Food and Drug Administration (USA)
FDI	Foreign Direct Investment
FIT	Feed in Tariff
FMHACA	Food, Medicines and Healthcare Administration and Control Authority
FMOH	Federal Ministry of Health
GDP	Gross Domestic Product
GMI	Global Methane Initiative
GoE	Government of Ethiopia
GSM	Global System for Mobile
GSP	Generalized System of Preference
GTP	Growth and Transformation Plan
GTRM	Geothermal Risk Mitigation Facility
HSDP	Health Sector Development Program
ICT	Information Communication Technology
IFC	International Finance Cooperation
IMF	International Monetary Fund
INGOs	International Non Governmental Organizations
IRBs	Industrial Revenue Bonds
IRR	Internal Rate of Return
LLINs	Long Lasting Insecticidal Nets
LPG	Liquefied Petroleum Gas
M-BIRR	A private mobile banking product line (Irish – Ethiopian Company)

MIGA	Multilateral Investment Guarantee Agency
MOFED	Ministry of Finance and Economic Development
MOI	Ministry of Industry
MoWE	Ministry of Water and Energy
M-PESA	A private mobile banking product line (Kenyan example of M-BIRR)
NBE	National Bank of Ethiopia
NGOs	Non Governmental Organizations
NPV	Net Present Value
NTR	Normal Trade Relations
OPIC	Overseas Private Investment Corporation
PPP	Public Private partnerships
ROI	Return on Investment
SREP	Scale-up of Renewable
USAID	United States Agency for International Development
USD	U.S. Dollars
USG	United States Government
VPN	Virtual Private Networks
VSAT	Very Small Aperture Terminal

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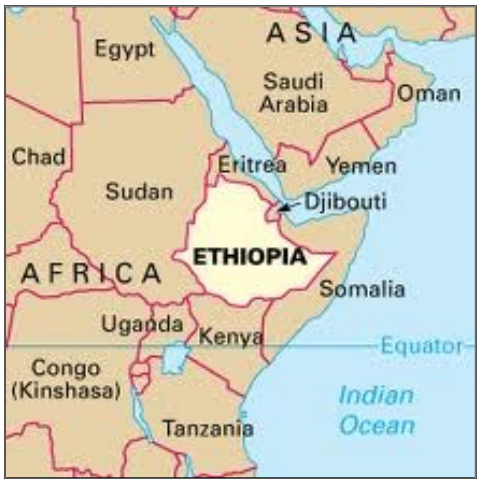
USAID/ETHIOPIA PRIVATE SECTOR OPPORTUNITY ANALYSIS FOR THE INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT) SECTOR[1]

I. ETHIOPIA: AN EMERGING ECONOMY

Ethiopia presents a unique investment environment among the Sub-Saharan Africa nations. It is centrally located in the northeastern part of Africa, commonly known as the Horn of Africa. It has direct sea access through Djibouti and international air cargo facilities with non-stop service to Washington D.C and direct flights to other U.S and world markets. Ethiopia is also part of the nineteen-member Common Market for Eastern and Southern Africa (COMESA) representing a combined population of over 400 million[2].

Ethiopia has the largest population in East Africa; with 87.5 million people - almost twice the size of South Africa[3]. Combined with Kenya, Sudan, Tanzania and Uganda, Ethiopia constitutes a market potential with a total of about 227 million consumers (2008), which is about one-fourth of total African population, overshadowing the South African regional market by almost two to one. The country has a relatively stable political and economic environment; an accessible labor pool at wage rates below most offshore investment sites including India and China. There is a steady year-on-year economic growth rate of over 8% (11.4% in 2010/11 according to government statistics); manageable risks; favorable investment incentives, and; ample business opportunities domestically as well as for export in the three key foundational sectors of Health, Energy and Green Solutions, Information and Communication Technology and Telecommunication, each not without their unique challenges. Ethiopia is also a signatory of a number of trade protocols and soon will join the World Trade Organization (WTO), and is also vested with the Overseas Private Investment Corporation (OPIC).



Ethiopia qualifies for preferential access to European Union market under the EU's Everything-But-Arms (EBA) and to USA markets under the African Growth and Opportunities Act (AGOA). Accordingly, most Ethiopian products can enter into these markets quota and duty free. Furthermore, a broad range of manufactured goods from Ethiopia is entitled to preferential access under the Generalized System of Preference (GSP), many without quota restrictions. Ethiopia enjoys permanent Normal Trade Relations (NTR) with the United States.

At the start of 2012, Ethiopia ranked 111 out of 183 countries in "ease of doing business" This represents a minus 7 point drop since 2011 putting it at par with Kenya and Egypt.[4]

[1] This report, focusing on ICT industry investment opportunities in Ethiopia, is extracted from a more comprehensive USAID/Ethiopia assessment entitled "USAID/Ethiopia Private Sector Opportunity Analysis and Action plan for Health, Energy, and Information and Communications Technology (ICT)."

[2] Statistical Reference

[3] Population Reference Bureau, World Population Datasheet,2011

[4] http://doingbusiness.org/~/media/fpdkm/doing%20business/documents/profiles/country/ETH.pdf

II. ETHIOPIA GOVERNMENT COMMITMENT TO INVESTORS

Macro indicators suggest robust growth in a number of sectors that point to sustainable development across nearly all sectors[5]. The 2010/2015 Five Year Growth and Transformation Plan (GTP) goes a long way to further liberalize investment opportunities in Ethiopia.[6] There are sound indicators that this trend will continue. The Government of Ethiopia (GOE) has made commendable efforts, through legislative and procedural reforms, to improve the investment climate in the country and thereby attract more foreign direct investment (FDI). In line with market-oriented economic policy, the investment regime has been liberalized through a series of government legislation. Since 1992, the investment code has been revised three times to ensure the participation of more foreign investments in various sectors of the economy.

Ethiopian Investment Agency

The Ethiopian Investment Agency (EIA) promotes a one-stop-shop for foreign investors offering a "green card," or range of investor incentives including those enumerated immediately below. Investors from the Diaspora are offered a "yellow card" with the same privileges plus benefits accorded domestic business entities. To encourage private investment and promote the inflow of foreign capital and technology into Ethiopia, the GOE granted the following incentives to both domestic and foreign investors engaged in areas eligible for investment incentives: (a) Exemption from import customs duty, (b) Exemption from the payment of income tax, and (c) Carry forward of losses[7]. EIA lists a number of reasons to do business in Ethiopia chief among those are:

- Political and social stability;
- Macro-economic stability and growing economy;
- Adequate guarantees and protections;
- Transparent laws and streamlined procedures;
- Ample investment opportunities;
- Wide domestic, regional and international market opportunity;
- Competitive investment incentive packages.

Informants interviewed indicate that these reasons and benefits of investing in Ethiopia and incentives supported by EIA are realizable with some effort.

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[5] Ethiopia -Macro Economic Handbook 2011/2012 , Access Capital, http://www.accesscapitalsc.com/images/stories/research/pdf/ethiopia%20macroeconomic%20handbook%202011-12%20dec%2030%202011r2

[6] Democratic Republic of Ethiopia Growth and Transformation Plan, Minister's Council Rule No. 84/1995 Articles 4 and 9, ICT Directive, Articles I – 8, 2010.

[7] Ethiopian Investment Agency, http://www.ethioinvest.org/Investment_Regime.php

III. ACTION PLAN – PROSPECTS FOR PRIVATE SECTOR INVESTMENT

Most foreign investors gain a foothold on the market by (i) using their own capital, (ii) leveraging private equity funds supplied through the Diaspora and domestic investors, (iii) establishing home offices in Ethiopia, (iv) partnering with local businesses, and (v) entering into Public Private Partnerships (PPPs) directly with the government or other organizations having business with the government. Domestic businesses are often established by following an informal model of family and close associates organized to invest in initial capitalization. Loans are then secured based on equity and collateral. Loan terms are generally for no longer than five years.

PPP's are encouraged by the GOE and many multi-lateral organizations that fund economic development activities or provide critical support services such as in health care provision. Evidence among domestic businesses suggests an underutilization of modern business theory and practice, demonstrated by lack of business planning, financial models, due diligent risk assessments, and stock trading.

The business models suggested in this appraisal are to inform American businesses and would-be-investors and guarantors of potential investment opportunities in Ethiopia which appear viable based on anecdotal evidence and figures obtained from the various ministries, boards, international organizations, and private business operating in the country. Much of the analysis provided is based on the investigators combined experiences in conducting similar studies in comparable environments as well as business owners and government advisers in Ethiopia and other countries in the region and globally. This baseline knowledge is tempered with our understanding of development trends in government and industry found in other emerging economies. Precise dollar figures and valuation of existing investments or future opportunities are outside the scope of this analysis.

Most of the data for this report were gathered as macro indicators used by the government and the international development community. Few private sector figures were volunteered or made readily available. These data would normally be gleaned from payroll taxes, expense sheets, duty tax, and income tax records were not readily available in the short period in which this study was conducted. A more thorough and diligent business analysis specific to the exact business venture intended will need to be conducted to validate any assertions found in this report.

A. Key Resource Requirements

1. Human Resource and Labor

The labor law of Ethiopia, prepared in conformity with international labor norms and standards, provides adequate provisions for the conclusion and termination of employment contracts with safeguards that do not unduly infringe on the rights of investors. The number of skilled workers and technicians is increasing steadily as a result of an increase in the number of universities, colleges, and technical and vocational education and training schools (TVETs) in the country[8]. There is, however, a severe labor shortage of highly-skilled technicians, engineers, and other professionals. In conformity with the international conventions and other legal commitments, Ethiopia has enacted labor laws to ensure the worker-employer relations be governed by basic principles of rights and obligations. The labor law has maximum hours of work set at eight hours a day and forty-eight hours a week. Work done in excess of these hours is deemed to be over-time. Labor disputes in Ethiopia are resolved through the application of the law, collective agreements, work rules, and employment contracts.

[8] Ethiopian Investment Agency http://www.ethioinvest.org

The cost of labor, both skilled and unskilled is significantly less than most countries. Compared to equivalent labor costs in China and India, Ethiopians earn approximately half as much. As an example the average monthly industrial pay scale for the following categories can be expected (USD 2001)[9]:

- Chief Executive: $574 - 1162
- Senior Manager: $348 - 573
- Middle Managers and Engineers: $174 - 347
- Technical Operator: $93 - 173
- Junior Operator: $46 – 92

Educational levels and literacy are considered below average compared to other countries in the region with a literacy rate of under 40.3% and high school completion at about 17%. However, those few who are well-skilled do find employment, and are able to demand competitive wages. This shortage of qualified workers has prompted some Ethiopian companies to turn to immigrant labor. For example, trainers in information and communications technology (ICT) from Kenya have been employed in Ethiopia at a lower rate, even with air fare included, than their domestic Ethiopian counterparts working with the same skill sets. This suggests a very high demand for skilled [ICT] workers and presents a unique business opportunity for companies offering high-tech training. Overall, the lack of skilled workers requires companies to invest in their human resource base and offer adequate incentives to stem attrition. According to one firm, workers find training and capacity building experience of equal incentive to higher wage when they consider employment options. The challenge for companies is to both train and retain.

2. Material and Production Supplies

Given Ethiopia's predominantly agricultural-based economy, most raw materials, fuels, and components are imported. The country spends more than 80% of export earnings for oil imports. During the 2007/08 oil crisis, expenditure on oil import exceeded the total export revenue of the country[10]. As an other example, the pharmaceutical industry imports 100% of its materials requirement. Offsetting import costs imbalances on production is done by companies investing in domestic resources supply chains thereby creating new enterprises or value-add investments to existing processes, such as is the case for cement production and food processing, leather products, and a variety of consumer sundry products. Additional value-added activities from domestic assembly and manufacturing include mobile phone assembly, basic essential drug manufacturing, power generation, electronics, and automobiles, and equipment repair and maintenance.

3. Capital Financing and Lending

As a general rule, to secure a loan from an Ethiopian commercial bank requires hard assets as collateral. With few exceptions equity loans are available from private commercial banks and Development Bank of Ethiopia (DBE). Sources of domestic financing are based on the prime-lending rate of 14.5% (2010 est.). The DBE offers 8.5% financing for up to fifteen years at a 30:70 split between investor and DBE. Many domestic private investors find funding from the Diaspora usually through informal familial networks. The private commercial banks are burdened with collecting 27% of loan proceeds to borrowers for the purchase of government treasury securities, most recently and notable, bonds for the financing new hydroelectric plant construction among other government projects.

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9 UNCTAD based on Ethiopian Investment Commission

10 Ethiopian Economics Association, Annual report on the Ethiopian Economy, 2009

Fiscal and monetary policies in fast emerging economies often shoot at moving targets resulting in higher inflation rates and hard currency shortages; this in turn erodes ROI for investments. Inflation is currently at 17.8% year-on-year rate according to a recent January 2012 survey report[11]. As the economy expands its' base and produces more product from internal resources inflation rate should slow providing demand does not outstrip supply. Still, expected ROI on foreign investments in Ethiopia is higher than what can be expected from similar investments in matured economies like the United States and Europe and other GA countries where growth rates hover around 2%. In comparison, Ethiopia economic growth averages 8-10% per annum. Albeit the attraction of a higher ROI, United States investments in Ethiopia have thus far been reserved for the less risk-averse investors.

Estimated foreign direct investment (FDI) in Ethiopia stands at 2.9% of GDP or approximately $861MM USD. The mainstay of FDI is primarily from China, Saudi Arabia, India, and Kuwait superseding loans from World Bank, IMF and African Development Bank[12]. Diaspora investment and other remittances exceed $1B USD[13]

There is a considerable up-side and economic gain to investments in manufacturing, whether labor or capital-intensive. Firstly, investment incentives and FDI schemes by the government are favorable for the manufacturing sector given the duty-free importation of equipment and machinery. This makes start-up cost low , with no export tax. Furthermore, there are leasing companies now entering the market, helping to reduce startup costs in manufacturing and avoiding the need for large capital outlay. Leasing is a new phenomenon in Ethiopia and presents a business opportunity for U.S companies that have open lines on equipment and machinery. Given the GTP emphasis on creating job opportunities, especially in manufacturing and value-add production, labor-intensive industries with semi- or complete automated assembly are looked upon favorably by licensing authorities. As a consequence business startup processes are expedited and viewed overall as beneficial to economic prosperity

Capital requirements to register as an investor through EIA are relatively low and are favorable inducements for investment. It should be noted that the capital can be used immediately with certain provisions:

> *Under the Investment Proclamation No.280/2002 (as amended), a foreign investor, who invests on his own, except in consultancy services and publishing, is required to invest not less than US$ 100,000 in cash and/or in kind for a single project. However, if he invests in partnership with domestic investor(s), the minimum capital required of him is US$ 60,000. The minimum capital required of a wholly foreign investor investing in consultancy services or publishing is US$ 50,000, which may be in cash and/or in kind. But this capital amount is lowered to US$ 25,000 if he invests in partnership with domestic investor(s). A foreign investor reinvesting his profit or dividends, or exporting at least 75% of his outputs, however, is not required to allocate a minimum capital.*[14]

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[11] Price Database, Access Capital, January 2012

[12] Ethiopia -Macro Economic Handbook 2011/2012 , Access Capital, http://www.accesscapitalsc.com/images/stories/research/pdf/ethiopia%20macroeconomic%20handbook%202011-12%20dec%2030%202011r2

[13] Diaspora Remittances: http://www.prnewswire.com/news-releases/companies-team-up-to-offer-attractive-ethiopian-investment-opportunities-to-Diaspora-expatriates-59891487.html

[14] EIA Investment Provisions

B. Risk Factors

Long term land leases and expensive equipment account for a substantial portion of initial capital outlay for startups. The prospect of loss or business failure when investing in Ethiopia is similar to what can be expected in other emerging economies. The Ethiopian Investment Proclamation mitigates this risk by providing investment guarantees against measures of expropriation and nationalization. There are political risk insurances also provided by Overseas Private Investment Corporation (OPIC), Multilateral Investment Guarantee Agency (MIGA), and Development Credit Authority (DCA). Good faith has been amply demonstrated in the number and longevity of businesses ventures in the country.

The main risks to investment are threats to productivity and through-put which can be hampered by:

- Intermittent power outages,
- Communication connectivity,
- Associated costs of private Very Small Aperture Terminal (VSAT) and Virtual Private Network (VPN) connections,
- GOE restrictions in terms of amount and type of credit provided by private banks,
- Customs delays,
- Worker attrition requiring continuous recruitment and training among a workforce,
- Abruptly changing regulations however, most are favorable to investors,
- Distance to external markets, and
- Delays in approval by standards boards.

> *"If you work in line with GoE plans everything works very rapidly. Things in Ethiopia move much faster than e.g. in Kenya or even in Europe if your project gets full support from GoE"* – Wind Project Developer

For example, in pharmaceuticals production the principal risk adversely affecting production are delays in product certification attributable to low standards and know-how at the production level impairing quality output. This is mainly an issue of human functional capacity over cost in meeting international standards. However, because pharmaceutical manufacturing falls within the GTP and further increases employment and export opportunities, this issue can be resolved if approached tactically. A sound mitigation plan that brings in affected stakeholders early on will ease the process of working through any barriers. This was amply demonstrated by a money services business that was faced with restrictive policy and regulations. These risk factors were remedied by early stakeholder relationship building that enabled GOE to modify the law and issue a new directive that facilitated product roll out.

Many of these and other less critical threats can be mitigated with a well thought-out risk management and mitigation plan. If investments align well with GTP most major risks will be mitigated through early-on constructive engagement with authorities. These same institutions receive ample technical support from the many donor organizations operating in Ethiopia that provide added surety for successful business development.

C. Opportunities for Investment

Three intriguing sectors for private investment consideration in Ethiopia are in the foundational industries of Energy and Green Solutions, ICT, and Health. The ICT software segment has the lowest entry threshold overall for private investment, as it is essentially labor-intensive and labor comes at a very affordable cost in Ethiopia, although the cadre of highly skilled laborers is small. This fact however opens yet another door for investment opportunity as discussed below.

Ample precedent for more private sector investment has been set by a number of PPPs and joint ventures in both ICT/Telecommunications and Energy, and new PPPs are emerging in the health space. For example, a recent tender was awarded to TATA and WIPRO to partner with EIA for a unified billing system for consumer payments of water, electricity, and power. As another example, the management of Ethiopian Telecommunication Corporation (Ethio-Telecom) has moved to a French company that shares in the revenues. Still another example is how few private health facilities being established through partnership with universities and national health referral systems. In energy off-grid business opportunities are opening in solar photovoltaic, mini- and micro- hydroelectric companies. Another area with high potential for growth with positive government support is the health industry including health care management, clinical care services, medical products manufacturing of pharmaceuticals, equipment, and supplies.

D. Investment Environment and Opportunities

Whereas there are innumerable investment opportunities and huge incentives for U.S. and other foreign investors, there are certain sectors and industries, while potentially lucrative, remain a challenge to enter because they are still predominantly under State or Party control. At first glance they appear to remain impermeable to private ownership and investment. There are, however, indications that even the most closely held state enterprises are yielding to more private sector control. This is fueled to a large extent by a *socially protective* legal and regulatory framework that offers the government a comfort level to effectively monitor and regulate economic activity in a way that secures the public interest. As the government gains more skill and experience in exercising its legal framework, the ease of doing business alongside the government in ways that secure the public interest will become apparent and more opportunities will open up. The capacity and resources of the GOE to harness private investment has its limitations and is one area that United States Government (USG) through United States Agency for International Development (USAID) and other stakeholders could offer more directed assistance. We discuss these opportunities under Key Policy Recommendations and Investment Framework below.

1. State-Owned Enterprises

The looming challenge that cuts across all state-owned and para-statal[15] businesses with a mandate to move toward privatization is how to divest management and control the asset base while securing social, political, and economic stability.

The government investment portfolio spans all industrial sectors: many competing side-by-side with the private sector.[16] It is believed that many of these enterprises will be privatized over time as it becomes apparent they are in fact more commercial in nature than the government and that they exceed the original purpose of providing a public good or service where no private company would have invested. Those enterprises most firmly entrenched under state control include electrical power generation and transmission, water reserves, and telecommunications. These three sectors represent the largest investments on the part of GOE. Others that remain solely government owned appear to be morphing into some hybrid mix of joint ventures or partnerships or are being completely divested through auction or liquidated. The EIA states that all areas of investment are open for foreign investors other than the following[17]:

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15 Para-Statal are defined in Ethiopia as "Party owned", that is by Ethiopian People's Revolutionary Democratic Front

16 Ethiopia -Macro Economic Handbook 2011/2012 , Access Capital, http://www.accesscapitalsc.com/images/stories/research/pdf/ethiopia%20macroeconomic%20handbook%202011-12%20dec%2030%202011r2

17 Ethiopian Investment Agency, http://www.ppesa.gov.et/

2. Areas reserved exclusively for the government:

- Postal services with the exception of courier services;
- Transmission and supply of electrical energy through the integrated national grid system; and
- Passenger air transport services using aircraft with seating capacity of more than 20 passengers.

Regulatory reform and legal frameworks in the three sectors of this study (Health, Energy, ICT) and financial banking sector pose the biggest challenge to extensive privatization, yet present the highest possible ROI potential if private investment inroads were to be made.

At first blush, it would appear that State held enterprises in energy and telecommunications offer meager opportunity for privatization effectively make these industries non-competes for the private sector, warding off potential investors This is a common business perception where historically the State has taken stopgap measures to fill a void in a sector where normally private investment would have exploited the opportunity. Anecdotal evidence gathered from new business startups in Ethiopia suggests that GOE is open to negotiating terms and conditions for private sector investment in almost all areas to one degree or another. Typically the foray involves some sort of PPP or outright licensing when issues of governance and regulatory concerns are adequately addressed and GOE does not feel its authority or mandate is being compromised. For example, implementation of mobile banking products such as M-BIRR and Z-BIRR – all similar to M-PESA which is used Kenya but with different technology business models, were first held up because of inefficient infrastructure and ability of the National Bank of Ethiopia (NBE) and MOF to regulate and monitor the transactions. While the infrastructure has been largely resolved and the bank regulations still need fine-tuning, the principle stumbling block was later to be found in the state-owned Ethio-telecom where the technical platform for the necessary gateway services was not installed. Lack of understanding by the bureaucracy hampered progress for over two years. Once the vendor, with help from two embassies and the European Commission, made a persuasive argument to MoICT why the technology was important for the economy and government alike the situation resolved. Within two and half months the policy was change through the IT Directorate, and the equipment is now to be installed. Had private industry not engaged the GOE on a socio, political, and economic level the problem would have festered until the GOE itself came to understand and own the issue. It would have taken up the challenge in due course but would have eventually created yet one more artifact outside of private sector control, and most likely the original investors would have loss severely. The lesson here is to bring GOE and its bureaucracies onboard early on and be proactive.

It is expected that most of the needed reforms to the governance and regulatory environment will come through WTO ascension. Specific immediate interventions that can be done by USG and GOE are addressed below.

3. Areas reserved for Ethiopian nationals

There are some protective barriers put into place that restrict investment options for foreigners in deference to protect domestic industry. Nonetheless, entry into these investment areas is still possible where the owner is a member of the Diaspora and registered as a "yellow card" holder, affording all the same privileges as a national company, having only restrictions placed on employment in sensitive government positions

The following sectors, among others, are reserved for *national* investors, and by definition "yellow card" holders. These areas are not open to "green card" investors who are treated as non-nationals:

Areas reserved for domestic investors:

- Retail trade and brokerage;
- Wholesale trade (excluding supply of petroleum and its by-products as well as wholesale by foreign investors of their products locally produced);
- Import trade (excluding LPG, bitumen and up on the approval from the Council of Ministers, material inputs for export products);
- Export trade of raw coffee, chat, oil seeds, pulses, hides and skins bought from the market and live sheep, goats and cattle not raised or fattened by the investor;
- Construction companies excluding those designated as grade 1;
- Tanning of hides and skins up to crust level;
- Hotels (excluding star-designated hotels), motels, pensions, tea rooms, coffee shops, bars, night clubs and restaurants excluding international and specialized restaurants;
- Travel agency, trade auxiliary and ticket selling services;
- Car-hire and taxi-cabs transport services;
- Commercial road transport and inland water transport services;
- Bakery products and pastries for the domestic market;
- Grinding mills;
- Barber shops, beauty salons, and provision of smith workshops and tailoring services except by garment factories;
- Building maintenance and repair and maintenance of vehicles;
- Saw milling and timber making;
- Customs clearance services;
- Museums, theaters and cinema hall operations;
- Printing industries.

Business to business services (B2B) to any of these sectors appears to be a viable business opportunity on to itself.

The Ethiopian business community publicly and privately expressed their preference to invest alongside American businesses over other foreign investors for a number of reasons. Chief among those are the shared benefits of partnering with American businesses or Diaspora are access to know-how and innovation and the expectation of high quality of goods and services, known to be part of U.S. standards. Integrity in American business dealings is also highly regarded. Matching Ethiopian Diaspora in the U.S. with local Ethiopian nationals offers the most intriguing and powerful business combination worth exploring.

E. Major Investment Incentives

EIA offers ease of access to foreign investors with lucrative incentives. The GTP sets out transparent strategic goals for a wide range of development activity all bringing with them investment opportunities. Many investors entering Ethiopia in the early years, including Cisco, Hewlett Packard, 3M, and others, began business enthusiastically but aborted or trimmed back expectations prematurely for lack of institutional support, infrastructure, guarantees and legal protections, and investment incentives. Notwithstanding the losses sustained by these earlier entrants, times and condition have changed in a positive direction and the business environment appears largely reformed and more viable. Business longevity and profit is widely apparent among those companies that remained and among others doing business in Ethiopia for many years.

Implementation capacity and a fully articulated and implemented regulatory and policy environment stand out as major impediments for U.S. investment. Whereas the facilities of EIA welcome and ease registration requirements for foreign investors, they stop just short of bridging the implementation gap documented by the Ministry of Industry. More in depth analysis is required to properly identify the remaining barriers that stall implementation. The problem seems to be lack of capacity at key transaction points in among various ministries and regulatory agencies principally concerning land acquisition (lease); imports, licensing, certifications, and taxes. It is observed that many front-line employees do not have discretionary authority to make decisions in gray areas that require immediate judgment calls in interpreting rules and regulation or understanding the *spirit* of the law. Indeed, many seem fearful of making an error in which disciplinary reprisal might result in the loss of their job that in Ethiopia could condemn you to a life of inescapable poverty.

The following investment incentives have been catalytic for Ethiopia in luring foreign investors. However, whereas many American investors have registered licenses to receive the benefit of these incentives, few have actually moved from registration and pre-implementation to operations[18].

> ***a) Exemption from import customs duty***
> *One hundred per cent exemption from the payment of import customs duties and other taxes levied on imports is granted to an investor to import all investment capital goods, such as plant, machinery and equipment, construction materials, as well as spare parts worth up to 15% of the value of the imported investment capital goods.*

With few exceptions all Ethiopian produced goods destined for export are exempted from the payment of certain taxes.

> ***b) Exemption from the payment of income tax***
> *Any income derived from an approved investment in new manufacturing, agro-industry and information and communication technology (ICT) development or agriculture is exempted from the payment of income tax for the periods as shown in [the following table], depending upon the volume of export and the location in which the investment is made.*

There are income tax holidays of five to six years, and with special permission of up to eight years for investors in new manufacturing, agro-industry, ICT, agriculture and for companies that exports at least 50% and up to 75%. These tax breaks decrement if the product or service is targeted to domestic markets, or if 25% of the investment is for expansion or upgrading of an existing enterprise. "Business enterprises that suffer losses during the tax holiday period can carry forward such losses for half of the income tax exemption period following the expiry of the exemption period."

Ethiopia is a benefitting member of MIGA that issues guarantees against non-commercial risks to enterprises that invest in signatory countries. The country has also concluded bilateral investment promotion and protection agreements with a number of developed and developing countries.

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[18] Whereas American businesses have expressed highest interest in FDI as a group, the number of businesses in operation is less than 8% of the total 1,215 U.S. companies registered. North America Investments Information, Industrial Development Investment and Engineering Capacity Building Directorate Investment and Privatization Capacity Building team, Ministry of Industry, February 2012

IV. MAJOR INVESTORS IN ETHIOPIA

For this study we view investors collectively as public or private, as any set of interested parties owning a *value-share* or stake in an enterprise. The strength of that position is indicated by degree of resource commitment in the enterprise which may include cash, material, risk-coverage –which has its own valuation, promotion, skill transference or valuable technical expertise or know-how, or manpower expressed as human resource at some functional level –not just bench warming or tacit oversight.

Foreign direct investment (FDI) is well represented in manufacturing and business services in nearly all sectors and industries. A range of Non-Government Organizations (NGOs), multilaterals and other international organizations (INGO) provide financing, technical and advisory support and loan guarantees. Internally, NBE, DBE, municipal and regional development agencies, and ministries contribute to the financial framework by defining the parameters and legal extent of operations; these functional areas all need more technical know-how. The single largest class of investors by nation appears to be Chinese, dominating investments in infrastructure, retail product placement in many segments –most notably in the telecommunications industry with the three handheld mobile (cell phone) assembly plants. Obvious presence is also seen in road construction, public building construction, and energy sectors, and many consumer goods. The finance scheme appears to be one of "lend and lease" where the Chinese government provides funding on the condition that Chinese companies undertake the work. This affinity with China is understandable given their common social political structures albeit one could make a case that Ethiopia has yet to refine state capitalism to a fine art. A full list of all business and investors contacted or documented by this appraisal are listed in **Appendix A** of this report.

V. KEY POLICY AND INFRASTRUCTURE CONSTRAINTS

The major policy impediment to attract foreign investment from the United States is the appearance of state dominated presence in enterprises that, from an American business perspective, should be in the domain of private enterprise. Accepting the government as a competitor in the market would be palatable if the government were subject to the same market rules and not afforded anticompetitive pricing or volume discounts in supply acquisition –GOE being both the largest consumer and largest producer is, as an "industry," indomitable. Generally speaking American investors view the role of government as one that is to *govern* and *regulate* rather than as a competitor having the advantage of *command and control* of business direction and approval of investment decisions.

The general observation among Ethiopian businesses, business associations, and chambers interviewed is that American and European investors (collectively G8-based companies from France, United States, United Kingdom, Russia, Germany, Japan, Italy, and Canada) are overly risk-averse. This observation is justified based on observation that other investors coming from Turkey, India, and China and other emerging economies seem to navigate with relative ease the same market barriers and production environments identified by their Western counterparts as impassable. This is appreciated more when understanding that the business environment and practices in Ethiopia are not unlike those of other emerging economies; the waters are somewhat murky. Hoops, pitfalls, limited infrastructure build-out, occasional graft, unreliable power supply and communication connectivity are part of the ecology in many of these economies. Ethiopia being among those is even more nuanced given its history; thus, these conditions make for business as usual in Ethiopia for the more content non-G8 set. For the most part many of the business obstacles in Ethiopia have long been resolved or mitigated in G8 countries. As a cohort, those investors are more reluctant to operate outside the rule of law and clear regulatory environment. The policy, regulations, and rules of law on the books in Ethiopia need to get out of the books, off the shelves, and on to the street more openly and be put into practice.

The two principal infrastructure constraints most adverse to robust business growth and consumer prosperity are dependable energy and reliable telecommunication channels. The adverse impact of these two key resource areas alone will cost more in productivity costs than a reasonable investor could accommodate. These infrastructure constraints have improved several folds in Ethiopia over the past few years. Reliability varies by location but on the whole dependable. Many larger companies install their own back up diesel generators and VSAT where 24/7 connectivity is an absolute requirement. Weak transportation corridors and no sovereign seaport add additional risk for shipping and transport costs to markets outside the East Africa region. Internally, however, the road and air transport system is adequate for most shipping and transportation needs. All told these factors will reduce ROI to some extent and only moderately add to the risk. The counter factual to these major weaknesses is the lower cost of labor in Ethiopia and proximity to the largest consumer market in East Africa and arguably the largest market on the continent.

VI. SUMMARY OF GENERAL BUSINESS ENVIRONMENT AND OPERATING CONDITIONS – THE PROS AND CONS

Building business in an emerging economy such as Ethiopia brings with it a scorecard of risks and awards. How well balanced this score card is depends chiefly on the sector – those industrial sectors targeted under GTF will fare better than others, the global economy – which we have little control but nevertheless will impact output; and internal fiscal, monetary, and investment policies of GOW will affect yield. The trend line on these last factors seems to bode well for the private sector as GOE enters a new pro-business mode.

Pros for Investment	***Cons for Investment***
✓ A nascent economy transitioning from a command structure to a free market orientation	Lack of track record in free market economy
✓ Policy driven by GTP (Growth and Transformation Plan) a 5 year segment of a 10 year plan to make Ethiopia a middle-income country by 2025	Novelty of private sector engagement and uneasiness in managing change
✓ Population of 85 million with an urbanization rate of above 4% per year and majority of the population under the age of 35	Capacity of public institutions to manage rapid growth and demands on infrastructure
✓ Increasing enrollment in primary, secondary, and higher education. Growing number of government and private colleges	Low Educational attainment levels. High attrition rates among employers as skilled workers jockey for better-paying jobs.
✓ Welcoming incentives for private capital investment through Ethiopian Investment Agency (EIA)	Lack of post-business registration support.
✓ Good network among domestic businesses	Lack of state-of-the-art business intelligence (knowledge) for entrepreneurs and existing companies not using modern tools for business information and communications among and between sectors
✓ Overall positive perception of American enterprise and businesses	Competing countries offering creative finance schemes and lucrative incentives may outweigh country-affiliation preference
✓ Government keen on achieving growth	Capacity of government to manage growth in a transparent, structured and discipline manner.
✓ Large investment in infrastructure i.e., roads, water, electric, telecommunication	Capacity of services to meet demand that is growing at a faster rate.

VII. INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) SECTOR INVESTMENT OPPORTUNITIES

Investment Overview

The EIA identifies (a) Software, content, application, and database development, and (b) System integration and data center services as two principal areas for investment in ICT. The GTP places emphasis on manufacturing of ICT equipment such as computers and peripheral equipment, audio and video equipment, telephone apparatus, and production of semi-conductors and other electronic components. Assembly for domestic use and export is also a preferred investment area.

There are 15 million current mobile subscribers. By 2015, the end of the current GTP, the number is expected to increase to 40 million, representing an annual average growth rate of 60% per annum. Even at these high growth levels the overall *tele-density* currently stands at 20%[19], indicating that the market is far from saturated. The deficit in filling this void is expected to be found in the rural areas. The number of current internet subscribers is 870,000. This number will jump to 3.69 million by 2015. The number of internet users, including those accessing the Internet through proxies will jump to 12 million by2015. [20] Ethiopia presents an opportunity for investors to reap vast returns as the liberalization agenda gets underway.

There are indications that GOE will start to liberalize the telecommunications sector. One positive indicator is the appointment of France Telecom as a partner – on a revenue sharing basis – to assist with the management and technical operations of ETC. Liberalization will create a substantial set of investment opportunities in the ICT sector. It is expected that the liberalization agenda will include allowing competition into the mobile segment. In anticipation of this trend are several companies positioned to offer m-Banking services and other value-add product. Key uncertainties are the timing and scale of liberalization that will take place, but it is widely recognized that before the country sees any of the benefits of widespread communications access, it will need to allow the private sector to take a prominent role in developing the market.

Article 29, Sub Article 3 of the Federal Government Investment Board and Minister's Council Rule No. 84/1995 Articles 4 and 9 allows investments in the following areas:

1 Software, Content, Application and Database Development
2 System Integration and Data Center Service
3 Information Technology Enabled service, and
4 Production of ICT materials/machineries

Below are list of duty free ICT machineries and equipment for investment areas indicated under Article 3 (A to C) of this directive

5 Servers
6 Printers

[19] http://www.indexmundi.com/ethiopia/telecommunications_profile.html

[20] http://www.tsiglobalnet.com/reports.html?text3=ethiopia&button2.x=0&button2.y=0#icteth)

7 Personal Computers
8 Scanners
9 Laptops
10 Tools Bags with tools
11 Switches
12 Network Maintenance kit
13 Routers
14 Network analyzers
15 Cabling and Related Accessories
16 Wireless Networking Equipment
17 Software development kit
18 Backup and storage systems
19 Operating systems
20 Generator
21 Application Software
22 Air Conditioners
23 UPS
24 Books Related to the investment

As noted, the amount, quantity and type of machinery/equipment for manufacturing are extensive. The Ethiopian ICT Authority (EIA) is mandated to facilitate such imports when presented a list from an investor. EIA presents the list of items to the Customs Authority to expedite the import of the material duty free.

A. Risk Management and Mitigation

There are minimal downside risks associated with software application in the ICT sector. ICT-enabled services (applications) are primarily labor-intensive requiring minimal overhead. Well-positioned software services companies can tap the rapidly growing domestic market where cost of labor is low and standard of living is on the rise. There are ample business opportunities in the outsourcing market for both domestic and international customers especially from offshore companies that continue to seek software development from emerging economies where cost of labor is favorable to the industry. However, the unavailability of qualified labor is still a major risk factor in Ethiopia, notwithstanding; the cost of labor is the one factor that makes Ethiopia an appealing investment environment.

Given rising salary demands among ICT workers suggest significant strength of the market itself. One outsourcing company reported a 20% increase in salaries last year that they gladly implemented as human resource retention strategy. The increase was justified as necessary to address structural adjustment to the cost of living attributed to inflation. Still some companies use temporary immigrants to offset local labor shortage and costs. Professional developers from Kenya, as relayed by one company's experience, come in at salary levels below that paid their Ethiopian counterpart. In any event this same class of immigrant workers still earn below what is average pay in India or China.

Manageable yet moderate risk is associated with ICT hardware, network, and the equipment segment of the sector. The major impediments to more robust growth are costs and delays in the import of supplies and equipment. Whereas custom duties are low or zero for some products, the import process itself is encumbered by under-staffed custom officials working in a regulatory environment that is sometime ambiguous. Valuation methods are questionable and sometimes arbitrary and in some instances based on obsolete duty schedules. Anecdotal evidence suggests that when the value of equipment is considered to be too high the value is arbitrarily adjusted upward based on duties schedules not often at par with market value of the goods being imported. Domestic companies are known to work around this in collusion with suppliers to radically under invoice, knowing that the upward adjusted value will be more in line with the true value. With Ethiopia joining the World Trade Organization and adapting to GSP and other trade protocol these grey areas will close and most other constraints lifted over time.

Infrastructure

The quality of telecommunication infrastructure in Ethiopia is low. There are frequent drops in connectivity, loss of electrical power, and limited bandwidth preventing many businesses from leveraging this infrastructure to provide services. For example, businesses in the banking sector cannot provide customers with consistent access to ATM machines because systems are often down. This is not always attributable to network problems and may in fact be power-related. Regardless, knowledge of this limitation prompts Ethio Telecom to offer limited SLA to their VIP customers only. Customers pay a premium to receive service under these agreements usually resolved in the form of credit, but not necessarily improved services. This too will remedy itself over time as the network infrastructure catches up with demand and more competition is allowed into the market place.

Mobile communication rates are flat and relatively low in Ethiopia as compared to other countries, and excise tax on telecom services are 0% compared to neighboring countries that average 10%.

Human Resources

ICT is a rapidly evolving sector requiring constant retraining and certification of key personnel. System-wide there is a shortage of highly qualified developers and trainers in this space. Few training facilities are in-line with new technological trends resulting in expensive training cost and loss of productivity for companies working with cutting edge technology.

B. Summary and recommendations

The ICT sector offers the highest prospects for robust return on investments. It is probably the one sector that can offer products and services used by all sectors including the sector itself. ICT is one business expense no company can afford not to make.

As Ethiopia businesses expand and become more sophisticated players in the global market place, ICT products and services will become more essential to success. Outside of investing in human resource, ICT investments add more to efficiency, value, and improvement of the bottom line then nearly any other area of business investment. Although up-to-date statistics on ICT sector growth in Ethiopia are scarce, telecommunications and IT market growth from 2004-2005, the latest available years, indicate impressive potential.[21]

	Telecom revenues 2005			IT market revenues (US$ million) 2005					ICT revenues (Telecom & IT) 2005	
	US$ million	Change 04/05	% GDP	Software	Hardware	Services	Total	Change 04/05	US$ million	% GDP
Ethiopia	$185	33%	1.6%	$13	$31	$24	$ 68	14.8%	$ 253	2.3%

ICT products and services are still largely imported, suggesting an opportunity for companies having a strong foothold and presence in the country.

Given the growth of new and existing Small and Medium Enterprises (SME) in Ethiopia, as well as an ever-growing number of international corporate customers, the upward trend in ICT purchases is likely to

[21] "Trade in Information and Communication Services: Opportunities for East and Southern Africa", Trade in Information and Communication Services: Opportunities for East and Southern Africa, 2008.

continue. Principal value-add business opportunities on which all companies rely include: security systems, process control, inventory tracking, customer relations management, and other data for and information management. Any one of these areas suggests high growth potential. From these opportunities, the three following priority investments are particularly attractive:

1. Assembly as a New Business Opportunity

Given the positive business climate in Ethiopia, the best investment in ICT will be in those products and services that open up new markets through value-add processing and manufacturing and service improvement areas. For example, computer assembly presents offers the best upside potential, albeit a long term, on several fronts as it (1) conforms to the GFP for manufacturing goods that have export potential, and (2) is consistent with the GOE investment strategy for the ICT sector, (3) creates a wide range of employment opportunity outside of the traditional agricultural sector, and (4) will meet internal demand that continues to grow as the economy expands. The largest customer in Ethiopia is the GOE, and it has elected to take an e-Government path. There is no indication that this market segment will diminish over the long term.

2. Value-Add Services to Existing Businesses

a. **Outsource Services:** The lowest entry-level opportunity for investors is in software development outsourcing services for domestic and international customers. Software development is primarily labor intensive, requiring relatively high intellectual capital in order to compete globally. This presents its own challenges in Ethiopia given the dearth of well-skilled software developers and level of educational attainment. Human capacity concerns are relatively easy to mitigate by putting into place in-service training and skills upgrade programs which is important for any business operating in Ethiopia. To meet immediate workforce needs, an investor can hire temporary employees from other countries having excess labor with these skills sets, particularly from Eastern Europe, India, Kenya and other parts of Africa and Southeast Asia. The upside potential in this segment is strong.

b. **ICT Business Processes Enhancements:** Adding value to existing hardware and software investments already made by companies presents more immediate opportunity, and short term turn-around on the investment, given the extent and coverage of technology throughout the country and rapid pace of the sector overall. The step would be to provide high-end "top-off" training services for in-house development teams and outside software development shops. Another entry opportunity in this space is to offer customized service level agreements (SLA), which are in short supply or otherwise hard to come by. Both of these investment opportunities have low dollar entry requirements and rather short term return on investments with high growth potential over the long term.

1. Priority Investment: Computer Assembly

This business opportunity will take advantage of the liberal import incentives covering a wide range of electronic parts and fabrication equipment used in the manufacture of ICT equipment and components. There is a provision of the law (Art. 3.|D) which allows for the negotiated importation of essential components that otherwise would be subject to duty.

Background information

With the government keen on increasing the share of manufacturing in the country's GDP and making computer and laptops affordable, assembling and manufacturing desktop and laptop computers presents a good business opportunity in a large market area. Currently American branded desktop/laptops command higher prices and higher perception of quality in the Ethiopian and broader Eastern African market. The increase in demand for desktop and laptop computers is driven by Ethiopia's economic growth and the government's initiative for office automation in the public and private sectors. Currently, demand for computers is satisfied by imports from countries such as China and Malaysia, usually with little after-sale service –an area ripe for investment. Total GOE expenditure on ICT was over $440M USD in 2011/12 and expected to show growth throughout the GTP period ending 2015.

According to the 2006 UNCTAD report comparing the years from 2000 to 2003, Ethiopia ranked relatively high in the region for computer and information services exports:

Table 2-7: Exports of computer and information services, (US$)

	2000	2001	2002	2003
Ethiopia	$404,999	$2,047,760	$620,917	$313,538
Kenya	$370,421	$334,151	$681,150	$1,712
Rwanda	NA	NA	NA	NA
Sudan	NA	NA	$460,000	NA
Tanzania	$500,001	$543,667	$707,037	$204,584
Uganda	NA	NA	$648,359	$4,244,640

Note: NA = Not Available.
Source: UNCTAD, Information Economy Report 2006.

Market and Competition

The market potential for ICT product and services is large within Ethiopia and much larger when considering the broader East African region in which it is well positioned. Market competition is generally confined to product importers. This is incentivized by some companies that offer discount on hardware and software product sold in developing countries such as Ethiopia.

Previously, attempts made by local companies to assemble desktop computers under generic brand names in Ethiopia met with mixed results. But most were forced to terminate their business due to various reasons including hard currency shortage, changes in customer preference (customer wanting brand computers of higher quality), problems with logistics, and high licensing fees compared to assemblers in Asia.

Presently, however, Ethiopia's hard currency position has improved due to action by the GOE. Furthermore, banks give priority to hard currency requests made by manufacturing entities especially for those that have taken credit from them. The business level constraints (logistics and licensing fees) are symptoms of low capitalization and lack of managerial capacity. For example, to circumvent delay problems caused by Customs or processing of Letter of Credits, manufacturers in Ethiopia stock up to two months worth of raw material inventory in their warehouse while having another two month worth of inventory somewhere between the good's country of origin and Ethiopia. In regard to licensing cost, partnering with companies that offer discount on software products sold in developing countries such as Ethiopia can result in substantial cost savings.

Finance Model and Supporting Sources

As stipulated in the GTP manufacturing is a priority area for investment. The DBE is mandated to finance private investments that are aligned with government priorities. Although ICT is not a targeted investment for the DBE, it is not beyond the scope to finance ICT business initiatives contingent upon documented value-add contribution to the economy regardless of sector. The DBE in the past has provided funds to some of the mobile phone assemblers currently operating in Ethiopia. Furthermore, aside from the economic viability of computer assembly, the broader benefits that manufacturing will bring to the Ethiopian economy (i.e. job creation, skill transfer, and improved hard currency reserves) will keenly interest international financial institutions like the African Development Bank and the International Finance Corporation.

As a private equity model to emulate, Dell computer invested $30 million to open a desktop and laptop assembly facility in Chennai, India with a capacity to manufactures 400,000. The estimated unit cost was $75 USD. Similar cost estimate would be expected for the same type of installation in Ethiopia given relative parity in labor costs and production environments. Using the Indian investment experience as a comparison, we should expect similarly low-cost manufacturing in Ethiopia for these types of electronic assembly given comparable labor costs of doing business. When analyzing the cost over the price of imported products for retail sales, we should see a favorable profit margin, especially with GOE as a key consumer.

Risks, challenges and mitigation methods

- ✓ Cheap imports from China and other Asian Countries
  - Advocacy through the Chamber of Commerce to prevent dumping.
  - Standards quality certification of imports.
- ✓ Power Failure
  - Back-up Generator
- ✓ Political Risk
  - Political Risk Insurance
- ✓ Unskilled Labor
  - Provide in-house training
  - Partner with learning institutions to keep curriculum current and relevant.

Policies, regulations and legal constraints

The current tariff regime imposes duty charges on imported components for ICT equipment, except in the case for assembly where components parts and equipment are free from duty that falls under Article 3, Part D. In this area, GOE reviews requests for duty free privileges on a case-by-case basis and some companies have been granted duty free privileges. Again GOE places high value on manufacturing, export, and value-add assembly and fabrication that makes for a logical investment choice.

2. Priority Investment: Software Outsource Services

State-of-the-art outsource software development and network security services targeting ever-growing offshore customers and the domestic (Ethiopian) market. Business employs high-end software developers using quality state-of-the-art application programming frameworks for 4th generation application develop-

ment. This business will aim to capture the majority of the domestic market from non-ICT businesses having in-house programmers, while penetrating U.S. and other international corporations seeking low-cost, high quality software development services.

Background information

Increasing labor cost in countries like India is forcing many IT firms in the west to seek cheaper sources of qualified engineers. With the increasing number of engineering students completing their studies from colleges/universities coupled with an improving telecommunications network - providing software outsourcing activities in Ethiopia is a viable business opportunity. The global Software Outsourcing market was estimated to be over $40 billion and growing at 10% a year in 2009. Asian countries are the major players in this industry with India being the biggest due to its English speaking population and a large number of labor skilled in Engineering and Computer Science. Recent trends are showing that labor costs in previous Offshore outsourcing destinations are rising forcing many companies to find less expensive alternatives.

According to a 2006 UNCTAD report Ethiopia ranks highest in the region for exports of ICT-enabled services.

Table 2-6: Exports of ICT-enabled services by country (million US$)

	2000	2001	2002	2003
Ethiopia	$104	$104	$128	$176
Kenya	$33	$54	$34	$38
Rwanda	$3	$4	$4	NA
Sudan	$3	$4	$6	$4
Tanzania	$142	$137	$110	NA
Uganda	$8	$14	$15	$57
Total	**$293**	**$317**	**$297**	**NA**

Note: NA = Not Available.
Source: UNCTAD, Information Economy Report 2006.

Market and Competition

Several companies in Ethiopia have begun providing offshore services for U.S firms. Some are doing work building high end mobile applications for iPhones and Androids and others are providing Web Development services. Demand for such services from Ethiopia is growing and companies are turning down work because they are not able to keep up with demand.

Competition within the industry is low due to the availability of ample business opportunities and there is great opportunity for new entrants that especially have presence in western markets.

Finance Model and Supporting Sources

Because start-up costs for this business are low new investors typically raise private capital for financing operations. Once the business is established and generating cash flow the DBE can be tapped as a source of expansion appealing on several levels: (i) generation of in-flow of foreign currency; (ii) new job opportunities for ICT graduates; (iii) service provision for domestic corporations retaining capital in country; and (iv) providing domestic sources of software development for GOE. All of these objectives rank high in the government priority. Furthermore, private and public commercial banks that exist in Ethiopia can be used as a source of capital by putting up as collateral the letter of credit issued by service recipients.

Rental space for this type of installation above 250sq/m is $776 USD/month.[22] Dedicated Internet subscription cost for Internet with speed of 1mbs is $100 USD/month with a subscription fee of $20.20 USD. Currently, top tier programmers and engineers are paid a salary of approximately $705.88 USD/month for an average work week of five and half days. A mid-tier technician earns approximately $470.58 USD/month. And an average desktop computers are priced at under $1000 USD. Assuming a company starts with six top tier technicians and six mid-tier technicians, the estimated running cost for one year operation is projected as follows:

Risks, challenges and mitigation methods

Expense	Cost/Month (birr)	Cost/Year (birr)
Rent	13,200.00	158,400.00
Internet	1,700.00	20,743.48
Labor:	174.00	2,008.00
Tier 1 – Engineer(s)	72,000.00	864,000.00
Tier 2 – Developer(s)	48,000.00	576,000.00
Equipment and Material	96,000.00	96,000.00
Total Cost	***231,243.48***	***1,715,143.48***

- ✓ Lack of Skilled Labor
  - Select top 10% and provide in-house training.
  - Partner with learning institution to keep curriculum current and relevant.
  - Provide mentor and Internship programs for student while they are in school.

[22] Access Capital Price Database, 2011

- ✓ Internet Connectivity Problem
  - Design processes that don't require constant connectivity
- ✓ Ethiopia's image as being a poverty-stricken strictly agrarian society
  - Open office in foreign country to be face of company.
  - Work with Embassy and other export businesses to rebrand Ethiopia.
- ✓ Market readiness: Out of necessity government and commercial customers have engaged in their own software development practice in-house.
  - Cost-benefit promotion and marketing material demonstrating cost-savings and quality.
- ✓ Political Risk
  - Political Risk Insurance
  - DCA / OPIC

Policies, regulations and legal constraints

Current GOE policies and regulations for ICT exert no obvious constraints on software outsourcing work conducted in Ethiopia. On the banking side, repatriation of earnings back to foreign investors may be problematic when huge sums of currency are scheduled to leave the country. This is attributed to lack of hard currency. This is not unique to this sector and larger transactions, as disclosed by informants, indicate this is becoming less of an issue.

3. Priority Investment: High Intensity Top-Up Software and IT Engineer Training Center

This training center offers "top-off" skill sets in C++, Java, and other high-end programming languages used ins state-of-the part application development systems for stationary, cloud, and mobile applications as well as secure networking software. There are two revenue streams envisioned: (i) employees working on custom software applications or network security systems in commercial enterprises using ICT, and (ii) software development companies. The training is supplemental to underlying skill sets and offered as a B2B and B2G service.

Background information

Skills sets in highly sought-after software, network security, and varied mobile applications development are in high demand especially among software development shops and large companies which out of necessity have embarked on setting up their own software development and maintenance shops even when it is not their core business areas. Trainers are few and in such high demand that some are flown in from Nairobi, Kenya just to fill the gap – at a total cost that is less than that of local trainers with air fare included. Save for two Microsoft and Oracle training shops, no other *high-end* training is available, and even those suffer from economy of scale not always able to offer training because of limited market reach.

All high-end business enterprises in Ethiopia struggle to find top engineers for in-house systems and software design and program maintenance. All companies require software and network security services and either provide as in-house cost centers or outsource the same service to offshore or local developers. Software solutions providers have turned away work because lack of qualified labor pool.

Market and Competition

There are two identified ICT solution provider shops in Ethiopia. One is exclusive to an American owned mobile applications company. There is a growing demand for these services in the financial sector. Out of the 16 commercial banks operating have automated ACH (automated clearing house) functionality. Others rely on manual systems for check clearing as well as for loan transactions, intra-bank debit/credit transactions, and mobile banking automation.

Only in recent months has Ethio-Telecom installed short-code gateway services to accommodate the mobile banking business allowing for use of Unstructured Supplementary Service Data (USSD) for value-added mobile applications. USSD allows use of short-code messaging without needing a smart phone. This makes USSD applications especially relevant in Ethiopia and aligns with GOE initiatives to push low-end mobile phones to the farthest reaches of the country effectively opening more mobile transactions to an even wider market area. Ethio-Telecom even provides market entry devices for free to segments of the agriculture sector.

The demand for more Ethiopian content and service using TCP/IP (transmission control protocol/internet protocol) and USSD is expected to rise in advance of other sectors given investment levels in ICT. USSD integrated with Universal Integrated Circuit Card (UICC) for confidential data (health records, personal finances) will add further value to this sector and is likely to double the market potential. UICC is an integral part of every GSM subscription it can access a range of communication channels, including SMS and USSD, which are supported by all 2G, 3G and 4G devices".[23]

Financing Model and Supporting Sources

Private capital has been the core source of financing within the ICT sector. Companies often at their own expense provide training to technical staff. Training is becoming part of an ever-growing benefit package among some solutions provider.

A feasible financial model for this specialty area as well as other ICT investments can be profiled in a number of ways: Direct capitalization through a foreign registered corporation can take advantage of all appreciable tax benefits and import duties afforded foreign investors while benefiting from income tax holidays accorded software as an export product. Joint-partnership with a well-positioned domestic corporation needing capital for expansion and with capacity to extend manufacturing to include preconfigured software-installed box and component assembly would still preserve those benefits while reducing risk of operating on foreign soil. Spreading the risk by coupling with Diaspora would further secure the investment, as Diaspora are able to acquire "yellow card" status which allows them to operate essentially as foreign investors –accruing those benefits, while being treated as an Ethiopian national which allows easier access to the more restricted market areas.

Risks Management and Mitigation

The principal risk is on the demand side the equation. Is there enough demand to warrant outsource training that might otherwise be provided in-house? Often as companies expand they tend to drift from their core business and take-up business support services that are usually outside their core business model. This is especially true for software upgrades and system support. Over time companies find themselves more and more vested in systems support and less and less in core business development shifting valuable resources to keeping in-house programmers well trained. This tendency may slow but not lessen demand for high-end top-up training services over time. The principal mitigation measure in this case is an aggressive

[23] UICC Enabled Mobile-Health Systems Concept Paper prepared for GSMA, Stidham, James, 2012

marketing program on the cost-benefit of contracted training to software developers and systems engineers over in-house training remedies.

The secondary risk is unavailability of qualified trainers. As important as it is to meet or exceed industry standards in topping off skills sets, the source of this talent may initially have to be drawn from outside of Ethiopia where wages and the economies are at parity with Ethiopia but where the labor pool is overly supplied and prospects for employment at home are null. Short term immigrant workers from countries of comparable economic standing can provide temporary stop-gap measures for two to three years while the domestic human resource base is trained-up.

Policies, regulations and legal constraints

The policy and regulatory environments are conducive at this time of investment with no identifiable legal constraints or regulatory barriers.

APPENDIX A. Major Investment and Development Partners

Entity	Finance/ Investor	Tech-nical/ Advisory	Sector (H=Health; E=Energy; I=ICT)	Product/Service	Industry
AfD-French development Bank	X	X	E	Donor financing.	Bilateral
African Development Bank (AfDB)	X		E	Rural electrification. Ethiopia-Djibouti interconnector	Multilateral
Arab Bank for African Eco-nomic Development	X		E	Wolisso Rural Electrification project	Multilateral
AUC/ICS-UNIDO				regional geothermal energy project for East African Region (EAR)	
Austrian Development Agency	X		E	Small hydropower	Bilateral
China Exim	X			Tekeze Hydro Power project. Sululita-Bahir Dam transmission Line	Bilateral
CIDA Canada	X	X	H	Donor financing, e.g. bed net project	Bilateral
Coalition of Media against Malaria in Ethiopia			H	Malaria in Ethiopia (the umbrella organi-zation for civil society in malaria),	Reduced incidence and prevalence rates
DFID	X	X	E	Funding and technical assistance for re-newable energy and environment sectors	Bilateral
Ethiopian Development Bank	X		H, E, I	Financing for manufacturing, extracting and value adding projects	Finance, Ethiopian
Ethiopian Investment Agency		X	H, E, I	Support for investors; land acquisition,	

Entity	Finance/ Investor	Tech-nical/ Advisory	Sector (H=Health; E=Energy; I=ICT)	Product/Service	Industry
				utilities, permits and licenses.	
Ethio-Telecom			I	ICT – telephony and internet infrastructure and gateway services provider	Foreign-managed State Monopoly
European Investment Bank (EIB)	X		E	Urban power distribution expansion/rehabilitation. Large hydropower	Multilateral
GPOBA	X		E	Electricity Access Rural Expansion Project II	Multilateral
German Development Bank (KfW)	X	X	E	Focus on geothermal and other clean energy	Bilateral
German Federal Institute for Geosciences and Natural Resources (BGR) (GEOTHERM II)		X	E	Technical assistance for geothermal	Bilateral
Huawei			I	Hand held phone assembly	Manufacture
Indian Government			E	Rural Electrification projects	Bilateral
Information and Communication Ministry			I		
Italian Cooperation			E	Large scale hydro power (GG II/III)	Bilateral
Japan International Cooperation Agency			E	Geothermal	Bilateral
Kuwait Development Fund			E	Improvement of substations and the construction of transmission lines in the	

Entity	Finance/ Investor	Tech-nical/ Advisory	Sector (H=Health; E=Energy; I=ICT)	Product/Service	Industry
				Afar Region.	
Malaria Consortium			H		
MICT			I		GOE
Ministry of Industry			E, I		GOE
Ministry of Trade					GOE
National Bank of Ethiopia			H, E, I	Primary Commercial lender and regulatory control	
OPEC fund for international development	X		E	Suwala Key Afar Rural Electrification	Multilateral
PEPFAR			H	Health – HIV and allied health sectors	Centrally (Washington, DC) and locally (USAID and CDC) administered with multiple implementing partners
National Commercial Bank of Ethiopia					GOE
Royal Netherlands Embassy	X		E	Donor financing. Channels PSI (Private Sector Investment) programme funds.	Bilateral, Investor
Addis Univesrity, School of Information and Communica-tion Technology				Start-up of new program to train in prac-tical (non-theory) high-end ICT engineer-ing targeted to top level students (limited)	
Tana Mobile	X		I	Hand held phone assembly	Manufacture

Entity	Finance/ Investor	Tech-nical/ Advisory	Sector (H=Health; E=Energy; I=ICT)	Product/Service	Industry
The Arab Bank for Economic Development in Africa (BADEA)			E	-Funding the transmission lines and sub-station for SAWLA Key -Rural Electrification Project in "Gode-Kebridehar"	Bilateral investor
The Carter Center			H		
The International Finance Corporation (IFC)	X			agro-businesses, export oriented compa-nies	Multi-lateral
UNFPA					Multi-lateral
UNICEF			H		Multi-lateral
United Nations University-			E	Geothermal Training Program / UNU-KENGEN-GDC	
USAID	X	X	H, E, I	Technical advisory, credit guarantees, po-litical support, commercial desk,	Bi-Lateral
WHO			H	Health – Standards setting, Advisory and common agenda facilitators	Recipient National Con-tributors with regional and headquarter authority
World Bank	X	X	H,E,I	Loans and Technical Support, ESMAP	Multi-lateral
ZTE	X		I	Hand held phone assembly	Manufacture

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