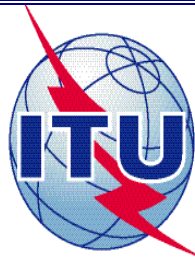


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**International
Telecommunication
Union**

Final Third Version

of the

**Report on Universal Access and Service Funds (UASFs)
in the
Sub-Saharan Africa (SSA) Region**

presented to the

ITU Regional Office for Africa

on

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by

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Executive Summary

The objective of this Report is to present the specific experience of Universal Access and Service Funds (UASFs) in the Sub-Saharan Africa (SSA) Region. This Report was prepared by Edgardo Sepulveda, the "ITU Consultant". The Report is based on primary data collected directly via a questionnaire and on secondary national-level data. 35 ITU Member-States responded to the questionnaire by December 31, 2009 (the "Responder" countries).

Of the Responder countries, 25 have legally created UASFs, of which 15 have been made operational. In total, these 15 UASFs are collecting about US \$140 million per year and have collected a cumulative total of about US \$468 million. However, these have disbursed a cumulative total of about US \$40 million, equivalent to a disbursement ratio of 12.7% of the collected amounts. This ratio is lower than the disbursement ratio of 31.7% found in Latin America.

The Report found a strong relationship between receiving grant (and loans) revenues for UASFs and overall disbursing, suggesting that grants and the related technical assistance appear to "jump-start" the disbursement process.

The eight Yes Disburse countries have a much higher ratio of administrative expenses than the seven No Disburse countries, suggesting that the challenge to disburse is related to the appropriate and significant allocation of administrative budget.

The Report also found significant differences between the Yes and No Disburse countries with respect to administration and governance issues. UASFs that have been established as distinct Administrative Entities, governed by a Board (of the UASF or the NRA), with a group of dedicated staff and a strategic plan are more likely to be able to disburse UASF monies. In contrast, UASFs that have been established as Accounts only, governed by a Management Committee presided by a Minister, with no dedicated staff or strategic plan are less likely to be able to disburse UASF monies.

With respect to the collection mechanism of UASFs, the Report found no significant differences between the Yes and No Disburse countries – for both groups the major source of revenues are sector contributions. The Yes and No Disburse countries have collected approximately the same total amounts by year 2009, US \$239 million and \$229 million, respectively.

For the Yes Disburse countries, we found that most countries have implemented more than one type of Project and that most Projects were awarded based on a competitive selection process and the subsidy level established by the selected candidate based on its proposal. In terms of services, there was a focus on some combination of public voice access, private voice service and public Internet access.

Highlights of the ITU Consultant's analysis:

- The Responder Countries have generally followed the reform-oriented recommendation to legally create and, to a lesser extent, to administratively establish UASFs. The legal, administrative, collection and disbursements frameworks have been similar to those of other developing countries outside the SSA Region
- However, in practice, the UASFs have struggled with the implementation aspects of disbursement, which has resulted in the accumulation of unused reserves in UASFs. These monies are likely not being productively used, with a significant negative developmental impact. The problem of a low disbursement ratio is not unique to the UASFs in the SSA Region, although it appears to be particularly acute among them. The ITU Consultant's diagnosis is that some of the UASF models that have been adopted have been less successful than expected in this respect because of a number of structural, governance and institutional capacity issues discussed in the Report. The ITU Consultant has prepared recommendations to improve the performance of the UASFs with respect to the disbursement issue, as follows:
 - Establish a UASF as a distinct administrative entity, or an internal unit within the NRA, governed by a Board (of the UASF or the NRA) with a dedicated leader and a group of dedicated staff.
 - Make it a legal requirement that the UASF operate based on a specific Strategic Plan.
 - Consider outsourcing the UASF disbursement function to professional, third-party commercial entities.
 - Establish a sunset provision on UASFs so that their performance may be reviewed every 4-5 years and they may be disbanded if necessary, with any accumulation of unused reserves returned to the operators in proportion to which they paid, and/or transferred to the Government.
 - Establish a graduated collection amount, with a relatively modest maximum in the range of 0.5% to 1.5% of sector revenues that varies year-by-year depending on the demonstrated capacity of the UASF to disburse. This could include a moratorium on collections if no disbursements are taking place.
 - Undertake practical capacity-building based on learning-by-doing, including the identification, design, tendering and awarding of projects. The initial focus of such activities could be on targeted pilot projects involving limited geographic areas, rather than large-scale national deployments. The pilot projects should be designed to maximize a successful outcome while also providing step-by-step implementation experience and support for the UASFs. This could be a focus of international and regional development partners' technical assistance efforts.

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Glossary

ABT	Agreement on Basic Telecommunications
DG	Director General
FTE	Full-time equivalent (staff)
FTRA	Forum on Telecommunication/ICT Regulation and Partnership in Africa
FTRA-2009	Tenth FTRA, held in 2009
GNI	Gross National Income
ICTs	Information and communications technologies
IDI	ICT Development Index
ITU	International Telecommunication Union
MIS	Measuring the Information Society
NRA	National Regulatory Authority
PC	Personal Computer
QoS.	Quality of Service
Regulatel	Latin-American Forum of Telecommunications Regulatory Entities
SLA	Service Level Agreements
SMS	Short Message Service
SSA	Sub-Saharan Africa
UAS	Universal Access and Service
UASF	Universal Access and Service Fund
USP	Universal Service Provider
WB	World Bank
WDI	World Development Indicators
WTI	World Telecommunications Indicators
WTO	World Trade Organization

1 Introduction

This is the Final Third Version of the Report on Universal Access and Service Funds (UASFs) in the Sub-Saharan Africa (SSA) Region (hereinafter referred to as the Report), prepared by Edgardo Sepulveda of Sepulveda Consulting (hereinafter referred to as the ITU Consultant) as the deliverable of two ITU-financed and administered Special Service Agreements (hereinafter referred to as the Contracts). As such, the views in the Report are those of the ITU Consultant and do not necessarily represent the views of ITU and its membership.

The objective of this Report is to present the specific experience of UASFs in the SSA Region. The Report places this experience in the context of the current framework for the analysis of universal service and the experience with UASFs outside of the SSA Region. The Report is based on primary data collected directly from the SSA Region countries via a questionnaire specifically designed for the Report (hereinafter referred to as the Questionnaire), and on other secondary national-level economic, demographic and telecommunications-related data obtained from publicly-available international sources (hereinafter referred to as the Other Data).

The ITU Consultant submitted a First Version of the Report to ITU on May 14, 2009. That version was based on the responses to the Questionnaire from 26 countries received by that date and the available Other Data. The First Version was presented by ITU at the tenth Forum on Telecommunication/ICT Regulation and Partnership in Africa (FTRA-2009) held in Lusaka, Zambia during May 20-22, 2009 (see <http://www.itu.int/ITU-D/afr/events/FTRA/2009/index.html>).

The ITU Consultant prepared this Final Third Version taking into account the results of the FTRA-2009 (specifically the Final Communiqué, available at http://www.itu.int/ITU-D/afr/events/FTRA/2009/docs/2009_FTRA_Final-communication-en.pdf) and others comments (including from the ITU), and integrates the responses to the Questionnaire from nine additional countries received between May 15 to December 31, 2009, and updates the Other Data.

The rest of the Report is structured as follows:

- **Chapter 2** presents a high-level overview of the global trends in relation to UASFs around the world, including the corresponding analytical and conceptual framework and the current thinking on the experience of UASFs outside of the SSA Region.
- **Chapter 3** presents the countries included in the Report and presents an overview of the national economic, demographic and telecommunications-related data from international sources.
- **Chapter 4** presents the summary results of the Questionnaire by the Responder Countries, focussing its comparison and analysis on those countries that have established a UASF.
- **Chapter 5** presents the Report Conclusions.
- **Annex A** is the English-language version of the Questionnaire.
- **Annex B** includes the 10 recommendations from the FTRA-2009 Final Communiqué.

2 UASF Global Trends

This Chapter presents a high-level overview of the global trends in relation to UASFs around the world, including the corresponding analytical and conceptual framework and the current thinking on the experience of UASFs. This overview is presented as general background only and to provide context to the subject matter of the Report and does not constitute new work.

This overview is based on the ITU Consultant's international experience working with UASFs and the ITU Consultant's reading and interpretation of the policy and other related literature on UASFs, including, among others, the following (together, the "UASF Literature"):

- Module 6 (Universal Service) in the *Telecommunications Regulation Handbook* (2000) by Edgardo Sepulveda (Hank Intven, editor).
- *Telecommunications and Information Services for the Poor: Toward a Strategy for Universal Access* (2003) by Juan Navas-Sabater, Andrew Dymond and Niina Juntunen.
- *Trends in Telecommunications Reform: Promoting Universal Access to ICTs – Practical Tools for Regulators* (2003) ITU (by various authors).
- *New Models for Universal Access to Telecommunications Services in Latin America* (2007), by Peter Stern and David N. Townsend for the Foro Latinoamericano de Entes Reguladores de Telecomunicaciones – Regulatel (the Latin-American forum of Telecommunications Regulatory Entities) (the "Regulatel Study").
- "Telecommunications and Economic Development" Chapter 14 in *Handbook of Telecommunications Economics* Volume 2 (2006) by Bjorn Wellenius and David N. Townsend.
- *Module 4. Universal Access and Service of the ICT Regulation Toolkit* (2008) by Intelecon Research and Consultancy Limited.

2.1 Mechanisms to promote Universal Service

There are a number of separate and distinct types of mechanisms to promote universal service. Each has its own inherent advantages and disadvantages, some of which may make each more or less appropriate for particular countries, depending on national and sector conditions. These are summarized below. Note that some of the mechanisms below may be adopted in different combinations, while others are mutually exclusive, and others should be adopted only in specific combinations.

- **Traditional state-owned monopoly model.** The incumbent operator maintains universal service as integral part of its monopoly mandate, traditionally resulting from "give and take" discussions and/or negotiations with the Government.

- **Advantages:** Lower costs for the Government to administer this regime; any losses resulting from below-cost provision of services and/or networks are borne by the incumbent operator via internal cross-subsidies.
- **Disadvantages:** Difficult for the Government to assess “give” and “take” amounts and hence to assess whether citizens are getting a “fair deal” with respect to universal service in return for the costs of monopoly.
- **License-based roll-out/coverage obligations.** These include provisions/obligations in the corresponding licences of individual operators to extend or maintain certain types of networks and/or services on a geographic, population, or other basis. Under this regime the individual operators do not receive any explicit compensation; rather, the expectation is that they take this “cost” into account in their calculation of the price to be paid for acquiring the licence or other considerations.
 - **Advantages:** Lower costs for the Government to administer this regime. Any costs of providing universal service beyond what the operator would commercially undertake are borne by the operator.
 - **Disadvantages:** In practice, these types of obligations have been relatively modest, and most have been easily surpassed by operators on a voluntary basis, suggesting that they did not constitute below-cost universal service-type obligations. These types of obligations are relatively complex to co-ordinate in multi-operator competitive environments.
- **Market-Based Reform - Competition** – Given that monopolies restrict output and increase prices, the introduction of competition should increase output and lower prices.
 - **Advantages:** Incentive to operators to serve all commercially-viable subscribers/areas.
 - **Disadvantages:** Non-commercially viable populations/areas not likely to be served.
- **Market-Based Reform - Privatization** - State ownership can restrict expansion/output because of budgetary constraints.
 - **Advantages:** Budget constraints may be lifted/reduced as a result of privatization, allowing the privatized operator to borrow and/or maintain surplus revenues to expand output.
 - **Disadvantages:** Private operators not interested in loss-making or profit-reducing initiatives.
- **Establishment of UASF.** Given competition and privatization-based market reforms, explicit compensation arrangements / regulatory intervention are often needed to undertake loss-making universal service initiatives. For instance, a privatized operator will not have an interest in loss-making activities that are not compensated. Further, incumbent operators that face competition from operators without the same type of obligations will complain that there is not a “level playing field”. The objective of UASFs is to finance the expansion and/or

maintenance of designated networks/services on a geographic, population, or other basis that would not otherwise be commercially sustainable. UASFs provide financing (subsidies) to compensate designated universal service providers (USPs).

- **Advantages:** Independent and transparent mechanism to implement and maintain universal service initiatives while continuing and promoting market reforms.
- **Disadvantages:** Very high administration and capacity requirements for the Government to administer this regime. This is essentially with respect to disbursement of UASF monies – in contrast, it appears that it is relatively easy to collect monies for UASFs, independent of country. High-income countries have overcome these high disbursement costs because of economies of scale and relatively higher-capacity administrations. They have generally adopted regimes with higher up-front design costs but very low ongoing costs (see below). On the other hand, many low-income countries have struggled considerably with high disbursement costs because of lack of economies of scale and relatively lower-capacity administrations. They have generally adopted regimes with high up-front design costs and high ongoing costs (see below).
- **Government-funded initiatives.** Around the world there are a vast number and variety of Government-financed and/or promoted initiatives to promote ICTs. These initiatives take different forms, but can include PCs in schools and other public institutions, broadband expansion paid for by Governments, etc. - promoted and/or financed by Governments. The difference between these Government initiatives and UASFs is that the former do not generally include regulatory obligations or financial contributions for the sector operators, while the latter do generally include regulatory obligations and financial contributions. Government initiatives, therefore, generally have a significantly larger scope than do UASFs and, conceptually, such initiatives can be considered as an extension of the traditionally-provided Government goods and services.
 - **Advantages:** Relatively medium administration costs for the Government. Price or initiatives shared by all population.
 - **Disadvantages:** Not permanent; subject to political decision-making; amount of funding may not be optimal.

Taking the above into account and the UASF Literature, the strong trend in the last 5-10 years around the world has been for the legal creation and ultimate establishment of UASFs, especially in countries that have taken other comprehensive sector reforms.

2.2 Key elements of UASFs

Most UASFs have a number of elements that can be used to describe and analyze them. These are summarized below.

2.2.1 Scope

This relates to the geographic, population and service coverage of the UASF. Successful UASFs have made a clear link between the scope of the UASFs and the monies available. In this instance, UASFs are generally not used as mechanisms to finance the relatively large-scale roll-out of new services and technologies; rather, UASFs are used as “safety nets” to allow a minority of consumers to maintain their position or catch up relative to the majority who already enjoy the corresponding services.

2.2.2 Collection

This relates to the nature of how the UASF is financed. According to the UASF Literature and this Report, telecommunications sector levies/contributions are the most common and generally most sustainable financing mechanisms. The best practice is to calculate sector contributions based on a percent of revenues. Other forms of financing includes direct funding from Government or the proceeds from privatizations, auctions, license fees, etc., but these are generally less than 5% of all UASF monies.

2.2.3 Administration

There are a number of principal models in this respect (and different variations), summarized below:

- **Legally independent and separate administrative entity (UASF) that controls the UASF account.** This could be a single-sector or multiple-sector entity. The UASF is usually governed by a Board of the UASF (or some similar grouping) and administered on a day-to-day basis by a Director General (DG) of the UASF (or some similar title). In addition, this entity has dedicated staff to administer the activities of the UASF.
- **Legally dependent and distinct administrative entity that controls the UASF account.** This could be a single-sector or multiple-sector entity and is typically part of the NRA. The UASF is usually governed by a Board of the NRA (or some similar grouping) and administered on a day-to-day basis by a Director of the universal service department or division of the NRA. In addition, this entity has dedicated full-time personnel to administer the activities of the UASF, for instance a Universal Service department or division as part of the NRA.
- **Third-Party entity administers and manages the UASF account.** Based on detailed process and procedures established up-front by the NRA and based on the universal service policy established by the NRA, a legally-distinct third party entity (expert in management and administration) actually implements the universal service regime, including handling disbursements (the “Fund Administrator”). The Fund administrator is a commercial entity or a special-purpose, not-for profit entity, often owned on a cooperative basis by the contributing operators. For instance, some of these elements describe the situation in Canada and the USA.

- **Establishment of the UASF account only.** There is no UASF entity as such. The UASF account is usually governed by a special-purpose Board (usually presided by MinCom or some similar senior Government representative), and administered on a day-to-day basis by the DG of the NRA. There are, therefore, no dedicated personnel to administer the activities of the UASF account.

2.2.4 Size

This is with respect to the amount of money to be collected, administered, and ultimately disbursed by UASFs. Based on the UASF Literature, most UASFs mechanisms generally collect less than 5% of sector revenues, usually in the range of 0.5% to 2.5%. The largest UASFs in the world are in India (about US \$500-550 million per year allocated) and in the United States (about \$5,600-6,000 million per year collected).

2.2.5 Selection of Universal Service Providers (USPs)

One of the key elements is how UASFs select USPs to actually implement or maintain the universal service initiatives. There are two main approaches:

- **Prior-designation of USP.** One operator (typically incumbent fixed operator) is obligated to provide/maintain designated services in designated area. This usually requires separate accounting and/or compensation calculated by UASF. This approach has generally high up-front design administration costs but very low ongoing administration costs.
- **Project-by-project selection of USPs.** This includes the designation, on a project-by-project basis, of one operator to provide and maintain, on a mandatory basis, certain types of services to consumers that request those services, at the designated tariff. This designation will have a defined geographic and/or population specification, so that the corresponding operator is the designated USP for a specific project. This designation typically occurs based on competitive selection process, typically based on the minimum subsidy available for the corresponding project. This approach has high up-front design costs and high ongoing administration costs.

2.3 Universal service conceptual framework

There are different approaches to the presentation of the conceptual framework described below. The description below is based on the observation that the main determinants of coverage tend to be the income of current and potential subscribers and the cost of providing a designated service to those subscribers. In this context, the challenges of achieving universal service therefore relate to poverty and areas that are relatively more costly to serve (high-cost areas). Poverty, of course, exists in both urban and rural areas; however, the cost of addressing both poverty and high-cost areas together, as exists in many rural settings, is much higher.

Therefore, on the Y-axis is “income / revenues,” with the arrow pointing towards the intersection of the X and Y axes denoting that income is increasing in that direction. The Y-axis is “remoteness / cost,” with the arrow pointing outward from the intersection of the X and Y axes,

denoting that costs are increasing in that direction. In summary, we are likely to have service near the intersection of the X and Y axes, where subscribers are relatively high income and are relatively low cost to service. In contrast, there is unlikely for service to be present in the upper right hand regions, where subscribers are relatively low income and geographically in high-cost areas.

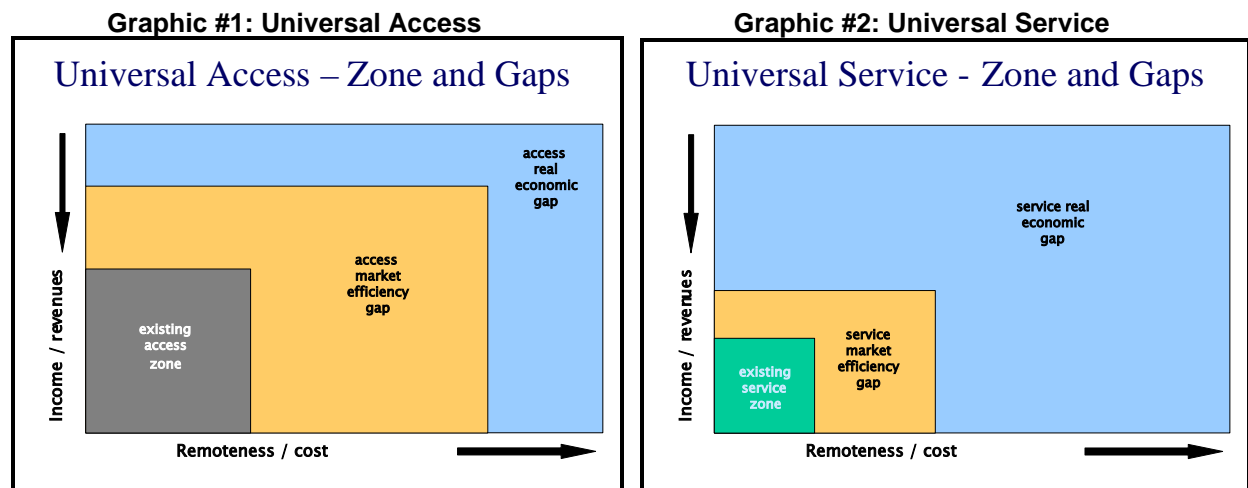
For any particular type of designated service, there are different types of zones and gaps, as shown in Graphics #1 and #2:

For Graphic #1, related to universal access:

- **Existing access zone:** Areas where the population can obtain public access to the designated service through reasonably available public or community facilities.
- **Access market efficiency gap:** Areas outside the existing access zone and where provision of access is estimated to be commercially profitable under market conditions.
- **Access real economic gap:** Areas outside the existing access zone and where provision of access is estimated to be commercially unprofitable under market conditions.

For Graphic #2, related to universal service:

- **Existing service zone:** Areas where the population are reasonably able to subscribe to and use the designated service on an individual or household basis.
- **Service market efficiency gap:** Areas outside the existing service zone and where provision of service is estimated to be commercially profitable under market conditions.
- **Service real economic gap:** Areas outside the existing service zone and where provision of service is estimated to be commercially unprofitable under market conditions.



2.4 Summary of UASF experiences

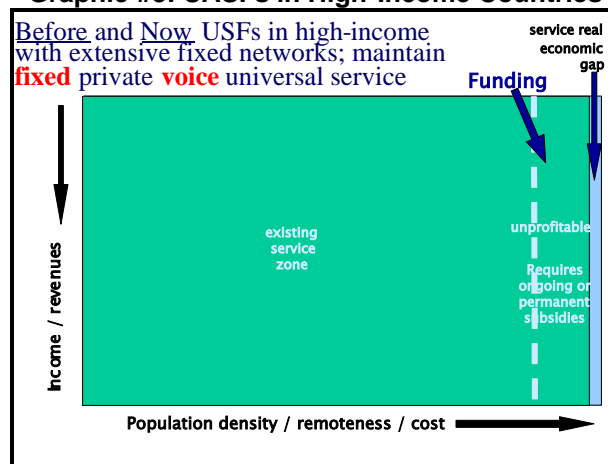
This section summarizes the current thinking on the experience of UASFs outside of the SSA Region, divided between high-income countries and low-income countries.

2.4.1 High Income Country Experience

UASFs in high income industrialized countries have generally given highest priority to the maintenance of existing fixed private (individual) voice telephony access in high-cost service areas or other designated non-economic zones. Examples include Canada, Australia, France, Italy, USA, etc. Some of the common elements of the countries / UASFs include the following:

- Larger (geography & population), high-income, with extensive fixed networks. Extensive fixed networks in place before extensive mobile networks. Initially, mobile is a complementary service for most; economic and other impact has been incremental.
- Prior designation of USP, therefore no tenders. Collection based on broad revenue-based sector contributions.
- Services – Always: voice individual fixed. Sometimes: Internet public access. Experimental: Subsidized pre-paid mobile handsets.
- Disbursements – The UASFs in high-income countries have generally been able to fully disburse all of the monies that have been collected.
- Graphic #3 is a conceptual summary of the high-income country situation and the corresponding UASFs.

Graphic #3: UASFs in High-Income Countries



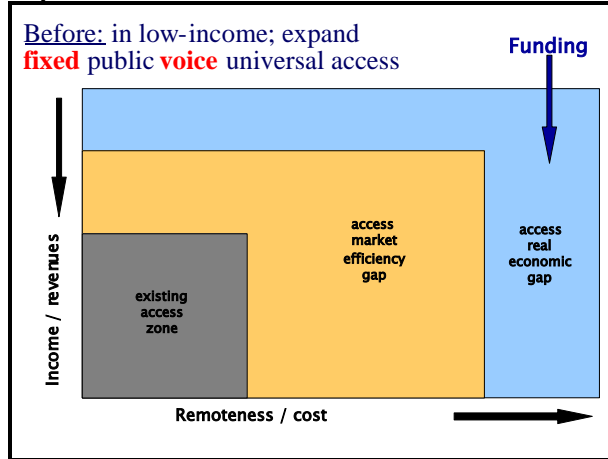
2.4.2 Low Income Country Experience

UASFs in low-income industrialized countries have generally given highest priority to the financing of new public voice telephony and Internet access in rural and other designated relatively underserved zones. Some UASFs also include the provision of new private

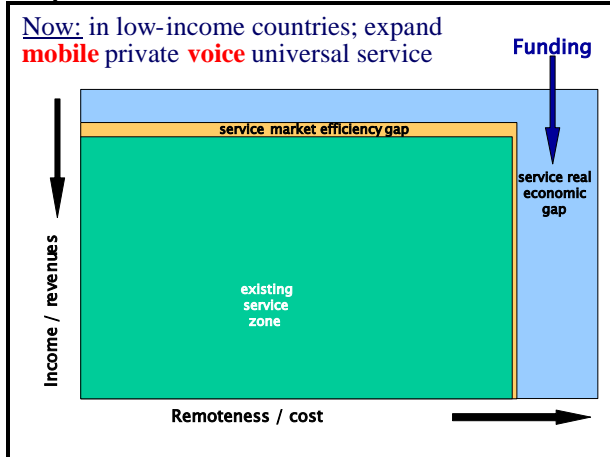
(individual) voice telephony access. Public access to voice telephony is generally implemented via payphones or tele-kiosks. Public access to Internet is generally implemented via Internet-equipped telecentres. All have been undertaken based on the project-by-project selection of the USP. Examples include Chile, Colombia, India, Peru, etc. Some of the common elements of the countries / UASFs include the following:

- Larger (coverage & population), low-income with small fixed network. Very limited fixed network (main cities only; virtually none in extensive rural areas, where most population resides) before extensive mobile networks/uptake (high coverage by mobile signal).
- Project-by-project designation of USP, therefore tender open to existing and yet-to-be-licenced operators. Collection based on broad revenue-based sector contributions. Most UASFs rely exclusively on revenue-based sector contributions.
- Service – Initially: voice and/or public access (fixed and/or VSAT); Now: voice private access (infrastructure to provide mobile signal) and some Broadband initiatives.
- Disbursements – The UASFs in low-income countries have generally struggled to fully disburse all of the monies that have been collected. According to the Regulatel Study the 13 countries in Latin America that had established UASFs had collected a cumulative amount of US \$2,618 million, but had only disbursed US \$297, for an overall revenue-weighted disbursement ratio of 11%. Of the countries that had disbursed some monies, the revenue-weighted disbursement ratio was 40%. The overall result of 11% is skewed by Brazil, which has the largest collections (US \$1,681 million) but because of ongoing legal and institutional disputes has disbursed zero. Together, the other 12 countries had collected US \$938 million and disbursed US \$297 for a cumulative revenue-weighted disbursement ratio of 31.7% (the “Latin American Disbursement Ratio”). The level of the Latin American Disbursement Ratio is more representative of the average performance of the countries in the Regulatel Study, given that:
 - Three countries had achieved disbursement ratios of above 95%.
 - The unweighted disbursement ratio was 34.1% for all 13 countries (including Brazil) and 36.9% for the 12 countries excluding Brazil.
- Graphics #4-6 provide a conceptual summary of the low-income country past and current situation and the corresponding UASFs.

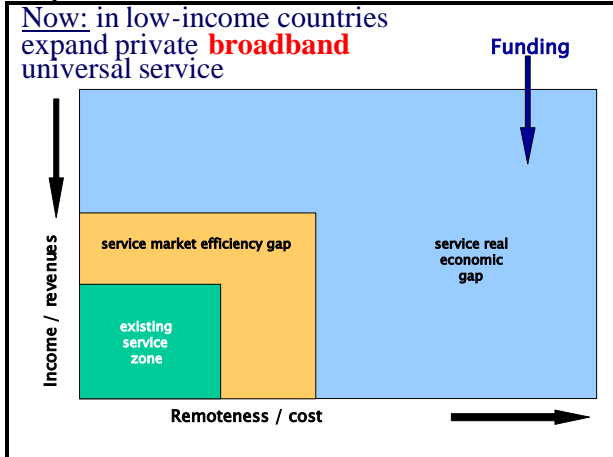
Graphic #4: Before: Low-Income Countries UASFs



Graphic #5: Now: Low-Income Countries UASFs



Graphic #6: Now: Low-Income Countries UASFs



3 Data Collection and Analysis

This Chapter presents the countries included in the Report and presents overview national economic, demographic, and telecommunications-related data from international sources.

3.1 Countries in the Study

The Study included all 45 ITU Member-States in the SSA Region. A total of 35 countries responded to the Questionnaire by December 31, 2010 (the “Responder Countries” or the “Responders”). These countries are included in Table 1.

Angola	Ghana	Mozambique
Benin	Guinea	Namibia
Botswana	Guinea-Bissau	Niger
Burkina Faso	Ivory Coast	Nigeria
Burundi	Kenya	Rwanda
Cameroon	Lesotho	Sao Tome & Principe
Cape Verde	Liberia	Senegal
Chad	Madagascar	Tanzania
D. R. Congo	Malawi	Togo
Equatorial Guinea	Mali	Uganda
Ethiopia	Mauritania	Zimbabwe
Gambia	Mauritius	

Therefore, a total of 10 countries had not responded to the Questionnaire by December 31, 2009 (the “Non-Responder Countries” or the “Non-Responders”). These countries are included in Table 2.

Central African Republic	Seychelles	Swaziland
Congo	Sierra Leone	Zambia
Eritrea	Somalia	
Gabon	South Africa	

3.2 Summary of Questionnaire

The English-language Questionnaire is included as the Annex. The Questionnaire was designed by the ITU Consultant. The ITU translated the Questionnaire into French. The ITU distributed these Questionnaires to the 45 ITU Member-States of the SSA Region, and collected and forwarded the completed Questionnaires to the ITU Consultant.

The Questionnaire was designed to gather internationally-comparable information on the main elements of UASFs, as set out in Chapter 2.

3.3 Other Data

In addition to the primary data gathered in the context of the Questionnaire, the ITU Consultant undertook a comprehensive search for compilation and analysis of secondary national-level statistics. The 16 indicators used in the rest of the Report and described below were taken from the following three sources:

- The World Bank's 2010 *World Development Indicators* (WDI)
- The ITU's 2010 *World Telecommunications Indicators* (WTI)
- The ITU's 2009 *Measuring the Information Society: The ICT Development Index* (MIS)
- The World Trade Organization (WTO) on WTO Member-States and whether signatory of the WTO's Agreement on Basic Telecommunications (ABT).

3.4 Description of Indicators

This section provides a summary description of each of the 16 indicators taken from the WDI, the WTI and the MIS:

- **Indicator #1 – GNI/capita (US\$).** This represents Gross National Income (GNI) per capita for each of the countries, presented in US dollars. GNI is the preferred national income indicator used by the World Bank to compare national economies. Data is from the WDI for 2008.
- **Indicator #2 – Pop (m).** This presents the national population, expressed in millions of inhabitants. Data is from the WDI for 2008.
- **Indicator #3 – Area (k of sq. km).** This is the surface area of the national territory, in thousands of square kilometres. Data is from the WDI for 2008.

- **Indicator #4 – IDI (ITU).** This presents the new ICT Development Index (IDI) developed by the ITU in the MIS for the year 2007. The IDI incorporates different aspects and lessons learned from previous ITU composite indices. It includes 11 indicators in 3 subcategories:
 - Infrastructure and Access: Fixed density, Mobile density, International Internet Bandwidth (bit/s) per Internet user, Proportion of households with a computer; Proportion of households with Internet access at home.
 - Use: Internet users per 100 inhabitants, Fixed broadband Internet subscribers per 100 inhabitants, Mobile broadband subscriptions per 100 inhabitants.
 - Skills: Adult literacy rate, Gross enrolment ratio (secondary and tertiary level).
- **Indicator #5 – Sector Revenue %GNI.** This indicator presents the total telecommunication sector revenues (from the WTI) as a percent of the total GNI (from the WDI) for the year 2008. This represents the relative size of the telecommunications sector compared to the national economy as a whole.
- **Indicator #6 – Fixed Density (%).** This indicator is defined as the number of fixed lines per 100 inhabitants. Data is from the WTI for 2008.
- **Indicator #7 – Mobile Density (%).** This indicator is defined as the number of mobile subscribers per 100 inhabitants. Data is from the WTI for 2008.
- **Indicator #8 – Mobile Pop Cover (%).** This is an estimate of the percentage of the national population that resides in geographic areas covered with mobile cellular radio signal. Data is from the WTI for 2008.
- **Indicator #9 – Internet Density (%).** This indicator is defined as the number of fixed-line Internet subscribers per 100 inhabitants. Data is from the WTI for 2008.
- **Indicator #10 – Internet Users (%).** This indicator is defined as the number of Internet users per 100 inhabitants. Data is from the WTI for 2008.
- **Indicator #11 – PC Density (%).** This indicator is defined as the number of PCs per 100 inhabitants. Data is from the WDI for 2008.
- **Indicator #12 – Fixed Basket (US\$).** Aims to capture the average monthly cost of a fixed residential telephone service. It includes the monthly subscription fee plus the cost of thirty 3-minute local calls to the same (fixed) network (15 peak and 15 off-peak calls), presented in US dollars. The data is taken from the MIS and corresponds to the year 2008.

- **Indicator #13 – Mobile Basket (US\$).** This indicator represents the monthly cost of a basic mobile cellular subscription. The monthly usage is determined following the OECD/Teligen methodology. It consists of 25 outgoing calls per month (on-net, off-net and to a fixed line), plus 30 SMS messages, presented in US dollars. Data is from the MIS for the year 2008.
- **Indicator #14 – Internet Broadband Basket (US\$).** Represents the broadband tariff for a typical fixed broadband (any dedicated connection to the Internet at speeds equal to, or greater than, 256 kbit/s, in one or both directions) offer, presented in US dollars. Data is from MIS for the year 2008.
- **Indicator #15 – WTO.** This indicator shows whether the country is or is not a member of the WTO. If the country was WTO member as of December 31, 2008, the column shows a “1”; if not, it shows a “0”. Data is from the WTO web-site.
- **Indicator #16 – ABT.** Whether the country is or is not a signatory of the ABT. If the country was an ABT signatory as of December 31, 2008, column shows a “1”; if not, it shows a “0”. Data is from the WTO web-site.

3.5 Data for Countries (16 Indicators)

Table 3 presents the data for the 16 Indicators for the Non-Responder Countries.

	Indicator	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16
	Country	GNI/capita US\$	Pop (m)	Area (k of sq. km)	IDI (ITU)	Sector Rev % GNI	Fixed Density %	Mobile Density %	Mobile Pop Cover %	Internet Density %	Internet Users %	PC Density %	Fixed Basket US\$	Mobile Basket US\$	Internet Basket US\$	W T O	A B T
#1	Central African Republic	\$410	4.4	623	...	0.8%	0.3%	3.5%	19%	0.1%	0.4%	0.3%	\$11	\$13	\$1,396	1	0
#2	Congo	\$1,970	3.6	342	1.37	1.7%	0.6%	50.0%	53%	0.0%	4.3%	6.3%	...	...	...	1	0
#3	Eritrea	\$300	5.0	118	1.00	3.3%	0.8%	2.2%	80%	0.1%	4.1%	0.3%	...	...	...	0	0
#4	Gabon	\$7,240	1.4	268	2.14	2.2%	1.8%	89.8%	79%	0.8%	6.2%	5.2%	...	...	...	1	0
#5	Seychelles	\$10,290	0.1	0	...	4.2%	26.6%	111.5%	98%	6.8%	40.4%	25.0%	\$12	\$11	\$51	1	0
#6	Sierra Leone	\$320	5.6	72	...	...	0.6%	18.1%	70%	0.0%	0.3%	...	...	...	...	1	0
#7	Somalia	\$199	9.0	638	...	...	1.1%	7.0%	...	0.1%	1.1%	0.9%	...	...	...	0	0
#8	South Africa	\$5,820	48.7	1219	2.70	6.8%	8.9%	90.6%	100%	9.0%	8.4%	15.9%	\$22	\$12	\$26	1	1
#9	Swaziland	\$2,520	1.2	17	1.73	4.3%	3.8%	45.5%	91%	1.7%	...	13.5%	\$5	\$12	\$1,878	1	0
#10	Zambia	\$950	12.6	753	1.39	2.3%	0.7%	28.0%	50%	0.1%	5.5%	2.1%	\$28	\$12	\$92	1	0
	Average	\$3,002	9.2	405	1.72	3.2%	4.5%	44.6%	71%	1.9%	7.9%	7.7%	\$16	\$12	\$688	80%	10%

Table 4 includes the data for the 16 Indicators for the Responder Countries.

Table 4: Data for Responder Countries																	
	Indicator	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16
	Country	GNI/capita US\$	Pop (m)	Area (k of sq. km)	IDI (ITU)	Sector Rev % GNI	Fixed Density %	Mobile Density %	Mobile Pop Cover %	Internet Density %	Internet Users %	PC Density %	Fixed Basket US\$	Mobile Basket US\$	Internet Basket US\$	W T O	A B T
#1	Angola	\$3,450	18.0	1,247	...	1.0%	0.6%	37.6%	40%	0.6%	3.1%	5.6%	\$20	\$12	\$164	1	0
#2	Benin	\$690	8.7	113	1.28	1.0%	1.8%	39.7%	80%	0.1%	1.8%	2.1%	\$8	\$16	\$105	1	0
#3	Botswana	\$6,470	1.9	582	2.10	3.2%	7.4%	77.3%	99%	0.5%	6.2%	4.9%	\$17	\$8	\$30	1	0
#4	Burkina Faso	\$480	15.2	274	0.97	3.1%	0.9%	16.8%	61%	0.1%	0.9%	1.8%	\$10	\$17	\$1,861	1	0
#5	Burundi	\$140	8.1	28	...	...	0.4%	6.0%	80%	0.1%	0.8%	0.8%	...	...	...	1	0
#6	Cameroon	\$1,150	18.9	475	1.46	2.6%	1.0%	32.3%	58%	0.2%	3.8%	4.5%	\$15	\$18	\$184	1	0
#7	Cape Verde	\$3,130	0.5	4	2.18	3.9%	14.4%	55.7%	96%	1.8%	20.6%	13.6%	\$9	\$20	\$40	1	0
#8	Chad	\$530	11.1	1,284	0.83	...	0.1%	16.6%	24%	0.0%	1.2%	2.8%	...	...	...	1	0
#9	D. R. Congo	\$150	64.2	2,345	0.95	11.6%	0.1%	10.5%	50%	0.1%	0.4%	0.0%	...	...	...	1	0
#10	Equatorial Guinea	\$14,980	0.7	28	...	...	1.5%	52.5%	...	0.2%	1.8%	1.8%	...	...	...	0	0
#11	Ethiopia	\$280	80.7	1,104	1.03	1.5%	1.1%	2.4%	10%	0.0%	0.4%	0.5%	\$2	\$3	\$644	0	0
#12	Gambia	\$390	1.7	11	1.49	...	2.9%	70.2%	85%	0.2%	6.9%	4.5%	\$4	\$6	\$384	1	0
#13	Ghana	\$670	23.4	239	1.63	4.4%	0.6%	49.6%	73%	0.1%	4.3%	6.4%	\$5	\$6	\$64	1	1
#14	Guinea	\$400	9.8	246	...	...	0.2%	39.1%	80%	0.1%	0.9%	2.1%	\$3	\$4	\$800	1	0
#15	Guinea-Bissau	\$250	1.6	36	1.90	...	0.3%	31.7%	65%	0.0%	2.4%	4.9%	...	...	...	1	0
#16	Ivory Coast	\$980	20.6	322	1.41	4.7%	1.7%	50.7%	59%	0.1%	3.2%	1.4%	\$23	\$15	\$47	1	1
#17	Kenya	\$770	38.5	580	1.62	6.5%	0.6%	42.1%	83%	1.1%	8.7%	6.3%	\$12	\$13	\$168	1	1
#18	Lesotho	\$1,080	2.0	30	1.48	0.4%	3.2%	28.3%	55%	0.1%	3.6%	4.5%	\$13	\$13	\$49	1	0
#19	Liberia	\$170	3.8	111	...	9.3%	0.1%	19.3%	...	0.4%	0.5%	...	...	...	...	0	0
#20	Madagascar	\$410	19.1	587	1.36	4.7%	0.9%	25.3%	23%	0.1%	1.7%	2.5%	\$18	\$12	\$120	1	0
#21	Malawi	\$290	14.3	118	1.17	2.2%	1.2%	12.0%	93%	0.7%	2.1%	7.6%	\$3	\$12	\$900	1	0
#22	Mali	\$580	12.7	1,240	1.12	5.1%	0.6%	27.1%	22%	0.1%	1.6%	2.4%	\$10	\$10	\$58	1	0
#23	Mauritania	\$840	3.2	1,031	1.36	7.4%	2.4%	65.1%	62%	0.3%	1.9%	2.5%	\$13	\$10	\$62	1	0
#24	Mauritius	\$6,400	1.3	2	3.45	4.2%	28.5%	80.7%	99%	15.6%	22.0%	30.0%	\$6	\$4	\$51	1	1
#25	Mozambique	\$370	21.8	799	1.03	1.1%	0.3%	19.7%	44%	...	1.6%	4.0%	\$18	\$10	\$100	1	0
#26	Namibia	\$4,200	2.1	824	1.92	3.1%	6.6%	49.4%	95%	4.3%	5.3%	12.7%	\$15	\$12	\$46	1	0
#27	Niger	\$330	14.7	1,267	0.82	1.5%	0.4%	12.9%	45%	0.0%	0.5%	0.4%	\$14	\$14	\$58	1	0
#28	Nigeria	\$1,160	151.3	924	1.39	4.0%	0.9%	41.7%	83%	0.1%	15.9%	12.0%	\$10	\$12	\$690	1	0
#29	Rwanda	\$410	9.7	26	1.17	3.5%	0.2%	13.6%	92%	0.1%	3.1%	0.3%	\$7	\$10	\$92	1	0
#30	Sao Tome & Principe	\$1,020	0.2	1	...	7.0%	4.8%	30.6%	20%	1.6%	15.5%	3.8%	\$11	\$8	\$274	0	0
#31	Senegal	\$970	12.2	197	1.38	9.3%	1.9%	44.1%	85%	0.4%	8.4%	4.5%	\$17	\$8	\$29	1	1
#32	Tanzania	\$440	42.5	947	1.13	...	0.3%	30.6%	65%	0.1%	1.2%	2.5%	\$11	\$11	\$68	1	0
#33	Togo	\$400	6.5	57	1.37	7.1%	2.2%	24.0%	85%	1.0%	5.4%	4.9%	\$13	\$18	\$106	1	0
#34	Uganda	\$420	31.7	241	1.21	2.2%	0.5%	27.0%	100%	0.1%	7.9%	1.6%	\$13	\$10	\$170	1	1
#35	Zimbabwe	\$312	12.5	391	1.46	3.9%	2.8%	13.3%	75%	0.8%	11.4%	4.0%	...	...	...	1	0
	Average	\$1,563	19.6	506	1.44	4.3%	2.7%	34%	66%	0.9%	5.1%	4.8%	\$11	\$11	\$263	89%	17%

4 UASFs in Responder Countries

This Chapter presents the summary results of the Questionnaire by the Responder Countries, focussing its comparison and analysis on those countries that have established an UASF.

4.1 Establishment of UASFs

Table 5 presents the high-level results of the Questionnaire for the 35 Responder Countries. This Table shows that 25 out of the 35 countries have legally created UASFs.

	Questionnaire#	Q1	Q7	Q17	Q22
	Country	Legal Creation & Year	Admin. Establish & Year	Collect Monies & Year	Disburse Monies & Year
#1	Angola	Future: ??			
#2	Benin	Future: ??	...	...	...
#3	Botswana	Future: ??	...	...	...
#4	Burkina Faso	2000	2000	2001	Future: ??
#5	Burundi	Future: ??	...	...	...
#6	Cameroon	2005	Future: ??	...	...
#7	Cape Verde	Future: ??	...	...	...
#8	Chad	Future: ??	...	...	...
#9	D. R. Congo	2002	Account: 2002	2002	Future: ??
#10	Equatorial Guinea	2005	Future: ??		
#11	Ethiopia	No Intention			
#12	Gambia	Future: ??			
#13	Ghana	2005	Entity: 2005	2005	2007
#14	Guinea	1992/2005	Future: ??		
#15	Guinea- Bissau	Future: ??			
#16	Ivory Coast	1998	Account: 2006	2006	Future: ??
#17	Kenya	2009	Future: ??		
#18	Lesotho	2009	Future: ??		
#19	Liberia	2007	Future: ??		
#20	Madagascar	1999	Account: 1999	2002	2002
#21	Malawi	Future: ??			
#22	Mali	1999	Account: 2002	2002	Future: ??
#23	Mauritania	2001	Entity: 2002	2002	Future: ??
#24	Mauritius	2008	2008	2008	2006
#25	Mozambique	2004	2008	2008	2008
#26	Namibia	2009	Future: ??		
#27	Niger	1999	Future: ??		
#28	Nigeria	2003	Entity: 2007	2004	2008
#29	Rwanda	2004	2004	2004	2004
	Sao Tome & Principe	2004	Future: ??		

#30

	Questionnaire#	Q1	Q7	Q17	Q22
	Country	Legal Creation & Year	Admin. Establish & Year	Collect Monies & Year	Disburse Monies & Year
#31	Senegal	2007	2007	2007	Future: ??
#32	Tanzania	2006	Future: ??		
#33	Togo	2001	Account: 2002	2002	2008
#34	Uganda	1997	2003	1998	2003
#35	Zimbabwe	2000	Account: 2002	2002	Future: ??

Of the 25 countries that have legally-created UASFs, however, only 15 countries have established their UASFs, or otherwise made them operational, by starting either to collect UASF monies or disburse UASFs monies. Table 6 lists the 15 “Yes Establish UASF” countries (the 10 countries that have not yet established UASFs are referred to as the “No Establish UASF” countries). Table 6 also lists, within the “Yes Establish UASF” countries, the 8 “Yes Disburse” countries that have made project-related disbursements and the 7 “No Disburse” countries that have not made any project-related disbursements.

Yes Establish Countries		Yes Disburse Countries		No Disburse Countries	
#1	Burkina Faso	#1	Ghana	#1	Burkina Faso
#2	D. R. Congo	#2	Madagascar	#2	D. R. Congo
#3	Ghana	#3	Mauritius	#3	Ivory Coast
#4	Ivory Coast	#4	Mozambique	#4	Mali
#5	Madagascar	#5	Nigeria	#5	Mauritania
#6	Mali	#6	Rwanda	#6	Senegal
#7	Mauritania	#7	Togo	#7	Zimbabwe
#8	Mauritius	#8	Uganda		
#9	Mozambique				
#10	Nigeria				
#11	Rwanda				
#12	Senegal				
#13	Togo				
#14	Uganda				
#15	Zimbabwe				

4.2 Determinants of UASF Establishment and Disbursements

In this section we provide analyses of whether there is a statistical relationship between the indicators and the likelihood that a UASF has been established and whether it has disbursed.

4.2.1 UASF Establishment

Table 7 presents the summary average data for the 16 Indicators for the Yes Establish UASF and the No Establish UASF countries, and the ratio between the averages each of these groups. For most of the 16 Indicators, the ratios are between half and double the values (that is, between ratios of 0.50 and 2.00), suggesting that the groups do not differ in a material manner in respect to same. However, for the following indicators, the ratios are outside these values¹:

- **Indicator #1 – GNI/capita (US\$).** The Yes Establish UASF countries, on average, have a lower GNI/capita income (ratio of 0.48) than the No Establish countries. This suggests, among other things, that lack of financial resources cannot be considered a barrier in practice in the establishment of UASFs.

Table 7: Averages for Yes Establish and No Establish Countries

Indicators	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16
Grouping	GNI/capita US\$	Pop (m)	Area (k of sq. km)	IDI (ITU)	Sector Rev % GNI	Fixed Density %	Mobile Density %	Mobile Pop Cover %	Internet Density %	Internet Users %	PC Density %	Fixed Basket US\$	Mobile Basket US\$	Internet Basket US\$	W T O	A B T
Yes Establish UASF (15 Countries)	\$970	27.0	578	1.4	5.1%	3.0%	34%	68%	1.3%	6.0%	5.2%	\$13	\$11	\$265	100%	33%
No Establish UASF (20 Countries)	\$2,008	13.8	410	1.5	3.5%	2.5%	34%	67%	0.6%	4.4%	4.5%	\$10	\$11	\$268	79%	5%
Ratio of Averages of Yes to No Establish	0.48	1.96	1.41	0.97	1.45	1.17	0.99	1.01	2.17	1.34	1.17	1.31	0.98	0.99	1.27	3.0

- **Indicator #9 – Internet Density %.** The Yes Establish UASF countries, on average, have a higher Internet density (ratio of 2.17) than the No Establish countries. This is not a surprising finding, suggesting that countries that already have relatively higher Internet densities are more likely to recognize the benefits of establishing UASFs.
- **Indicator #16 – ABT.** The Yes Establish UASF countries, on average, have a higher ABT adoption (ratio of 3.0) than the No Establish countries. The ABT has been interpreted among some experts as an international signal to regulatory commitment and transparency. Given the features of UASFs discussed above, it is not surprising therefore, that we would expect ABT countries to more likely establish UASFs.

4.2.2 UASF Disbursements

Table 8 presents the summary average data for the 16 Indicators for the Yes Disburse and No Disburse countries, and the ratio between the averages each of these groups. For most of the 16 Indicators, the ratios are between half and double the values (that is, between ratios of 0.50 and

¹ More sophisticated statistical analysis based on regressions confirms the importance of Indicator #16 (ABT) and to a lesser extent Indicator #9 (Internet Density %) as significant determinants of the establishment of UASFs. Interestingly, such regression analysis suggested that Indicator #12 (Fixed Basket (US\$)) also positively impacts on the establishment of UASFs. This is consistent with some of the literature that tariff reform in general and rate rebalancing in particular is a positive indicator of regulatory reform overall – related to Indicator #16.

2.00), suggesting that the groups do not differ in material manner in respect to these indicators. However, for the following indicators, the ratios are outside these values²:

- **Indicator #1 – GNI/capita (US\$).** The Yes Disburse countries, on average, have a higher GNI/capita income (ratio of 2.08) than the No Disburse countries. This suggests, among other things, that financial resources, as proxied by national income, does make a difference in the actual disbursement of projects.
- **Indicator #3 – Area (k of sq. km).** The Yes Disburse countries, on average, are smaller (ratio of 0.43) than the No Disburse countries. This may suggest that it is easier administratively to select geographic areas for inclusion in UASF disbursements and that UASF projects may be more attractive given higher population densities.

Table 8: Averages for Yes Disburser and No-Disburser Countries

Indicators	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16
Grouping	GNI/capita US\$	Pop (m)	Area (k of sq. km)	IDI (ITU)	Sector Rev % GNI	Fixed Density %	Mobile Density %	Mobile Pop Cover %	Internet Density %	Internet Users %	PC Density %	Fixed Basket US\$	Mobile Basket US\$	Internet Basket US\$	W T O	A B T
Yes Disburers (8 Countries)	\$1,280	33.1	359	1.6	3.9%	4.3%	35%	75%	2.4%	7.7%	7.7%	\$11	\$10	\$174	100%	38%
No Disburers (7 Countries)	\$616	20.1	829	1.2	6.5%	1.5%	33%	59%	0.3%	4.0%	2.4%	\$15	\$12	\$411	100%	29%
Ratio of Averages of Yes Disburers to No Disburers	2.08	1.65	0.43	1.28	0.61	2.84	1.08	1.27	9.10	1.95	3.25	0.76	0.87	0.42	1.00	1.31

- **Indicator #6 – Fixed Density (%).** The Yes Disburse countries, on average, have a higher Fixed Density (ratio of 2.84) than the No Disburse countries. This suggests that the sector is relatively more developed and extensive and that therefore the access gaps are relatively smaller, thus helping in the selection and implementation of UASF Projects.
- **Indicator #9 – Internet Density %.** The Yes Disburse UASF countries, on average, have a much higher Internet density (ratio of 9.10) than the No Disburse countries. This may suggest that countries that already have relatively higher Internet densities are more likely to recognize the benefits of disbursing UASF Projects.
- **Indicator #11 – PC Density (%).** The Yes Disburse UASF countries, on average, have a higher PC density (ratio of 3.25) than the No Disburse countries. This is consistent with the Internet finding above.
- **Indicator #14 – Internet Broadband Basket (US\$).** The Yes Disburse UASF countries, on average, have a lower Broadband Basket price (ratio of 0.42) than the No Disburse countries. This may suggest that in these countries the access gaps are relatively smaller, thus helping the sustainability of the UASF Projects.

² More sophisticated statistical analysis based on regressions confirms the importance of Indicator #11 (PC Density) and to a lesser extent Indicator #1 (GNI/capita (US\$)) and Indicator # 14 (Internet Broadband Basket (US\$)), as significant determinants of the disbursements of UASF Projects.

4.3 Collections and Disbursements of UASFs

Based on the responses to the Questionnaire, Table 9 presents the year-by-year collection and disbursement results of the Yes Establish Countries. Table 9 shows that by the last full year for which there is data, 2008, these countries were collecting about US \$140 million per year in sector contributions. This is a very considerable amount and accounts for about 1% of telecommunications sector revenues in the Yes Establish Countries. These countries had collected a cumulative total of about US \$468 million, including US \$448 million from sector contributions and US \$20 million from grants and related sources.

In stark contrast, Table 9 also shows that these countries had disbursed a cumulative total of only US \$60 million, including US \$40 million related to sector contributions and US \$20 million related to grants and related sources.³ This means that the UASFs have disbursed only 12.7% of the total collected amounts. By components, the disbursement ratio is 8.9% for contribution-related financing and 100% for grant-related financing. Note that this is lower than the 31.7% Latin American Disbursement Ratio discussed in earlier in the Report.

Table 9: Annual Collections and Disbursements of UASFs (USD\$ (000))

Country		2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Burkina Faso	Sector Contribution	\$1,065	\$1,074	\$1,554	\$2,387	\$2,396	\$3,442	\$3,790	\$5,122	...	\$20,830
	Contribution Financing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	...	\$0
	Administrative Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	...	\$0
D. R. Congo	Sector Contribution	...	...	\$3,554	\$7,592	\$7,812	\$10,851	\$14,381	\$19,059	...	\$63,248
	Contribution Financing	...	...	\$0	\$0	\$0	\$0	\$0	\$0	...	\$0
	Administrative Expenses	...	...	\$0	\$0	\$0	\$0	\$0	\$0	...	\$0
Ghana	Sector Contribution	...	...	...	...	\$2,111	\$2,473	\$8,643	\$7,767	...	\$20,994
	Contribution Financing	...	...	...	...	\$0	\$0	\$74	\$2,873	...	\$2,948
	Administrative Expenses	...	...	...	...	\$176	\$212	\$380	\$408	...	\$1,175
Ivory Coast	Sector Contribution	...	...	...	...	...	\$28,687	\$39,644	\$29,031	...	\$97,361
	Contribution Financing	...	...	...	...	...	\$0	\$0	\$0	...	\$0
	Administrative Expenses	...	...	...	...	...	\$0	\$0	\$0	...	\$0
Madagascar	Sector Contribution	...	\$92	\$105	\$86	\$1,893	\$2,961	\$4,828	\$0	...	\$9,964
	Contribution Financing	...	\$231	\$0	\$0	\$0	\$0	\$597	\$1,513	...	\$2,342
	Administrative Expenses	...	\$0	\$0	\$0	\$0	\$0	\$0	\$0	...	\$0
Mali	Sector Contribution	...	\$161	\$387	\$245	\$282	\$327	\$1,918	\$2,675	...	\$5,996
	Contribution Financing	...	\$0	\$0	\$0	\$0	\$0	\$0	\$0	...	\$0
	Administrative Expenses	...	\$0	\$0	\$0	\$0	\$0	\$0	\$0	...	\$0
Mauritania	Sector Contribution	...	\$639	\$1,157	\$1,817	\$2,030	\$1,998	\$3,134	\$54	...	\$10,827
	Contribution Financing	...	\$0	\$0	\$0	\$0	\$0	\$0	\$0	...	\$0
	Administrative Expenses	...	\$0	\$0	\$0	\$0	\$0	\$0	\$0	...	\$0
Mauritius	Sector Contribution	...	...	...	...	...	\$0	\$0	\$0	\$1,515	\$1,515

³ For comparability purposes it is important to separate sector contributions from grants and other related sources of monies. For instance, some of the Responder countries included World Bank (WB) grants and other grants (NRA) as collection revenues in addition to sector contributions. Other countries that the ITU Consultant is familiar with, however, did not report similar WB grants. Hence, these numbers are presented separately – this is generally consistent with the WB’s approach of not channelling its grants through UASFs, but using the UASF’s bidding process and subsidy allocation methods, if available. A similar comparability argument holds for separating the financing related to grants (which tends to be dedicated and hence disbursed at 100%) and the financing related to sector contributions.

Table 9: Annual Collections and Disbursements of UASFs (USD\$ (000))

Country		2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
	Grants	...	...	...	...	...	\$489	\$144	\$0	\$0	\$633
	Total Collection	...	...	...	...	...	\$489	\$144	\$0	\$1,515	\$2,148
	Contribution Financing	...	...	...	...	...	\$0	\$0	\$158	\$136	\$294
	Grant Financing	...	...	...	...	...	\$489	\$144	\$0	\$0	\$633
	Total Financing	...	...	...	...	...	\$489	\$144	\$158	\$136	\$927
	Administrative Expenses	...	...	...	...	...	\$0	\$0	\$40	\$35	\$75
Mozambique	Sector Contribution	...	...	...	...	...	...	...	\$1,970	...	\$1,970
	Grants	...	...	...	...	...	...	...	\$299	...	\$299
	Total Collection	...	...	...	...	...	...	...	\$2,269	...	\$2,269
	Contribution Financing	...	...	...	...	...	...	...	\$0	...	\$0
	Grant Financing	...	...	...	...	...	...	...	\$299	...	\$299
	Total Financing	...	...	...	...	...	...	...	\$299	...	\$299
Nigeria	Sector Contribution	...	...	...	\$13,688	\$19,029	\$30,579	\$39,338	\$44,169	\$0	\$146,802
	Contribution Financing	...	...	...	\$0	\$0	\$0	\$0	\$15,570	\$2,648	\$18,218
	Administrative Expenses	...	...	...	\$0	\$0	\$407	\$2,326	\$2,657	\$0	\$5,389
	Sector Contribution	...	...	...	\$743	\$596	\$1,409	\$1,994	\$2,381	\$0	\$7,124
	Grants	...	...	...	\$0	\$7,972	\$0	\$0	\$0	\$3,620	\$11,592
	Total Collection	...	...	...	\$743	\$8,568	\$1,409	\$1,994	\$2,381	\$3,620	\$18,716
Rwanda	Contribution Financing	...	...	...	\$619	\$88	\$680	\$1,044	\$1,532	\$0	\$3,963
	Grant Financing	...	...	...	\$0	\$7,972	\$0	\$0	\$0	\$3,620	\$11,592
	Total Financing	...	...	...	\$619	\$8,060	\$680	\$1,044	\$1,532	\$3,620	\$15,555
	Administrative Expenses	...	...	...	\$0	\$1	\$20	\$0	\$114	\$0	\$136
	Sector Contribution	...	...	...	...	...	\$0	\$763	\$15,746	...	\$16,509
	Project Financing	...	...	...	...	...	\$0	\$0	\$0	...	\$0
Senegal	Administrative Expenses	...	...	...	...	...	\$232	\$365	\$497	...	\$1,094
	Collection	\$0	\$1,011	\$1,213	\$1,590	\$2,010	\$2,333	\$3,109	\$4,131	\$0	\$15,398
	Project Financing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,896	\$0	\$1,826
Togo	Administrative Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Sector Contribution	\$836	\$836	\$836	\$1,725	\$1,910	\$2,080	\$3,700	\$3,700	...	\$15,622
	Grants	\$0	\$0	\$0	\$265	\$142	\$217	\$100	\$6,577	...	\$7,300
Uganda	Total Collection	\$836	\$836	\$836	\$1,990	\$2,052	\$2,297	\$3,800	\$10,277	...	\$22,922
	Contribution Financing	\$0	\$0	\$0	\$2,555	\$2,555	\$2,555	\$2,555	\$0	...	\$10,219
	Grant Financing	\$0	\$0	\$0	\$265	\$142	\$217	\$100	\$6,577	...	\$7,300
	Total Financing	\$0	\$0	\$0	\$2,819	\$2,696	\$2,772	\$2,655	\$6,577	...	\$17,519
	Administrative Expenses	\$0	\$0	\$165	\$835	\$995	\$125	\$213	\$1,595	...	\$3,928
	Sector Contribution	...	...	...	\$1,044	\$1,693	\$2,198	\$2,103	\$4,144	\$3,178	\$14,360
Zimbabwe	Project Financing	...	...	...	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Administrative Expenses	...	...	...	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Sector Contribution	\$1,901	\$3,813	\$8,805	\$30,918	\$41,761	\$89,337	\$127,344	\$139,948	\$4,693	\$448,520
TOTAL	Grants	\$0	\$0	\$0	\$265	\$8,114	\$706	\$244	\$6,876	\$3,620	\$19,824
	Total Collection	\$1,901	\$3,813	\$8,805	\$31,182	\$49,875	\$90,043	\$127,588	\$146,825	\$8,313	\$468,344
	Contribution Financing	\$0	\$231	\$0	\$3,173	\$2,643	\$3,234	\$4,271	\$23,543	\$2,785	\$39,879
	Grant Financing	\$0	\$0	\$0	\$265	\$8,114	\$706	\$244	\$6,876	\$3,620	\$19,824
	Total Financing	\$0	\$231	\$0	\$3,438	\$10,756	\$3,940	\$4,514	\$30,419	\$6,405	\$59,703
	Administrative Expenses	\$0	\$0	\$165	\$835	\$1,172	\$996	\$3,284	\$5,311	\$35	\$11,797

Table 10 presents, separately for Yes and No Disburse countries, cumulative totals and ratios.

			2001	2002	2003	2004	2005	2006	2007	2008	2009
TOTAL (all 15 Countries that have operational UASFs)	Cumulative Totals	Sector Contribution	\$1,901	\$5,714	\$14,518	\$45,436	\$87,198	\$176,534	\$303,879	\$443,827	\$448,520
		Grants	\$0	\$0	\$0	\$265	\$8,378	\$9,084	\$9,328	\$16,204	\$19,824
		Total Collection	\$1,901	\$5,714	\$14,518	\$45,701	\$95,576	\$185,619	\$313,206	\$460,031	\$468,344
		Contribution Financing	\$0	\$231	\$231	\$3,404	\$6,047	\$9,281	\$13,552	\$37,095	\$39,879
		Grant Financing	\$0	\$0	\$0	\$265	\$8,378	\$9,084	\$9,328	\$16,204	\$19,824
		Total Financing	\$0	\$231	\$231	\$3,669	\$14,425	\$18,365	\$22,880	\$53,299	\$59,703
	Ratios	Administrative Expenses	\$0	\$0	\$165	\$1,000	\$2,172	\$3,167	\$6,452	\$11,762	\$11,797
		Contribution Financing/Contribution	0.0%	4.0%	1.6%	7.5%	6.9%	5.3%	4.5%	8.4%	8.9%
		Grant Financing/Grant	0.0%	0.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		Total Financing/Total Collection	0.0%	4.0%	1.6%	8.0%	15.1%	9.9%	7.3%	11.6%	12.7%
YES DISBURSERS (8 countries)	Cumulative Totals	Sector Contribution	\$836	\$2,775	\$4,928	\$22,761	\$50,309	\$92,144	\$153,756	\$217,873	\$219,389
		Grants	\$0	\$0	\$0	\$265	\$8,378	\$9,084	\$9,328	\$16,204	\$19,824
		Total Collection	\$836	\$2,775	\$4,928	\$23,025	\$58,687	\$101,228	\$163,084	\$234,077	\$239,213
		Contribution Financing	\$0	\$231	\$231	\$3,404	\$6,047	\$9,281	\$13,552	\$37,095	\$39,879
		Grant Financing	\$0	\$0	\$0	\$265	\$8,378	\$9,084	\$9,328	\$16,204	\$19,824
		Total Financing	\$0	\$231	\$231	\$3,669	\$14,425	\$18,365	\$22,880	\$53,299	\$59,703
	Rat	Administrative Expenses	\$0	\$0	\$165	\$1,000	\$2,172	\$2,936	\$5,855	\$10,668	\$10,702
		Contribution Financing/Contribution	0.0%	8.3%	4.7%	15.0%	12.0%	10.1%	8.8%	17.0%	18.2%
		Grant Financing/Grant	0.0%	0.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		Total Financing/Total Collection	0.0%	8.3%	4.7%	15.9%	24.6%	18.1%	14.0%	22.8%	25.0%
NO DISBURSERS (7 countries)	Cumulative Totals	Administration/ Contribution	0.0%	0.0%	3.3%	4.4%	4.3%	3.2%	3.8%	4.9%	4.9%
		Sector Contribution	\$1,065	\$2,939	\$9,591	\$22,676	\$36,889	\$84,390	\$150,123	\$225,954	\$229,132
		Grants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		Total Collection	\$1,065	\$2,939	\$9,591	\$22,676	\$36,889	\$84,390	\$150,123	\$225,954	\$229,132
		Contribution Financing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		Grant Financing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Ratios	Total Financing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		Administrative Expenses	\$0	\$0	\$0	\$0	\$0	\$232	\$597	\$1,094	\$1,094
		Contribution Financing/Contribution	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		Grant Financing/Grant	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ratios of YES to NO DISBURSERS	Cumulative Totals	Total Financing/Total Collection	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		Administration/ Contribution	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.4%	0.5%	0.5%
		Sector Contribution	0.8	0.9	0.5	1.0	1.4	1.1	1.0	1.0	1.0
		Grants									
		Total Collection	0.8	0.9	0.5	1.0	1.6	1.2	1.1	1.0	1.0
		Contribution Financing									
	Ratios	Grant Financing									
		Total Financing									
		Administrative Expenses						12.7	9.8	9.8	9.8
		Contribution Financing/Contribution									
Ratios	Grant Financing/Grant										
	Total Financing/Total Collection										
	Administration/ Contribution						11.6	9.6	10.1	10.2	

Based on the numbers and ratios include in Table 10, we may note / conclude:

- Yes and No Disburse countries have collected approximately the same total amounts by year 2009, US \$239 million and \$229 million, respectively. This confirms that financing does not seem to be the greatest barrier to successfully disbursing.
- There appears to be a strong relationship between receiving Grant revenues and successfully disbursing. Of the 8 Yes Disburse countries, 4 have received Grant revenues. None of the 7 No Disburse countries have received Grant financing. The Yes Disburse countries had sector contribution-related disbursements of 18.2% (the grant-related disbursement ratio was 100%). This is evidence that grants and the related technical assistance do seem to “jump-start” the disbursement process.
- Note also there is a significant difference between the Yes and No Disburse countries in respect to administrative expenses. The expenses are ten-fold greater in Yes Disburse countries. Clearly, the challenge to disburse is one that appears to be related to the appropriate and significant allocation of administrative budget.

4.4 Administration and Governance of UASFs

Based on the responses to the Questionnaire, Table 11 presents the legal, administrative and governance features of the 10 UASFs in the Yes Establish Countries.

Table 11 shows the No Disburse UASFs at the top half and the Yes Disburse UASFs at the bottom half, as well as the mode/average for each of these two groups. The mode is a statistical term to denote the most common observation. Such a presentation allows us to more easily compare and contrast some of the differences and characteristics between these two groups.

- **Administrative Entity, Internal Unit within NRA or Account Only?** There is a significant difference between the No Disburse UASFs and the Yes Disburse UASFs. The mode in the former is to establish “Account only, sometimes with Internal Unit”, while the mode in the latter is to establish an “Administrative Entity/Internal Unit within NRA and Account”.
- **Distinct and Separate?** There is a small difference between the No Disburse UASFs and the Yes Disburse UASFs. The mode in the former is for the “Account to be managed by the NRA or Distinct but not Separate”, while the mode in the latter is “Distinct, but not Separate”.
- **Single or Multi-sector?** There is no difference between the No Disburse UASFs and the Yes Disburse UASFs, with both being single-sector (ICTs) entities.
- **Governance of UASF.** There is a significant difference between the No Disburse UASFs and the Yes Disburse UASFs. The mode in the former is for the “Management Committee, chaired by a Minister”, while the mode in the latter is governed by a “Board of UASF or NRA”.

Table 11: Administration and Governance of UASFs

Questionnaire#	Q5	Q5	Q6	Q9	Q10	Q11	Q16	
Country	Administrative Entity/Internal Unit and/or Account?	Distinct and Separate?	Single or Multi-sector?	Governance of UASF	Day-to-day Management of UASF	FTE staff in UASF	Strategic and/or Operational Plan?	
No Disburse UASFs:								
#1	Burkina Faso	Account only	Account managed by NRA	Single (ICTs)	Management Committee (7 members), chaired by MinCom Minister	Director of Administration and Finance of NRA	0	Yes
#2	D. R. Congo	Sector Contributions go directly to Public Treasury	None	N/A	N/A	N/A	N/A	N/A
#3	Ivory Coast	Account only	Account created at National Investment Bank (BNI)	Single (ICTs)	Management Committee (5 members), chaired by Economy Minister	Technical Committee (10 members), chaired by MinCom	0	No
#4	Mali	Account only	Account managed by NRA	Single (ICTs)	...	...	0	No
#5	Mauritania	Administrative Entity and Account	Distinct & Separate (APAUS)	Multi-Sector (ICTs, water & electricity)	General Assembly of APAUS	DG and Director of APAUS	At least 2	No
#6	Senegal	Internal Unit and Account	Distinct, but not Separate	Single (ICTs)	Management Committee (13 members), chaired by representative of President of Republic	Director General of NRA	5	No
#7	Zimbabwe	Internal Unit and Account	Distinct, but not Separate	Single (ICTs)	Board of NRA	Deputy Director General of NRA	0	No
	Mode/Average	Account only, sometimes with Internal Unit	Account only or Distinct, but not Separate	Single (ICTs)	Management Committee, chaired by a Minister	DG of NRA	0	No
Yes Disburse UASFs:								
#1	Ghana	Administrative Entity and Account	Distinct & Separate (GIFTEL)	Single (ICTs)	Board of Trustees of GIFTEL	Administrator of GIFTEL	10	Yes
#2	Madagascar	Account only	Account managed by NRA	Single (ICTs)	Governed by MinCom	DG of NRA	0	No
#3	Mauritius	Administrative Unit and - Account	Distinct, but not Separate	Single (ICTs)	Board of NRA, upon recommendation of UASF Advisory Committee	Executive Director of NRA	6	Yes
#4	Mozambique	Internal Unit and Account	Distinct, but not Separate	Single (ICTs)	Board of NRA	Executive Director of UASF Internal Unit	About 3-5 in mid-term	No
#5	Nigeria	Administrative Entity and Account	Distinct, but not Separate (USPF)	Single (ICTs)	Board of the USPF	Secretary of USPF	14	Yes
#6	Rwanda	Administrative Entity and Account	Distinct, but not Separate (USPF)	Single (ICTs)	Board of the NRA	Chairman of the Board of the NRA	4	Yes
#7	Togo	Account only	Account managed by NRA	Single (ICTs)	Governed by MinCom	DG of NRA	0	Yes
#8	Uganda	Internal Unit and Account (RCDF)	Distinct, but not Separate	Single (ICTs)	Board of the RCDF	Manager of the RCDF	10	Yes
	Mode/Average	Administrative Entity and Account	Distinct, but not Separate	Single (ICTs)	Board of UASF or NRA	Dedicated UASF Administrator/ Manager	About 5-10	Yes

- **Day-to-day Management of UASF.** There is a difference between the No Disburse UASFs and the Yes Disburse UASFs. The mode in the former is management by a “DG of the NRA”, while the mode in the latter is managed by a “Dedicated UASF Administrator or Manager”.
- **FTE staff in UASF.** There is a very significant difference between the No Disburse UASFs and the Yes Disburse UASFs. The mode in the former is for “0” (zero) full-time equivalent staff, while the mode in the latter is “About 5-10”.
- **Strategic and/or Operational Plan?** There is a very significant difference between the No Disburse UASFs and the Yes Disburse UASFs. The mode in the former is “No”, while the mode in the latter is “Yes”.

Based on this analysis, therefore, we may conclude:

- UASFs that have been established as distinct Administrative Entities, governed by a Board (of the UASF or the NRA) with a dedicated leader and staff of about 5-10 personnel and a strategic plan are more likely to be able to disburse UASF monies.
- In contrast, UASFs that have been established as Accounts only, governed by a Management Committee presided by a Minister with no dedicated leader or staff or a strategic plan are less likely to be able to disburse UASF monies.

4.5 Collection Mechanisms of UASFs

Based on the responses to the Questionnaire, Table 12 presents the collection mechanism of the 15 UASFs in the Yes Establish Countries. Table 12 shows the No Disburse UASFs at the top half and the Yes Disburse UASFs at the bottom half, as well as the mode/average for each of these two groups. Such a presentation allows us to more easily compare and contrast some of the differences and characteristics between these two groups:

- We note that for both groups the mode is that the major source of revenues is Sector Contribution, that generally all operators are required to contribute (with a few requiring only mobile operators to contribute), that the percentage figure is between 1.3% and 1.8%, and that it is based on Gross Revenues. These nominal percentages translate to 1.2% and 1.9% of actual ITU-reported sector revenues, respectively.

Based on this sample, therefore, we may conclude:

- There are no significant differences between the No Disburse UASFs and the Yes Disburse UASFs with respect to Collection Mechanisms. For both groups the major source of revenues is Sector Contribution, generally all operators are required to contribute, the percentage figure is between 1.3% and 1.8%, and it is based on Gross Revenues. These nominal percentages translate to averages of 1.2% and 1.9% of actual ITU-reported sector revenues, respectively.

Table 12: Collection Mechanisms for UASFs

Questionnaire#	Q17	Q18	Q19i	Q19ii	Calculated Sector Contributions	
Country	Major Source of Collection Revenues and % Sector Contributions of Total Collections	Which operators required to contribute?	Percentage figure for Contribution	Revenue basis for Contribution (based on all services, unless specified)	Actual calculated % of sector revenues for most recent full year of sector contributions	
No Disburse UASFs:						
#1	Burkina Faso	Sector Contributions (100%)	All operators	2%	Gross revenues	2.2%
#2	D. R. Congo	Sector Contributions (100%)	Only mobile operators	2%	Gross revenues	1.7%
#3	Ivory Coast	Sector Contributions (100%)	Only mobile operators	2%	Gross revenues	3.0%
#4	Mali	Sector Contributions (100%)	All operators	1%	Gross revenues, net of inter-operator payments	0.7%
#5	Mauritania	Sector Contributions (100%)	All operators	2%	Gross revenues	1.6%
#6	Senegal	Sector Contributions (100%)	All operators, both fixed and mobile	1.4%*	Gross revenues, net of inter-operator payments	1.4%
#7	Zimbabwe	Sector Contributions (100%)	All operators	2%	Gross revenues	2.7%
	Mode/Average	Sector Contributions (100%)	All operators/only mobile	1.8%	Gross revenues	1.9%
Yes Disburse UASFs:						
#1	Ghana	Sector Contributions (100%)	All operators, both fixed and mobile	1%	Gross revenues	1.1%
#2	Madagascar	Sector Contributions (100%)	All operators, both fixed and mobile	2%	Gross revenues	1.3%
#3	Mauritius	Sector Contributions (71%); Grants from NRA (29%)	All operators, both fixed and mobile	See right.	5% revenues of international roaming + lesser of 2.5% all revenues or US \$0.05/minute terminating incoming IDD	0.4%
#4	Mozambique	Sector Contributions (87%); Grants from WB (13%)	All operators	1%	Gross revenues	2.3%
#5	Nigeria	Sector Contributions (100%)	All operators	1%**	Gross revenues, net of inter-operator payments	0.6%
#6	Rwanda	Sector Contributions (38%); Grants from WB and others(68%)	All operators	2%	Gross revenues, net of inter-operator payments	1.7%
#7	Togo	Sector Contributions (100%)	All operators	2%	Gross revenues	2.2%
#8	Uganda	Sector Contributions (68%); Grants from WB (32%)	All operators	1%	Gross revenues, net of inter-operator payments	1.3%
	Mode/Average	Sector Contributions (100%)	All operators	1.3%	Gross revenues	1.2%

4.6 Projects and Modalities of UASFs

Based on the responses to the Questionnaire, Table 13 presents the Projects and Projects-related modalities for the 8 Yes Disburse UASFs. The 7 No Disburse UASFs have not undertaken any Projects and therefore are not presented in Table 13.

Table 13: Projects and Modalities for the Yes Disburse UASFs

Questionnaire#	Q21	Q22	Q23	Q24	Q25	Q26	Q27
Country	Type of Project	Number of Projects	Manner of selecting recipients	Manner of calculating/ Establish Subsidies	Types of Services offered	Operators eligible to participate	Entity other than UASF providing subsidies/ Financing, %
Ghana	Common Telecommunications Facilities	7	Competitive, least subsidy requested from qualified bidders	Competitive, least subsidy requested	Public voice access + Private voice service	All operators, both fixed and mobile	UASF only
	Last Mile Initiative	Unknown, at least one (1)	Competitive, least subsidy requested from qualified bidders	Competitive, least subsidy requested	Access to ICTs (voice + Internet) by Community MDAs	...	UASF only
	Community Information Centre	Unknown, at least one (1)	...	Competitive, national tender	Public voice access + Private voice service	...	Grant from Government of Ghana (100%)
	Schools Connectivity Project	10	Competitive, least subsidy requested from qualified bidders	Competitive, national tender	Access to ICTs (voice + Internet) by Schools	...	UASF only
Madagascar	VSAT for Unserved Communities	1	Competitive, least subsidy requested from qualified bidders	Competitive, least subsidy requested	Public voice access + Private voice service	Incumbent fixed operator	UASF only
	Access Regions, Districts and Communes	1	Sole-Sourced Contract between MinCom and Operator	Negotiations	Public access and Private service to voice + Internet	Selected Operator	UASF only
Mauritius	Community Public Access Points	4	Competitive, combination quality and cost selection	Competitive, least subsidy requested	Public access voice + Internet	All operators	UASF + Grant from NRA before collections
Mozambique	Community Public Internet Access Points	1	Competitive, least subsidy requested from qualified bidders	Competitive, least subsidy requested	Public and Private Internet access and service	All operators	WB Grant
Nigeria	School Access Programme (Secondary)	1	Competitive, combination quality and cost selection	Competitive, subsidy requested by selected candidate	Access to Internet by Schools	Schools	UASF + Intel Corporation (in kind training)
	School Access Programme (Tertiary Schools)	1	Competitive, combination quality and cost selection	Competitive, subsidy requested by selected candidate	Access to Internet by Schools	Schools	UASF only
	Community Communications Centre (CCC)	1	Competitive, least subsidy requested from qualified bidders	Competitive, subsidy requested by selected candidate	Public access voice + Internet	Cybercafé Operators	UASF only
	Accelerated Mobile Phone Expansion (BTS)	1	Proposal by eligible candidates & evaluation by USPF	Same subsidy level set by USPF for eligible candidates	Public voice and Internet access + Private Internet service	All network operators	UASF only
	Research Studies / Surveys	1	Proposal by eligible candidates & evaluation by USPF	Competitive, subsidy requested by selected candidate	Public voice and Internet access + Private Internet service	All network operators	UASF only
Rwanda	Rural Telephony Project	Unknown, at least one (1)	Competitive, least subsidy requested from qualified bidders	Competitive, subsidy requested by selected candidate	Public voice access + Private voice service	All operators, both fixed and mobile	UASF only
	Low prices for Internet connectivity	Unknown, at least one (1)	Competitive, least subsidy requested from qualified bidders	Competitive, subsidy requested by selected candidate	Public access to Internet	All ISPs	UASF + ITU subsidy/Grant
	One laptop per child Programme	Unknown, at least one (1)	Through the Ministry of Education	Same subsidy level set by USPF for eligible candidates	Public Internet access + Private Internet service	All PC providers	UASF + WB Grant
Togo	2008 Programme to provide service in unserved zones	1	In pay or play regime, proposal by eligible candidates & evaluation by NRA	Compensation for first-year losses incurred	Public and Private voice and Internet access and service	All operators	UASF only
Uganda	Internet Points of Presence (POPs)	76	Competitive, least subsidy requested from qualified bidders	Competitive, subsidy requested by selected candidate	Public Internet access + Private Internet service	All operators	UASF + WB Grant
	Internet Cafes	106	Competitive, least subsidy requested from qualified bidders	Competitive, subsidy requested by selected candidate	Public Internet access	Small & Medium Enterprises (SME) + Operators	UASF only
	ICT Training Centres	64	Competitive, least subsidy requested from qualified bidders	Competitive, subsidy requested by selected candidate	Public Internet access	Small & Medium Enterprises (SME)	UASF only
	Web Portals	78	Competitive, least subsidy requested from qualified bidders	Competitive, subsidy requested by selected candidate	Public Internet access	Small & Medium Enterprises (SME)	UASF only

Table 13: Projects and Modalities for the Yes Disburse UASFs

Questionnaire#	Q21	Q22	Q23	Q24	Q25	Q26	Q27
Country	Type of Project	Number of Projects	Manner of selecting recipients	Manner of calculating/ Establish Subsidies	Types of Services offered	Operators eligible to participate	Entity other than UASF providing subsidies/ Financing, %
	Public Pay Phones	3,349	Competitive, least subsidy requested from qualified bidders	Competitive, subsidy requested by selected candidate	Public voice access	Small & Medium Enterprises (SME) + Operators	UASF + WB Grant
	Research Projects	6	Competitive, least subsidy requested from qualified bidders	Competitive, subsidy requested by selected candidate	Other (Research)	Consultants	UASF only
	Postal Support Projects	45	Competitive, least subsidy requested from qualified bidders	Competitive, subsidy requested by selected candidate	Other (Postal)	All operators	UASF only
	Multipurpose Community Telecentres (MCT)	13	Competitive, least subsidy requested from qualified bidders	Competitive, subsidy requested by selected candidate	Public Internet and voice access	Small & Medium Enterprises (SME)	UASF + WB Grant
	School ICT Facilities	208	Competitive, least subsidy requested from qualified bidders	Competitive, subsidy requested by selected candidate	Public Internet and voice access	Schools	UASF only
	Health ICT Facilities	43	Competitive, least subsidy requested from qualified bidders	Competitive, subsidy requested by selected candidate	Public Internet and voice access	Ministry of Health	UASF only
Mode/Average	3-5 types of Projects per country	Several	Competitive selection (various approaches)	Competitive, subsidy requested by selected candidate	Public voice access + Private voice service + Public Internet access	All operators	UASF only

Based on Table 13, we have the following observations:

- There is no significant variation between countries with respect to the Projects awarded and the Project-related modalities.
 - Most countries have implemented more than one type of Project, with the average number being between three and five types of projects per country. Most Projects were awarded based on a competitive selection process, and the subsidy level was established by selected candidate based on its proposal.
 - In terms of services, there was a focus on some combination of public voice access, private voice service and public Internet access. Generally, most countries allowed all eligible operators to participate in the selection process. While there was some cost-sharing, in most cases the projects were 100% UASF financed.

5 Conclusion

The objective of this Report is to present the specific experience of UASFs in the SSA Region. The Report places this experience in the context of the current framework for the analysis of universal service and of the experience with UASFs outside of the SSA Region. The Report is based on primary data collected directly from the SSA Region countries via a questionnaire specifically designed for this Report, and on secondary national-level economic, demographic, and telecommunications-related data obtained from international sources.

5.1 Overview of Results

- **Chapter 2** presented a high-level overview of the global trends in relation to UASFs around the world, including the corresponding analytical and conceptual framework and the current thinking on the experience of UASFs outside of the SSA Region, finding that the strong trend in the last 5-10 years around the world has been for the creation and establishment of UASFs.
 - One of the disadvantages of UASFs, however, is the high administration and capacity requirements for the Government to administer this regime, especially with respect to disbursement of UASF monies. In this respect we found that UASFs in high-income countries have generally been able to fully disburse all of the monies that have been collected. In contrast, the UASFs in many low-income countries have generally struggled to fully disburse all of the monies that have been collected. For instance, the Latin American Disbursement Ratio was calculated at 31.7% in the Regulate! Study.
- **Chapter 3** provided a listing of the 45 ITU Member-States in the SSA Region, including the 35 that responded to the Questionnaire and the 10 that did not. It reviewed the Questionnaire and the other secondary data, including the 16 Indicators.
- **Chapter 4** presents the summary results of the Questionnaire by the Responder Countries, focussing its comparison and analysis on those countries that have established UASFs.
 - Of the 35 Responder countries, 25 have legally created UASFs, of which 15 have been established in practice. Simple and regression statistical analysis suggested that, on average, the majority of the indicators do not differ in material manner. A few statistically-significant indicators were identified.
 - Eight of the Yes Establish UASFs have disbursed UASFs monies. As a whole, the 15 UASFs are collecting about US \$140 million per year. These countries have collected a cumulative total of about US \$468 million, but have disbursed a cumulative total of only about US \$40 million. This means that the UASFs have disbursed a revenue-weighted total of 12.7% of the collected amounts. This result is generally representative and is not skewed by any particular country. Note that this figure is significantly lower than the Latin American Disbursement Ratio of 31.7%.

- Further, of the Responder Countries that had disbursed some monies, the revenue-weighted disbursement ratio was 25.0%. This figure is also significantly below the revenue-weighted disbursement ratio of 40% achieved amongst the Latin American UASFs that had disbursed some monies.
- Yes and No Disburse countries have collected approximately the same total amounts by year 2009, US \$239 million and \$229 million, respectively. This confirms that financing does not seem to be the greatest barrier to successfully disbursing.
- There appears to be a strong relationship between receiving Grant revenues and successfully disbursing. Of the 8 Yes Disburse countries, 4 have received Grant revenues. None of the 7 No Disburse countries have received Grant financing. The Yes Disburse countries had sector contribution-related disbursements of 18.2% (the grant-related disbursement ratio was 100%). This is evidence that grants and the related technical assistance do seem to “jump-start” the disbursement process.
- Note also that there is a significant difference between the Yes and No Disburse countries in respect to the administrative expenses. The difference is ten-fold greater in Yes Disburse countries. Clearly, the challenge to disburse is one that appears to be related to the appropriate and significant allocation of administrative budget.
- With respect to the administration and governance of UASFs, we found significant differences between the No Disburse UASFs and the Yes Disburse UASFs countries:
 - UASFs that have been established as distinct Administrative Entities, governed by a Board (of the UASF or the NRA), with a group of dedicated staff and a strategic plan are more likely to be able to disburse UASF monies.
 - In contrast, UASFs that have been established as Accounts only, governed by a Management Committee presided by a Minister, with no dedicated staff or strategic plan are less likely to be able to disburse UASF monies.
- With respect to the collection mechanism of UASFs, we found no significant differences between the No Disburse UASFs and the Yes Disburse UASFs countries.
- There are no significant differences between the No Disburse UASFs and the Yes Disburse UASFs with respect to Collection Mechanisms. For both groups the major source of revenues is Sector Contribution, generally all operators are required to contribute, the percentage figure is between 1.3% and 1.8%, and it is based on Gross Revenues. These nominal percentages translate to averages of 1.2% and 1.9% of actual ITU-reported sector revenues, respectively.
- With respect to the Projects and Projects-related modalities for the five Yes Disburse UASFs, we found that there is no significant variation between countries with respect to the Projects awarded and the Project-related modalities.

- Most countries have implemented more than one type of Project, with the average number being between three and five types of Projects per country. Most Projects were awarded based on a competitive selection process and the subsidy level was established by selected candidate based on its proposal.
- In terms of services, there was a focus on some combination of public voice access, private voice service, and public Internet access. Generally, most countries allowed all eligible operators to participate in the selection process. While there was some cost-sharing, in most cases the Projects were 100% UASF financed.
- Note that a more detailed and granular evaluation of these Projects in the future could include a detailed Project-by-Project assessment of the short- and medium-term sector and developmental impacts of same (including any estimated direct or indirect spin-off/leverage effects), the sustainability of the Projects beyond the time-frame of UASF financial support, the engagement of local persons and entrepreneurs in the Projects, and other important results.

5.2 ITU Consultant Analysis

This analysis of the Report results is based on the ITU Consultant's international experience working with UASFs and the ITU Consultant's reading and interpretation of the UASF Literature.

- The Responder Countries have generally followed the reform-oriented recommendation to legally create and, to a lesser extent, to administratively establish UASFs.
- The legal and administrative framework of the established UASFs in the Responder Countries has generally been consistent with those of UASFs outside the SSA Region.
- The collection mechanisms in the established UASFs in the Responder Countries have generally been consistent with those of UASFs outside the SSA Region. The Responder Countries have generally been successful in collecting significant amounts of monies for their established UASFs, about US \$140 million, about 1.0% of sector revenues per year. Lack of money is not an issue in relation to UASFs in the Responder Countries.
- The disbursement regimes in the established UASFs in the Responder Countries have generally been consistent with those of UASFs in low income countries outside the SSA Region. However, in practice, the UASFs in Responder Countries have struggled with the implementation aspects of disbursement, only achieving an average cumulative disbursement ratio of 12.7%. This is lower than the Latin American Disbursement Ratio of 31.7%.
- This relatively low disbursement ratio means that the established UASFs in the Responder Countries have a theoretical cumulative reserve of about US \$408 million, or about 3% of total telecommunication sector revenues for the relevant countries. In the ITU Consultant's opinion, this relatively low disbursement ratio constitutes a serious problem. Such a ratio

results in unused reserves of money that are not being productively used in the economy in general and the telecommunications sector specifically. This may have a significant developmental impact, and could put into question the efficacy of the associated government institutions and the very concept of universal service in practice in the Responder Countries with established UASFs.

- The problem of a low disbursement ratio is not unique to the established UASFs in the Responder Countries, although it appears to be particularly acute among them. Based on the results of this Report, the ITU Consultant's diagnosis is that some of the UASF models that have been adopted by the established UASFs in the Responder Countries have been less successful than expected in this respect because of the following:
 - **Structural and Governance Issues.** UASFs that have been established as Accounts only, governed by a Management Committee presided by a Minister, with no dedicated staff or a strategic plan are less likely to be able to disburse UASF monies. Below, we make recommendations to reform this structure and governance towards the relatively more successful model wherein the UASFs has been established as distinct Administrative entity or an Internal Unit within the NRA, governed by a Board (of the UASF or the NRA), with a dedicated leader and staff and a strategic plan.
 - **Institutional Capacity Issues.** The disbursement of UASFs monies requires relatively very high administration and capacity requirements. High-income countries have overcome these high administration and capacity hurdles. On the other hand, many low-income countries have struggled considerably with disbursement because of lack of economies of scale and relatively lower-capacity administrations. Below, we make recommendations to reform, as necessary, UASFs in the Responder Countries so that they take into account relatively lower institutional capacity. We also make recommendations with respect to capacity-building for the established UASFs in the Responder Countries.

5.3 ITU Consultant Recommendations

The recommendations below are based on the results of the Report, the ITU Consultant's international experience working with UASFs, and the ITU Consultant's reading and interpretation of the UASF Literature. The recommendations and approaches below can be used independently or in combination, as appropriate.

The recommendations apply to those Responder Countries that are considering legally creating or administratively establishing a UASF, or that have already done so and are not satisfied with its performance, especially with respect to its disbursement ratio and that currently have no timely, clear, and credible plan to address same.

- **Recommendation #1:** Establish a UASF as a distinct Administrative entity or an Internal Unit within the NRA, governed by a Board (of the UASF or the NRA) with a dedicated leader and a group of dedicated staff.

- This is based on the results of this Report.
- **Recommendation #2:** Make it a legal requirement that the UASF operate based on a Strategic Plan.
 - This is based on the results of this Report. Further, the collection of monies could be made provisional on the approval of a Strategic Plan.
- **Recommendation #3:** Consider outsourcing the UASF disbursement function to professional third-party commercial entities.
 - This is based on the diagnosis of this Report, and on the successful experience of a number of high-income countries.
- **Recommendation #4:** Establish a sunset provision on UASFs so that their performance may be reviewed every 4-5 years and they may be disbanded if necessary, with any surplus monies returned to the operators in proportion to which they paid, and/or transferred to the Government.
 - This is based on the diagnosis of this Report and on the successful 4-year sunset provision in a number of countries and is designed to put an end date to indefinite collection with no disbursements.
- **Recommendation #5:** Establish a graduated collection amount, with a relatively modest maximum in the range of 0.5% to 1.5% of sector revenues that varies year-by-year depending on the demonstrated capacity of the UASF to disburse. This could include a moratorium on collections.
 - This is based on the diagnosis of this Report and on the best practice administrative management and is designed to put an end date to indefinite large collections with no disbursements.
- **Recommendation #6:** Undertake practical capacity-building based on learning-by-doing, including the identification, design, tendering and awarding of projects. The initial focus of such activities could be on targeted pilot projects involving limited geographic areas, rather than large-scale national deployments. The pilot projects should be designed to maximize a successful outcome while also providing step-by-step implementation experience and support for the UASFs. This could be a focus of international and regional development partners' technical assistance efforts.
 - This is based on the results of this Report and also on the ITU Consultant's professional experience that this is the best means for UASFs to "jump-start" the process of disbursing.

Annex A – UASF Questionnaire

Questionnaire for Universal Access and Service Funds

Objective: These questions relate to the legal creation, administrative establishment and functional operation of universal service funds whose main objective is the provision of financing and/or subsidies to promote universal access and universal service in telecommunications.

Legal Creation

Q1. Has your country legally created a universal service fund?

A1. _____

If “yes” to Q1, go to Q3.

Q2. If “no” to Q1, are there plans to legally create a universal service fund and for when?
End of Questionnaire for countries that respond “no” to Q1.

A2. _____

Q3. Name and date of the legal document which created the universal service fund. Please provide an e-copy of the document(s).

A3. _____

Q4. Name and date of other legal documents which relate directly to the scope, functions or responsibilities of the universal service fund. Please provide an e-copy of the document(s).

A4. _____

Q5. Is the universal service fund created as a distinct and separate legal entity, or is it part of another entity and if so, which entity?

A5. _____

Q6. Is the universal service fund created as a single sector (telecommunications only) or a multi-sector fund (responsible for universal service in various sectors, for example also in electricity, water, etc.), and if so, what are the other sectors?

A6. _____

Administrative Establishment

Q7. Has the universal service fund been established, from an administrative perspective, and if so, date of establishment?

A7. _____
If “yes” to Q7, go to Q9.

Q8. If “no” to Q7, please explain the reason(s) for lag between the legal creation and the administrative establishment of the universal service fund? *End of Questionnaire for countries that respond “no” to Q8.*

A8. _____

Q9. Indicate the title of the person or group of persons that govern (make high-level decisions and approves the budget, etc.) the universal service fund. If a group of persons, please describe.

A9. _____

Q10. Indicate the title of the person or persons that manages the universal service fund on a day-to-day basis.

A10. _____

Q11. Indicate the number of full-time equivalent staff that works for or in the universal service fund, in addition to those already identified in Q9 and Q10.

A11. _____

Q12. Does the universal service fund have an Internet web-site, and if so, please provide URL

A12. _____

Q13. Please indicate, on a yearly basis, administrative expenditures/budget of the universal service fund (e.g. salaries of persons above, office space, consultants, etc.).

A13	Previous years (specify)	2004	2005	2006	2007	2008	2009	TOTAL
Administrative expenditures/budget								

Functional Operation

Q14. Has the universal service fund become operational, from a functional perspective (e.g. collecting monies, designing projects, disbursing monies, etc.) and if so, date of becoming operational?

A14. _____

If “yes” to Q14, go to Q16.

Q15. If “no” to Q14, please explain the reason(s) for lag between the administrative establishment and functional operation of the universal service fund? *End of Questionnaire for countries that respond “no” to Q14.*

A15. _____

Q16. Has the universal service fund or another entity prepared and issued a strategic plan or an operational plan or similar single-year or multi-year document that establishes the main priorities and/or objectives of the universal service fund and sets out how the same will be achieved? If so, please provide an e-copy of the document(s).

A16. _____

Q17. Please indicate, on a yearly basis, the sources and monies that have been collected and/or allocated to the universal service fund.

A17	Previous years (specify)	2004	2005	2006	2007	2008	2009	TOTAL
Sector contributions via universal service fund fee or levy (please specify)								
Sector contributions via allocation of portion of licence or other fee (please specify)								
Government budget								
Loans, credits or grants from international agencies (please specify)								
Other (please specify)								
TOTAL								

Q18. If response to Q17 included sector contributions via universal service fund fee or levy, please indicate which types of operators or service providers are required to pay the fee or levy (e.g. mobile operators, fixed operators, etc.), and whether some types of operators or service providers are exempted from paying the fee or levy?

A18. _____

Q19. If response to Q17 included sector contributions via universal service fund fee or levy, please indicate the percentage figure of the fee or levy and the basis on which the fee or levy is calculated.

Options #a. Percentage of total telecoms service revenues, gross of inter-operator payments (interconnection charges, leased lines, etc.)

#b. Percentage of total telecoms service revenues, net of inter-operator payments (interconnection charges, leased lines, etc.)

#c. Other (please specify)

A19. Percentage Figure: _____ Basis for calculation: _____

Q20. Has any operator or service provider not paid its corresponding fee or levy, and if so, please explain the reason provided by the operator or service provider. Further, is this non-payment the subject of on-going dispute or has it been resolved, and how?

A20. _____

Q21. Please describe and/or provide a name for each category of project/activities that has received subsidies/financing from the universal service fund (four possible categories are provided below, please add more if necessary).

A21i. _____ for category of Project #i

A21ii. _____ for category of Project #ii

A21iii. _____ for category of Project #iii

A21iv. _____ for category of Project #iv

Q22. Please indicate, on a yearly basis, the number of universal service projects listed in A21 and the corresponding financing/subsidies provided by the universal service fund.

A22	Previous years (specify)	2004	2005	2006	2007	2008	2009	TOTAL
Number of Projects/Activities								
Category of Project #i								
Category of Project #ii								
Category of Project #iii								
Category of Project #iv								
TOTAL								
Amount of Subsidies/Financing								
Category of Project #i								
Category of Project #ii								
Category of Project #iii								
Category of Project #iv								
TOTAL								

Q23. For every different category of project listed in A21, please describe the manner in which the recipients of the subsidies/financing are selected.

- Options**
- #a.** Competitive process, with selection of eligible candidate proposing least financing/subsidy for project defined by universal service fund.
 - #b.** Competitive process, with selection of eligible candidate based multiple criteria (please specify main criteria) for project defined by universal service fund.
 - #c.** Outside context of competitive process, individual eligible candidates propose projects/activities, which are evaluated by universal service fund (please specify).

#d. Certain categories of entities are eligible to receive subsidies/financing from universal service fund (please specify).

#e. Other (please specify)

A23i. _____ for category of Project #i

A23ii. _____ for category of Project #ii

A23iii. _____ for category of Project #iii

A23iv. _____ for category of Project #iv

Q24. For every different category of project listed in A21, please describe the manner in which universal service subsidies are calculated/established.

Options #a. In context of competitive process, the proposed least financing/subsidy.

#b. In context of competitive process, the proposed financing/subsidy of the selected eligible candidate.

#c. Outside context of competitive process, the proposed financing/subsidy of the successful eligible candidate proposing the projects/activities (please specify).

#d. Financing/subsidies are set for certain categories of entities that are eligible to receive subsidies/financing from universal service fund (please specify).

#e. Other (please specify)

A24i. _____ for category of Project #i

A24ii. _____ for category of Project #ii

A24iii. _____ for category of Project #iii

A24iv. _____ for category of Project #iv

Q25. For every different category of project listed in A21, please describe the types of services that have been provided.

Options #a. Public (community) access voice services only.

#b. Public access and private (individual) voice services only.

#c. Public access Internet data services only.

#d. Public access and private (individual) Internet services only.

#e. A combination of the above (please specify which services)

#f. Other (please specify)

A25i. _____ for category of Project #i

A25ii. _____ for category of Project #ii

A25iii. _____ for category of Project #iii

A25iv. _____ for category of Project #iv

Q26. For every different category of project listed in A21, please describe the types of operators or service providers (e.g. mobile operators, fixed operators, etc.) that may present themselves as eligible candidates and those that have actually been selected to receive universal service financing/subsidies.

A26i. Eligible: _____ Selected: _____ for category of Project #i

A26ii. Eligible: _____ Selected: _____ for category of Project #ii

A26iii. Eligible: _____ Selected: _____ for category of Project #iii

A26iv. Eligible:_____ Selected:_____ for category of Project #iv

Q27. For every different category of project listed in A21, please indicate whether the universal service fund was the only entity providing subsidies/financing or whether other entities also provided subsidies/financing or in-kind contributions, and if so please identify the entities and their contribution.

A27i. _____ for category of Project #i

A27ii. _____ for category of Project #ii

A27iii. _____ for category of Project #iii

A27iv. _____ for category of Project #iv

Q28. Please explain the reason(s) for the lag, if any, between collection of monies (see A17) and the disbursement of subsidies/financing (A22). Is this lag/disbursement ratio (defined as the ratio of collected monies (A17) over the disbursed monies (22)) of concern to the universal service fund, and if so, what steps is the universal service fund intending to take to reduce the lag / increase the disbursement ratio?

A28. _____

Annex B – Recommendations from FTRA-2009

Recommendations

The following recommendations were adopted by the forum as best practice. African regulators may want to use these as appropriate and depending on their legal environment, the practice already in place on the ground, or when revising the legal framework of their Universal Access and Service Fund (UASF).

1. **Recommendation # 1:** Establish clear objectives and a strategic plan derived from public consultation with all stakeholders. Make it a legal requirement that the Universal Access and Service Fund shall operate based on a strategic plan.

2. **Recommendation # 2 :** Set up clear, realistic and measurable goals and indicators for the Universal Access and Service (UAS) programs and for the evaluation of social and economic impacts of this (UAS) programs.

Set up both quality of service and level of consumer satisfaction indicators through Service Level Agreements (SLAs). Indicators should be based on a regional and national level. Furthermore, provide NRA means to control and follow up the QoS.

3. **Recommendation # 3 :** National Regulatory Authorities (NRAs) shall be responsible for the design and implementation of policies to stimulate investment and innovation addressing the need for the access real economic gap and not the access market efficiency gap.

4. **Recommendation # 4:** Establish a regulatory environment that facilitates and actively promotes the deployment of innovative services and technologies, especially broadband, respecting the principle of technology neutrality.

5. **Recommendation # 5:** Establish a UASF as a distinct administrative entity, governed by a Board (of the UASF or the NRA) with a group of dedicated staff.

6. **Recommendation # 6:** Establish a sunset provision on the UASF, so that the performance may be reviewed every 4-5 years, and that may be disbanded if necessary, with any surplus funds returned to the operators proportionate to the amounts paid and/or transferred to the Government.

- 7. Recommendation # 7:** Establish a graduated collection amount, with a relatively modest maximum amount in the range of 1 to 2% of sector revenues that may vary year-by-year depending on the demonstrated capacity of the UASF to disburse. This could include a moratorium on collections.
- 8. Recommendation # 8:** Establish a regulatory mechanism and framework that prevent funds being used for other purposes, with transparent rules and participative process for identifying projects and awarding subsidies with sound procedures for the selection of bidders to ensure that only experienced operators and service providers can participate in the bidding process.
- 9. Recommendation # 9:** Undertake practical capacity-building, based on learning-by-doing, including the identification, design, tendering and awarding of projects. The initial focus of such activities could be on targeted pilot projects involving limited geographic areas, rather than large-scale national deployments. The pilot projects should be designed to maximize a successful outcome while also providing step-by-step implementation experience and support for the UASF.
- 10. Recommendation # 10:** UASFs should support capacity building and sensitization of consumers, ICT applications (e-education, e-health, e-agriculture etc.), development of contents, support to institutions with limited resources (i.e. schools, hospitals). UASFs should support deployment of advanced information and communications technologies and services including broadband and keep pace with convergence.