Establishment of Harmonized Policies
for the ICT Market in the ACP

SADC Toolkit on Universal Access Funding and Universal Service Fund Implementation

HIPSSA

Harmonization of ICT Policies in Sub-Sahara Africa











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Summary

The 14 countries in the Southern Africa Development Community ("SADC"), like those in the rest of the continent, have over the last decade experienced the social and economic impacts of the "mobile miracle." Mobile technology has enabled countries in the region to take significant steps to increase penetration and improve universal service and access. This has been enabled by the technology itself, coupled with sound regulatory frameworks which have facilitated private sector investment in the deployment of networks and services.

Despite this, and despite penetration rates (for mobile voice) nearing 50 percent in most SADC countries, universal access has not yet been achieved in many countries where rural and high cost areas remain underserved. While the "mobile miracle" went a long way to addressing the availability and accessibility of voice telephony, wireless alone is unlikely to be a sustainable solution for rural broadband access in the SADC region. The advent of broadband technology and the deployment of Next Generation Networks present opportunities for developed and developing countries alike to deliver more efficient voice and data solutions. Lack of private sector funding available to implement broadband rollouts threatens to perpetuate the divide, and may necessitate consideration of the use of public funds for facilitating universal access to broadband.

The Toolkit starts from the premise that, although not all countries are at the same level of reform, all of the SADC countries are in the process of liberalizing their ICT markets. This is provided for in the SADC Guidelines on Universal Service and Access. The Toolkit recognizes that many SADC Member States are in the process of establishing Universal Service and Access Funds and require guidance in that regard (Part 2); however it also recognises that as we enter the next decade of the 21st century, consideration is being given to new approaches to financing universal access, sometimes coupled with traditional Universal Service and Access Fund approaches, to address the deployment of broadband and Next Generation Networks and services. As more countries in the region adopt converged regimes, and accordingly increase the scope of their Universal Service and Access Funds, increasingly they will be forced to move past projects that focus on providing access to shared services/public access such as telecentres and payphones, and those that seek to extend network reach. They will have to turn their attention to broadband Internet and ICT services, including applications, usage and capacity development in addition to pure access.

The Toolkit thus provides guidance on how to approach these alternative and often complementary funding mechanisms, with relevant references, samples and examples. Access to advanced ICT services includes a wider range of players and financiers. This requires that the institutional framework, governance, and capacity of Universal Service and Access Funds are up to the new challenges, and that other financing mechanisms are able to play a role in funding universal access whilst upholding the tenets of liberalization and respecting the principles of competitive markets.

Part 1 of the Toolkit looks at where the SADC region is at this point in time with respect to the implementation of ICT sector legislation which overwhelmingly includes the establishment of a Universal Service and Access Fund. It provides background on Funds and the rationale for establishing them, and discusses how they relate to other funding mechanisms. It is noted that trend towards establishing Funds that exists in the SADC region is consistent with the trend globally, where there are Funds or plans to establish Funds in over 66 countries.

Summary

Funds are more prevalent in developing countries; only 9 Funds are operational in Europe and the Americas.[1] In fact, the first USAFs were established in South America in the mid 1990's; in the SADC region, the first Fund was established (in law) in 1997 in South Africa. Today, 7 countries in the SADC region have established Funds in law. Of the seven, 6 have money in the Fund received through either seed funding from donors or government, levies from operators, or surplus Funds from regulator. An additional 3 countries without legally established Funds, have received contributions from donors and/or government contributions to finance universal access projects. Six SADC countries have undergone processes (competitive bidding, tender processes, or other means) to identify projects and disburse monies to assist in the implementation of such projects.

After discussing the principles of universal access funding in Part 1 of the Toolkit, Part 2 provides a practical guide on the establishment of Funds. It is noted that SADC countries have legislated the institutional framework for Funds, but not necessarily implemented it; this later affects their credibility, capacity and ability to achieve their mandates, including through disbursement of Funds.

Following the establishment and implementation of legal and institutional frameworks for Funds, the major challenge with respect to universal service funds in the region relates to the financing of projects. This conclusion is made against the backdrop of the fact that very few of the funds in the region are fully functional. Part 3 addresses the financing of universal access projects – it deals with issues such as programme design, project development and project costing. In addition it discusses bidding processes, and provides a guide on how to issue least cost tenders.

Part 4 addresses Monitoring and Evaluation – a key input to the sustainability of UA/S projects. It provides checklists and templates for monitoring compliance with terms and conditions set out in licenses, contracts and service level agreements to successful bidders. It also discusses key factors such as data collection and analysis.

Finally, Part 5 considers the regional framework and the role of CRASA in coordinating efforts at a regional level on issues related to universal access funding.

This Universal Access Funding and Universal Service Fund Implementation Toolkit provides a "how to" guide on best practice for universal access funding, Fund management and project implementation. It also provides information on progress that has been made in the 14 SADC countries to date with respect to the establishment of Funds and the financing of universal access projects by the Funds. The Toolkit will help Fund Administrators[2] as well as other funders and project partners including NGOs, donors and municipal and local government agencies, finance universal service and access projects by:

- Identifying potential projects, which includes undertaking demand study/financial analysis of specific project(s) to be subsidized, and determining outputs such as types of services & infrastructure requirements;
- Deciding the process design and thereafter preparing auction or comparative/open tender analysis process documents;
- Identifying possible bidders, issuing Requests for Proposals and evaluating proposals received;
- In the case of Private Public Partnerships, identifying potential partners;
- Executing Contracts, Service Agreements and where necessary issuing licence/s to the successful bidder;

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1 Australia, USA, Canada, France, Italy, Czech Republic, Bulgaria, South Korea and Oman (see GSM Association Universal Service Report).

2 Fund Administrator refers to whoever is responsible for the management of the USAF whether it is an independent agency, within the regulator or within the Ministry. The Fund Manager is the accounting officer for the USAF and responsible for its day-to-day running and reporting on its performance.

Summary

- Evaluating compliance with the financing or subsidy requirements (e.g. meeting defined targets and service rollout milestones) and making periodic subsidy payments;
- Designing ongoing monitoring and reporting requirements and implementing them.

The Toolkit stresses the need for awarding funding through public tenders, making financed infrastructure available to all operators on a technologically neutral basis, and minimizing distortions of competition through consultation with existing operators at all key steps of the process, and through the use of market research. The Toolkit also stresses the need to consider supply side subsidies through diversifying the types of projects that are funded; attention has to be given to creating demand and thus funding ICT access by institutions such as schools, clinics and hospitals, and telecentres.

The Toolkit takes a practical approach and provides regional experience, international experience and guidelines that demonstrate best practice. It additionally provides Sample/ Reference material that can be used as a model, where appropriate.

Glossary

ACA	Australian Communications Authority
ACMA	Australian Communications and Media Authority
AISI	African Information Society Initiative
ARPTC	Autorité de Regulation de la Poste et des Télécommunications du Congo
AUSAFA	African Universal Service and Access Fund Association
BIP	Broadband Initiatives Program
BTOP	Broadband Technology Opportunities Program
BTA	Botswana Telecommunications Authority
BTRC	Bangladesh Telecommunications Regulatory Commission
CAPEX	Capital expenditure
CDMA	Code Division Multiple Access
COMESA	Common Market for Eastern and Southern Africa
CONATEL	Commission Nacional de Telecomunicaciones Ecuador
CRASA	Communications Regulatory Association of Southern Africa
CRAN	Communications Regulatory Communications Regulatory Authority of Namibia
DDSO	Digital data service obligation
DSL	Digital subscriber line
DRC	Democratic Republic of the Congo
EASSy	Eastern Africa Submarine Cable System
EC	European Commission
ECOWAS	Economic Community Of West African States
ECTEL	Eastern Caribbean Telecommunications Authority
EIB	European Investment Bank
ENTEL	National Telecommunications Enterprise
ETSI	European Telecommunications Standards Institute
EU	European Union
FCC	Federal Communications Commission
FITEL	Service Investment Fund in Telecommunications
FONCODES	Social Development Cooperation Fund
FTTH	Fibre To The Home
GSM	Global System for Mobile Communications
HIPSSA	Harmonization of ICT Policies in Sub-Sahara Africa
IAP	Information Access Point
ICTs	Information and Communications Technologies

Glossary

ICT4D	ICT for Development
ICT4E	ICT for Education
ICTA	Information and Communication Technologies Authority (Mauritius)
IFC	International Finance Corporation
INACOM	Instituto Angolano das Communicacoes
INCM	Instituto Nacional das Communicacoes de Mocambique
IP	Internet protocol
ISP	Internet Service Provider
ISDN	Integrated Services Digital Network
ITA	Invitation to Apply
ITU	International Telecommunication Union
LCA	Lesotho Communications Authority
LLU	Local Loop Unbundling
LSM	Living Standard Measure
LTE	Long Term Evolution
MACRA	Malawi Communications Regulatory Authority
MDDA	Media Development and Diversity Agency (South Africa)
MDGs	Millennium Development Goals
MoU	Memorandum of Understanding
MPCC	Multi-Purpose Community Centre
NCC	Namibia Communications Commission
NEPAD	New Partnership for Africa's Development
NRA	National Regulatory Authority
NGN	Next Generation Network(s)
NGO	Non-governmental organisation
NTIA	National Telecommunications Information Administration
OBA	Output Based Aid
OCPT	Congolese Postal and Telecommunications Office
OMERT	Office Malagasy d'Etudes et de Régulation des Télécommunication
OPEX	Operational expenditure
OSIPTEL	Organismo Supervisor de Inversión Privada en Telecomunicaciones (Peru)
PNTIC	Politique National TIC
PoP	Point of Presence
POTRAZ	Postal and Telecommunications Regulatory Authority of Zimbabwe
PPP	Public Private Partnership
QoS	Quality of Service
RAPID	Regional Activity to Promote Integration through Dialogue and Policy Implementation

Glossary

RCDF	Rural Communications Development Fund (Uganda)
RFP	Request for Proposal
SADC	Southern Africa Development Community
SMEs	Small and Medium Enterprises
SMMEs	Small Medium and Micro Enterprises
SUBTEL	Subsecreteria de Telecomunicaciones Gobierno de Chile
TCO	Total Cost of Ownership
TCRA	Tanzania Communications Regulatory Authority
TRAI	Telecom Regulatory Authority of India
TTCL	Tanzania Telecommunications Company Limited
UCC	Uganda Communications Commission
UA	Universal access
UAS	Universal access and service
USAF	Universal Service and Access Fund
UCAF	Universal Communications Access Fund (Tanzania)
UNDP	United Nations Development Programme
US	Universal service
USAASA	Universal Service and Access Agency of South Africa
USF	Universal Service Fund
USO(s)	Universal service obligation(s)
USOF	Universal Service Obligation Fund (India)
USPF	Universal Service Provision Fund (Nigeria)
UPTC	Uganda Posts and Telecommunications Corporation
USP	Universal Service Provider
VoIP	Voice over Internet Protocol
WiMAX	Worldwide Interoperability for Microwave Access
WSIS	World Summit on the Information Society
WTO	World Trade Organisation
ZICTA	Zambia Information and Communications Technology Authority

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Introduction

REPORT BACKGROUND

The "Harmonisation of Information and Communication Technologies ("ICT") Policies in Sub-Sahara Africa" ("HIPSSA") is a joint project launched by the European Commission ("EC") and the International Telecommunications Union ("ITU"). HIPSSA builds on the experience gained with an ITU-EC funded pilot project that led to the adoption of Additional Acts for telecommunications to the ECOWAS Treaty. The HIPSSA project aims to develop and promote harmonized policies and regulatory guidelines for the ICT market as well as build human and institutional capacity in the field of ICT through a range of targeted training, education and knowledge sharing measures. This project will ultimately result in the creation of harmonized regional and national policy, legal and regulatory frameworks conducive to promoting investment in infrastructure and services, and enabling socio-economic development in the ICT sector across the region.

The focus of this particular document, the Toolkit on Best Practice Financing Universal Access and using Universal Access and Service Funds ("the Toolkit"), is to provide a regional guide for Southern African Development Community ("SADC") Member States[3] to use as a Sample/Reference when managing universal service funds, and when funding universal service and access projects and providers. Accordingly the Toolkit builds upon the foundation established through the SADC Protocol on Transport, Communications and Meteorology ("the Protocol") and the SADC Communications Policies and Model Legislation which provide guidance on the harmonization of policy approaches in the region broadly, but which also specifically address issues relating to universal service and access and the establishment of universal service funds ("USAF" or "Funds"). It furthermore supports the draft documents prepared under the HIPPSA project namely the new SADC ICT Convergence Policy[4], the revised SADC Regional ICT Policy, and the revised SACT ICT Model Bill[5].

The Toolkit is a "how to" guide and seeks to provide a pragmatic and practical approach for the management of Universal Service Funds, as well as to consider of other financing mechanisms to enable the implementation of universal access policies, legislation, regulation and strategies, as applicable, in the Member States. A key issue that has been identified at national and regional level with respect to the implementation of universal access and service objectives is that the major challenge relates to implementation. While most countries in the region have set up USAFs – fewer have started collecting monies, and of those that are collecting monies only 7 have implemented projects and thus disbursed the funds. As such, this Toolkit seeks to address the challenges and provide an overview of best practice with respect to Fund establishment, governance and management (Part 2).

The Toolkit deals with all types of funding, however, in guiding the discussion, it refers to the various stages in the 'life' of a Fund which are true of any universal access financing model, and are well set out in Figure 0.1 below. These stages start from the sourcing of funds to project implementation and eventually to project closure following effective monitoring and evaluation.

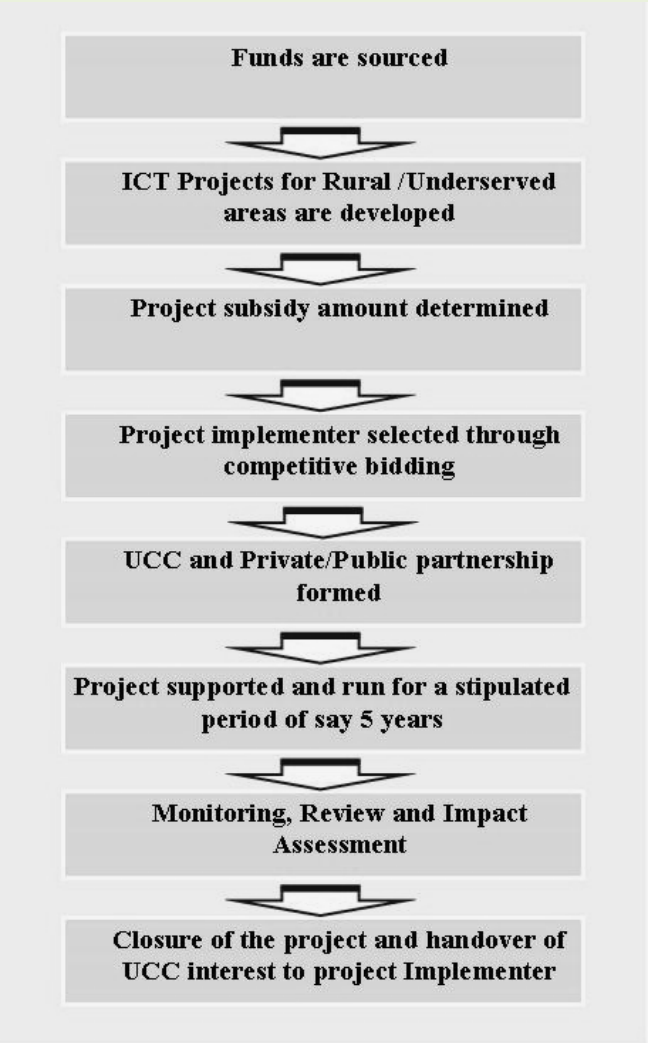
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3 Angola, Botswana, Democratic Republic of the Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe.

4 HIPSSA4/SA-1 SADC ICT policy and legal framework review and update– SADC Policy Guidelines on Convergence; version to stakeholders 2010, Düsseldorf

5 SADC Telecommunications Model Bill (Proposal: reword to "SADC ICT Model Bill"); version to stakeholders, 2010, Angola

Figure 0.1: Universal Access Project Funding, using Uganda example[6]



The Toolkit is designed to consolidate an account of experiences, best practices, checklists and Sample/References for the planning, financing and implementation of Funds and projects. It is addressed in the main to policy makers, regulators and fund administrators in the SADC region, as well as other interested parties including the private sector, who wish to ensure the effective use of Universal Service Funds and implementation of universal access strategies. In addition to encouraging the use of Funds in an appropriate manner, the Toolkit has amongst its aims the harmonization of approaches across the region. This will ensure that a best practice approach is taken in each country, promote similar approaches across the region, and may even encourage cross border initiatives.

6 www.ucc.co.ug/rcdf/

Part 1

UNDERSTANDING FUNDS AND UNIVERSAL ACCESS FINANCING

Part 1

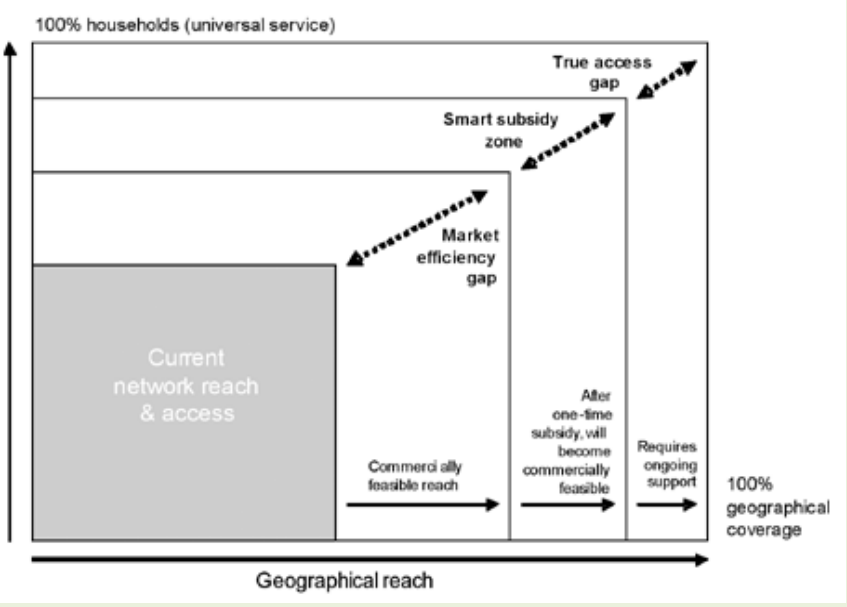
1.1 UNIVERSAL SERVICE AND ACCESS CONTEXT

Over the past two decades, the scope of Information and Communication Technologies (ICTs) has broadened given the advances in technology and in light of market developments and convergence in particular. Thus "Universal Service" and "Universal Access" which describe the level of people's ICT or digital inclusion has also been widened. According to the ITU, Universal Service (US) means that every household or individual in a country has the opportunity for telephone service. Universal Access (UA) means that everyone in a community can gain access to a publicly available telephone, although not necessarily in their homes. Historically inclusion related to basic voice (including access to emergency services and access for people with disabilities); today it is increasing being re-conceptualised to include broadband.

The three criteria of availability, affordability, and accessibility are critical for services and networks to be universal. In addition, increasingly "awareness" and "ability" are becoming central tenets of universality as internet and broadband services are included in the scope of universal service and access. While universal service and access in the SADC region has focused on the supply side and thus promoted the rollout of infrastructure and facilities, increasingly consideration needs to be given to demand side financing – funding access to content, applications and services. This is important to promote digital inclusion.

This Toolkit is quite specific in its application and applies to the provision of financial support in the "smart subsidy zone" and the "true access gap" with respect to traditional narrowband services (See Figure below), and where there is or is likely to be insufficient competition with respect to broadband networks and services. It provides guidance on how to finance access in areas where policy interventions and market reform measures have not closed the relevant gaps. The Toolkit is consistent with the CRASA Guidelines on Universal Service and Access and the principles and strategies set out therein to, as a first step, create an environment which promotes access in the "market efficiency gap" where network reach is commercially feasible.

Figure 1.1 Current network reach and access



source: Navas Sabater, A Dymond, N Juntunen, 2002

In a world that is increasingly reliant on broadband, this approach needs to be tailored to take into account the level of competition, or the *likely* level of competition as illustrated in Box 3.5. This Toolkit thus is to be used in the context of financing broadband in areas where market reform alone will not address the digital divide. The Toolkit assumes that proper analysis has been undertaken to identify underserved areas, and communities without access. While it does not provide advice on how to perform such analysis, it is recognized that the ICT Regulation Toolkit (Module 4) provides a clear guideline on how to conduct the necessary research and analysis to identify such areas and communities.

1.2 FUNDING APPROACHES

1.2.1 Casting the Net Wide – Exploring all funding options

Although it is one of the focuses of this Toolkit, it would be remiss to propose that a Universal Service and Access Fund is the only, or even then best, manner of providing financing for universal service and access projects and programmes. For starters, the fact that a public financing mechanism is introduced in a liberalized market indicates the existence of a market access gap – a gap between what the private sector is willing to achieve and what is needed by the public – arrived at through a thorough analysis of the relevant market based on national definitions of universal service and access (See Section 1.1). The premise of universal access projects is that they are deployed in high risk areas or to low income users and communities where without a financial incentive to invest, operators or other suppliers will not provide the services. As such, creative financing models are required to encourage the rollout of networks and services in such areas and in so doing meet socio-economic objectives of the country.

The establishment of a Fund is only one of a number of methods of financing universal service and access projects and programmes; depending on the project and the country context, and importantly on the definition of universal access. With the increasing importance of broadband in socio-economic development and to facilitate digital inclusion, countries are finding that the definition of universal access and service needs reconsideration; if it is widened to include broadband, and thus the need to rollout Next Generation Networks, then more aggressive financing strategies than the used of Funds are necessary going forward.

NGOs, donor organizations, government and the private sector itself have been financing ICT sector investment for decades – as such the discussion on funding universal access is not a new one. It is important to note that there are a number of different funding partners and vehicles that are available that can be used to fund universal access projects, and the appropriate structure and partners depends on the type of project and its objectives in many cases. *No single funding model is appropriate for all universal access projects, or for all countries.*

The scale of funding required has a significant bearing on the type of financial instruments used, and on who is able to provide such funding. As an example, the deployment of a low cost WiFi based municipal network with a payback period of two years can often be covered out of local government or municipality revenues. In contrast, deploying a multi-million dollar fibre optic cable system with a payback period of 10 or more years requires long-term financial commitments.[7] Depending on national universal access and service definitions, a combination of these types of projects is needed for Member States to achieve their

[7] http://infodev-study.oplan.org/the-study/folder.2006-02-02.6810074519/5-3-overview-of-types-of-financing-models/

national universal access and service targets and the Millennium Development Goal (MDG) targets and World Summit on Information Society (WSIS) Commitments that are to be achieved by 2015.

In high cost, high risk areas such as rural and underserved areas, alternate sources of funding ranging from Universal Service and Access Funds, government, donors and NGOs, to a combination through Public Private Partnerships (PPPs) can be delivered through loans, grants, guarantees and subsidies. In addition in-kind contributions can be made for example for the delivery of training and equipment, amongst others when the access is not infrastructure based, but based on support to users and communities. This is discussed in greater detail in Part 3 of the Toolkit, where types of projects are addressed.

1.2.1.1 Models of Public Funding

Government financing of universal access networks is multifaceted. It includes at the most 'intrusive' level of support equity participation, as well as other mechanisms such as subsidies, grants, loans, and guaranteed purchase of services. Put simply these methods of support can be summarized in three models of government funding for universal access:

- Ownership or Equity Participation, as seen in Brazil, Malaysia and South Africa;
- Public Private Partnerships, such as the infrastructure deployment projects in Australia and Thailand globally and Kenya and Tanzania in Africa; and
- Provision of financial incentives and subsidies as seen in many Latin American countries through the use of USAFs, Japan, the USA and EU through broadband stimulus packages.

1.2.1.2 Ownership or Equity Participation

In terms of this model, government plays a direct role in terms the rollout of infrastructure; it is a role that in many ways seems the antithesis of the privatization efforts that have accompanied liberalization in many countries. However, it is increasingly necessary, still only in underserved areas, in light of costly broadband deployments including the rollout of fibre networks in rural areas.

Because of the public sector's role in the ICT sector as a policy maker, regulator, USAF Administrator and in some cases an operator, government financing of ICT projects can be contentious. It is important to recognise that this is less of a concern in underserviced areas that are considered uneconomic to serve or where there is little or no existing infrastructure. Hence the importance of defining these areas upfront (through public consultation) and designing Universal Access Programmes that set out clear objectives and targets so that it is clear that public funding is not conflicted. Programmes such as Uganda's Rural Communications Development Fund Programme[8], and Canada's Broadband for Rural and Northern Development Pilot Program[9] are examples of programmes that are designed upfront and agreed to, clearly identify their socio-economic objectives and as a result do not generally attract much criticism from the perspective of their policy objectives.

Government loans and grants and, for that matter, any type of public financing become more problematic when the effect of the financing may be to distort competition. Where public funding is used to develop networks and services in areas that have existing networks, there is generally more resistance to such approaches. This is not to say that such funding is always anti-competitive; however where this is the case, primarily in the case of the funding of broadband networks, clear guidelines are needed as set out in the European Union where member states have agreed to provide public funding for broadband in terms of Europe's Recovery Plan. Public funding has to be provided in accordance with Guidelines on the application of EU state aid rules to public funding of broadband networks[10]. The principle is that that

8 www.ucc.co.ug/rcdf/index.php

9 www.broadband.gc.ca/pub/program/ index.html

10 http://ec.europa.eu/competition/consultations/2009_broadband_guidelines/index.html

public funding, from USAFs or other means, must not distort the market; this concept is discussed in greater detail throughout the Toolkit.

1.2.1.3 Private Public Partnerships

The role of Public Private Partnerships in the development and implementation of universal access projects is recognised as an effective means of achieving universal access objectives. PPPs recognise the broad range of skills, expertise and resources needed to successfully execute universal access projects whether they are telecentre projects or higher investment fibre networks. As internet and broadband access begin to fall with the scope of universal access definitions and targets these partnerships have begun to include more than just network operators and government; PPPs now include equipment suppliers, vendors, manufacturers, academics, civil society and communities. This is in recognition of the fact that increasingly, in underserved areas, bottom up approaches to project development and implementation are key.

1.2.1.4 USAFs and other Financial Incentives

The government's role in providing financial incentives, whether through USAF subsidies, or through grants and loans from government departments, is a model that sees the government as an enabler of universal access.

USAFs differ from the other models discussed above in that their sole focus is the financing of universal access projects. Over the past 15 to 20 years, the model of a mainly industry-financed Universal Access and Service Fund has been implemented in many countries – primarily those in the developing world and emerging markets. The first generation of USAFs was implemented in Latin America (e.g. Peru, Chile) and in Africa, the Ugandan Rural Communications Development Fund ("RCDF") followed a similar model. While these models were successful, in the last decade there has been a move towards using the principles of Output Based Aid ("OBA") to finance investments targeted under UAS policy, particularly in developing countries. OBA is an innovative approach to increasing access in a manner that seeks to ensure that money is well spent and that the benefits go to the identified beneficiaries by linking the payment of aid to the delivery of specific services or "outputs."

Funds are considered an independent and transparent mechanism to implement and maintain universal service and access initiatives while continuing and promoting market reforms. The objective of USAFs, which typically offer once-off, start up subsidies for designated areas, 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. Commercial sustainability is determined through economic analysis prior to project development, and in specific the assessment of market gaps as discussed in the HIPSSA UAS Assessment and Guidelines. USAFs provide financing primarily through subsidies in order to compensate designated universal service providers ("USPs") who have in most cases elected to provide the identified networks and services in return for a subsidy or special concessions. In some instances, particularly in SADC, Funds have disbursed monies through comparative evaluation processes, akin to existing government tender processes and ICT license application processes.

1.2.1.5 SADC Experience with Public Funding Models

Several SADC countries have undertaken universal access projects using the funding models discussed earlier, namely PPPs, ownership and subsidies and financial incentives. Tanzania, for example has used a PPP model to develop its National ICT Backbone Fibre Infrastructure (NOFBI) project. South Africa's Broadband Infraco, as state owned entity providing national broadband network services, is an example of governments' equity participation or ownership of a network in an effort to achieve universal access. The financial inventive model, which includes USAFs, is undertaken in the seven SADC countries that have established Funds, including Angola, Lesotho, Mauritius and Zimbabwe.

Although there are a variety of funding models, this Toolkit recognizes that most SADC countries are at some stage of establishment of the Funds and as such dedicated a the remainder of Part 1 to discussing the relevance of Funds in a changing ICT sector. In addition, since from the discussion it appears that Funds will remain a part of the ICT sector landscape for the foreseeable future, Part 2 is dedicated to a discussion of how to set up a Fund.

1.2.2 Universal Service and Access Funds

1.2.2.1 Why Funds Work?

Globally, it has been found that USAF success stories have a few things in common – they are characterized by a combination of an enabling regulatory and policy framework, careful Fund design, an efficient and responsive Fund management structure, and appropriate Fund governance. Successful Funds embrace the following key principles:

- Respect for OBA approaches and principles (see Table 3 below)
- Good governance
- Alignment with the national regulatory and policy framework
- Technology neutrality in the design and implementation of projects
- An emphasis on market orientation, sustainability and entrepreneurship[11]
- Decentralized, bottom up planning and project definition[12]
- Innovation and localization of projects and processes
- Total Cost of Ownership ("TCO") approach and thus incorporation of support for applications, content and training and capacity building in addition to networks and services.

Ways in which SADC Funds, and in fact all financiers of universal access projects, can embrace these principles and incorporate them in their processes and projects are discussed throughout the Toolkit.

Table 1.2: Output Based Aid Overview

Output Based Aid Principles	Benefits of Output Based Aid
• Link payments to delivery • Ensure that the subsidy is linked to specific measurable targets • Contract services out to a third party which receives a subsidy to meet the stated objectives • The Fund pre-finances the project (in tranches) until delivery • Subsidies must be performance based – payment is made only after services are rendered and audited	• Transparency increases efficiency and effectiveness • Performance risk is carried by the provider (recipient of funding) and accountability is increased • the subsidy (and possibly subsidy award mechanism) incentivize the private sector • results can be tracked through a focus on outputs/ results

[11] New Models for Universal Access, page 202
[12] New Models for Universal Access, page 203

1.2.2.2 Why some Funds Don't Work?

Despite the numerous Fund success stories across the world there are equally a number of Fund horror stories. Examples exist of Funds which have:

- been established in law but are still not operational as many as 5 years later;
- determined levies, over-collected and under-spent;
- overspent, i.e. provided subsides for unsuccessful projects, or for inefficient use in projects;
- become involved in project *implementation,* through rolling out telecentres and in some cases networks;
- initiated projects but have not been able to coordinate them amongst different levels of government and different affected government departments (e.g. education, infrastructure, health);
- not made their collections, and disbursements public on a periodic basis; and
- not held regular Board or Trustee meetings in order to facilitate project design, development and implementation.

These varied experiences illustrate the fact that establishment of Funds in law is but one step in the process, and that there are a number of distinguishing factors that will make Funds succeed, as well as some obvious and avoidable reasons why Funds can fail.

By their very nature, and in light of the fact that they collect significant amounts of money from the ICT sector, Funds attract attention and risk. The most commonly identified risks facing publically funded projects include[13]:

- Implementation of projects that distort the market;
- Creating dependence on ongoing funding;
- Potential abuse of funds;
- Favoritism; and
- Project failures which waste resources.

Recently, as countries have begun to focus on infrastructure rollout including broadband and fibre optic network rollout, and the rollout of Next Generation Networks ("NGN") it has been found that while these projects will increase universal access from either a supply side (e.g. fibre optic networks) or a demand side (e.g. telecentres, school or clinic connectivity), the monies available in the Fund, or anticipated to be collected by Funds, are not likely to be sufficient to finance rollout. As a result, for larger and more costly projects, regulators and policy makers are finding that Funds 'don't work' or where they have not been tested it is likely that they 'won't work' – they are not appropriately placed to finance or otherwise support the projects – and alternative funding mechanisms become necessary. The risks set out above are true of financing of universal access projects in the ICT sector generally – even using other funding options such as public financing, and NGO, or donor funding through grants and loans.

13 www.ictregulationtoolkit.org/en/Section.3296.html

1.2.2.3 Are Funds a Concept Whose Time Has Passed?

Box 1.1 The Relevance of Funds Going Forward [14]

There are several developments and considerations influencing the thinking about the future of Universal Service and Access Funds (USAFs), asking the questions:

- If universal access and service to telephony will be achieved in the near future, how relevant is the USAF model for ICT and broadband?; and
- How will the move to Next-Generation Networks influence the funding model of USAFs?

Rather than seeing the potential weaknesses of Funds as an indication that they are doomed; or considering that the presence of other financing options is a challenge to the viability of a USAF model, these additional sources of universal access funding can be seen as partners of Funds – their role is complementary to that of the national USAF. Whether the commitment to provide access arises from license conditions, a Public Private Partnership contract, or a concession or contract arising from a USAF bidding process, it is clear that the private sector is considered the delivery arm for universal access. The role of the public sector, in the form of the regulator in the case of license conditions, the relevant national, provincial or local/municipal government department in the case of a PPP, or the Fund Administrator in the case of a USAF project, is to provide vision and guidance to meet social and developmental needs, to act in the public interest, and to select appropriate partners to work with in achieving such objectives.

"Pay" and "Play" approaches can often work in a complementary manner. Operators may be obliged to "pay" into the USAF, but they can also choose to "play" and receive subsidies from the Fund to do so. Similarly, although private sector players may not be obliged through a license obligation to roll out to an underserved area, they may choose to do so through a PPP model. An important feature of these alternative approaches (excluding license obligations) is that the participation by a given operator in the project which is typically in a "high risk" area is **optional;** there is an element of choice by the private sector player, and thus the obligation is on the government partner to provide an incentive to attract participation and investment. The same is true of a Fund. Thus in all cases the private sector is "paid" to "play" or rollout networks and provides management and other expertise.

The end result is a scenario wherein an operator can receive government funding to rollout to identified areas and to serve identified communities in the public interest. A natural concern arises in that this seems to be the antithesis of liberalization and privatization in the ICT sector – something that has been the hallmark of ICT sector market reform for the last two decades. It raises concerns that USAF partnerships and PPPs may be anti-competitive. This stems from the fact that by their very nature, these financing approaches involve the government entering into an agreement with an industry player to provide services and network – this can distort the market should the government unduly support a certain player or technology.[15] Similarly the private sector players may not be altruistic in their intentions, and these approaches could end up benefiting a particular technology or product, rather than the intended beneficiaries – the public.

Thus, the process in terms of which the "players" are identified is key. The processes surrounding the design and implementation of "optional play" projects involving public funding and private action must be clear, transparent and consultative – these principles remain true whether public financing is sourced from a Fund or from a government department. As such, the mechanisms used to avoid anti-competitive outcomes, and market distortion in designing and awarding projects by USAFs, hold true for the design

14 www.ictregulationtoolkit.org/en/Section.3286.html

15 ICT Regulation Handbook, Section 5.4.1.

and award of alternative financing and PPP projects. Again, it is important to note is that a Fund can complement these financing approaches. The important roles of the Fund in relation to facilitation and coordination, particularly with national ICT sector objectives in mind, become more critical in light of the increase in players in the ICT financing space.

In summary, in addition to fulfilling their current mandates where this has not been done, as stated in the ICT Regulation Toolkit, USAFs in the next generation could move in two main directions, namely:

- An increase in importance and role as a facilitator and coordinator which acts as stimulating force for the market, piloting innovative rural service and application concepts, creating demand for advanced ICT connectivity and services (e.g. through financing broadband access for schools, more direct support of users and applications) and an enabling environment; and
- A funding mechanism for broadband networks into rural and unviable areas through support both at the retail end (e.g. shared access), as well as at the wholesale end (e.g. through intermediary network facilities such as backbones, wireless towers and other passive infrastructure).

These approaches will be most effective if pursued in collaboration with other ICT sector financiers. The Fund can work with NGOs and donors, for example, to finance projects in rural and underserved areas and for underserved communities. Donors and NGOs can furthermore play a critical role in financing and facilitating applications and capacity building rather than network reach.

Table 1.3: Financing Cooperation and Partnerships

Potential sources of money and resources for ICT projects:
• Universal Service Fund
• Grants
• Public subsidies (including stimulus packages)
• Private donations, fund-raising events
• Community support (e.g. rent-free building)
• Membership fees
• Revenues earned from core business of the project itself:
– Connectivity (phone, fax, Internet, web pages)
– Direct computer access to users ('pay for use')
– Office services (photocopying, scanning, audiovisual aids)
– Revenues earned from ancillary activities: (training, community services, non-ICT product sales)

Source: OECD

SADC Experience with Funds

Country / Region	USF:	Accountability:	Financing of USF:	Transparency:	Project identification:	Project Selection:
Angola[16]	✓	×	×	×	×	×
Botswana	×	×	×	×	×	×
Democratic Republic of Congo (DRC)	×	×	×	×	×	×
Lesotho	✓	✓	✓	×	✓	×
Malawi	×	✓	✓	✓	×	✓
Mauritius	✓	✓	✓	✓	✓	×
Mozambique	×	✓	✓	✓	✓	✓
Namibia	×	✓	✓	✓	×	×
South Africa	✓	✓	✓	✓	✓	✓
Swaziland[17]	✓	×	×	×	×	×
United Republic of Tanzania	✓	✓	✓	✓	×	✓
Zambia	✓	✓	×	✓	✓	×
Zimbabwe	✓	✓	✓	✓	×	×

Source: Update of SADC Guidelines on Universal Service and Access and Assessment Report, Section 6.3

In light of an understanding of some of the key risks, success factors and potential pitfalls of Funds, the question arises, if Funds are considered a key financing mechanism in SADC, how do SADC Member States' USAFs fare? Do these Funds work? In the SADC region, 7 countries have established Funds in law. Six of the established Funds have money in the Fund received through either seed funding from donors or government, levies from operators, or surplus Funds from regulator. Interestingly, in practice, 3 countries have received funding either from donors or government/regulator contributions for financing universal service and access projects through what is colloquially referred to as a Fund, although there is no legal provision for it as set out in the table above (Botswana, Malawi, Mozambique). Six SADC countries have conducted processes (competitive bidding, tender processes, or other means) to identify projects and disburse monies to assist in the implementation of such projects.

Some SADC Funds have been collecting monies for a while (e.g. Mauritius, South Africa, Zimbabwe); additionally some Member States have demonstrated their ability to conceptualize and subsidize projects and pilot projects (e.g. Malawi, Mozambique, South Africa, Zambia). It should be noted that many of the Funds in the region are still at developmental stages and have only become active from an operational

16 This assessment was carried out on the basis of existing legislation – a draft new law and regulations are in the process of adoption but were not yet adopted at the time of publication.

17 Electronic Communications Bill, 2010

perspective in 2010 (e.g. Tanzania) and others have yet to be formally established (Botswana, Namibia[18], Zambia[19]). Thus, the experience in the SADC region with USAFs is varied.

A major challenge that has been identified by the Member States and expressed to the Communications Regulatory Authority Association of Southern Africa ("CRASA") relates to the implementation of Funds, i.e. governance, management and disbursement. This conclusion is made on the backdrop of the fact that almost all of the legislation in the region captures the Fund concept, but very few of the Funds are fully functional.

In the absence of availability of other public financing in most SADC countries such as financing from 'stimulus plans,' the USAF implementation challenge is the key challenge that the Toolkit seeks to address by providing Fund Administrators, whether within the regulator or located in a separate agency, a Reference Guide for Fund implementation and sample documents and models where available – and for making decisions on where to situate their Funds in this fast changing ICT sector. A secondary objective is to provide a Guideline on how financiers can use mechanisms, other than Funds, to finance universal access in a fair and transparent manner in a liberalized environment.

[18] The Fund has been created in terms of the Communications Act 8 of 2009, however the Communications Act is not yet operational, and thus the Fund is not yet operational.

[19] Zambia's Fund is established in law (2009) however at this point in time, a Universal Access Programme has been established to work on projects, but not the Fund.

Part 2

SETTING UP A UNIVERSAL SERVICE AND ACCESS FUND

2.1 SITUATING THE FUND IN THE MARKET REFORM CONTEXT

It is well understood that the financing of universal service and access projects should be implemented in a manner that is legally sound, transparent and does not distort the market. As such a successful Fund cannot be established in a policy, regulatory, legal and institutional vacuum or in a context that is not conducive. Similarly other financing mechanisms such as PPPs or ownership by government cannot be pursued effectively in the absence of a sound regulatory environment or in a manner that it inconsistent with the ICT sector framework. Market reform and liberalization and their impact on universal service and access policy are discussed extensively in the "HIPSSA UAS Assessment" document and in the CRASA Universal Service and Access Guidelines.

2.1.1 Global Experience and Good Practice

Funds are part and parcel of the market reform process and are best established in a liberalized ICT environment. The key elements that should be in place to facilitate the establishment of a successful Fund are summarised in the checklist in Table 2.1 which includes steps such as the passing of a clear ICT law, the development of an efficient and effective spectrum management regime, and the harmonization of regional approaches.

In the same way that the legislative and policy frameworks should facilitate Funds, the frameworks, should not discourage other forms of financing that may not be USAF led, or even public sector led such as the financial approaches and partnerships being implemented through private initiatives including:

- *Micro-finance bank led* projects (e.g. Village Phone programme through the Grameen Telecom, Bangladesh and later the IFC and MTN);
- *Operator led* projects, including shared or public telephony projects such as that implemented by Smile Communications in Uganda which aims to bring communications to bottom of the pyramid consumers in Africa through an innovative WIMAX model, and Telenor Pakistan is part of a project that works on the principle of shared access to voice, a term which refers to the sharing of a mobile phone, in the form of a supervised public payphone;
- *Private development trusts, funds and foundations,* as well as Corporate Social Responsibility programmes of network operators and vendors amongst others.

Table 2.1: Conducive Policy Framework Checklist

A policy framework that supports liberalization and market reform is one of the building blocks for a successful USAF and should include:

- Clear ICT law and policy, with the establishment of the Fund in law;
- Independent and effective national regulatory authority;
- Clear institutional framework for the Fund (whether separate or within the regulator);
- Robust universal service and access policy;
- Clear, simple and pro-competitive licensing regime;
- Fair interconnection regime (with consideration given to asymmetrical regulations for rural and underserved areas);
- A framework for infrastructure sharing and facility leasing;
- Effective and efficient spectrum management regime; and
- Harmonization with regional and global approaches and standards.

In addition to the broader sector reform checklist, there is a specific universal service and access framework checklist that is critical in order to ensure the selection of the appropriate funding model. Where Funds are established, this checklist will assist in ensuring the effective ***use*** of Funds and the design, financing and implementation of universal access strategies and projects. The minimum policy and regulatory decisions required in this regard are:

1. Legal scope and mandate of the Fund,
2. Any legal requirements relating to public financing mechanisms, other than the Fund (e.g. EU State Aid Rules);
3. Country specific definition of "universal service" and "universal access;"
4. Determination of national targets with respect to UA and US; and
5. Determination of access gaps[20] and a related decision on what constitutes "underserviced areas" and who are *eligible beneficiaries.*

The above five decisions provide parameters for the public funding of universal access projects and a "roadmap" for Fund Administrators and project financiers to assess the relevance of projects in the context of the legal and policy context, and defined socio-economic objectives.

The first two criteria relate to the legal mandate of the Fund, and restrictions on public funding of ICT. These are probably the most inflexible of the identified criteria. Quite simply, projects that fall outside of the legal mandate or scope of the Fund or other forms of public funding cannot be eligible for financing. These projects must be ***disqualified*.** Should the Fund find that there is a demand for the financing of services that fall outside the scope of its mandate, a legal amendment would be required.

The other three criteria assist funders with the ***prioritization*** of projects. For example, if universal access (as opposed to universal service) is defined as a priority in a country, and it is furthermore defined as access to voice and data services through Multi-Purpose Community Centres; then projects geared at meeting this objective can be considered eligible for financing, and would be prioritized ahead of projects that enable personal access through, for example the provision of subsidies to categories of individual users.

In another example, related to the defined universal access targets, if a Member State decides that its Fund's key objective is the financing of infrastructure, then assuming available financing, projects related to the subsidization of personal services, e.g. the provision of cell phones to hospitals, cannot be prioritized over the rollout of a broadband network in a specified area. Countries such as Colombia, Peru, Guatemala, Chile and the Dominican Republic have met or exceeded the universal access targets set by their governments through the use of minimum subsidy auctions.[21]

Project design and prioritization are discussed in further detail in Part 3.

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20 "market efficiency gap" and "true access gap" as discussed

21 OECD leveraging Telecommunications Policies for Pro-Poor Growth Universal Access Funds with Minimum Subsidy Auctions (2004)

Table 2.2: Key Reforms to Enable Universal Access

Enabling universal access

The Fund must exist in a conducive regulatory environment. Sector reform is a pillar for a successful Fund. A non-exhaustive list of the key reforms that can be rolled out in parallel with a Fund include the following:

- placing obligations on operators to cover unserved and underserved areas that are considered to be commercially viable as part of the licensing process;
- reducing regulatory fees and taxes (licensing, spectrum, import, airtime)
- removing restrictions on the use of certain radio spectrum frequencies in rural areas, deregulating VoIP, and simplifying licensing processes for regional and/or rural operators;
- facilitating interconnection (possibly asymmetrical) for rural operators and operators that are not dominant;
- simplifying and facilitating the process of obtaining rights-of-way; and
- requiring infrastructure-sharing between telecommunications operators, and facilitating a framework that enables sharing across sectors, i.e. with electric, gas, water and road infrastructure providers.

2.1.2 SADC Fund Establishment Experience and Practice

All of the 14 SADC Member States have ICT sector policy and legislation in force. They are at varying levels of liberalization and have in almost all cases established the Fund in the context of market reform and a liberalization process. The Fund concept is addressed in the SADC Model Policy which provides for a number of policy issues including universal service and universal access and related matters such as tariffs, interconnection, frequency spectrum and numbering. With respect to establishing a Fund, the World Trade Organisation (WTO) Sample/Reference Paper on Telecommunications Services[22] states that:

> *Any Member has the right to define the kind of universal service obligation it wishes to maintain. Such obligations will not be regarded as anti-competitive per se, provided they are administered in a transparent, non-discriminatory and competitively neutral manner and are not more burdensome than necessary for the kind of universal service defined by the Member.*

The USAF model as described in this Toolkit and as espoused in the SADC policy framework, fulfills these conditions. The SADC Model Policy provides that*:*

> *To take care of the universal service obligation in its specific environment, a country may assign the responsibility of designing related policies to a Universal Service Agency/Unit, established under the auspices of either the Ministry or the Regulator. The Agency/Unit may also be responsible for ensuring the implementation of approved policies.*
>
> *The fund may be set up, through one or more of the above approaches, to finance the installation of services in areas where it may not be economical to do so. Policies that encourage operators to provide*

[22] www.wto.org/english/tratop_e/serv_e/telecom_e/tel23_e.htm

telecommunications in unprofitable areas can thereby be implemented by way of government incentives through the Agency/Unit/Fund.

Section 49 of the SADC Model Bill provides for the establishment of the USAF as follows:

The Authority shall develop annual objectives for services to be provided with the purpose of ensuring that the public telecommunication service, in particular basic telephone service, is accessible to the widest number of users.

The Authority may establish a fund into which providers of telecommunication services (public and private) shall pay any fees the Authority may prescribe as universal access development fees.

or

The Authority may make it a condition of a grant of a license that every provider of public telecommunication services shall establish a universal access fund the proceeds of which shall solely be used with the Authority's approval for the development and expansion of its telecommunication service infrastructure in areas where there are no services and to provide access to widest users including those with disabilities.

A number of SADC Member States have accordingly established Funds and have developed policy and/or legislative frameworks on or supporting universal access and related implementation strategies. They have furthermore provided for the collection of levies or contributions, for the management of the Fund, for the disbursement of monies and for the design of projects at varying levels and as described briefly in Table 4 and in more detail in the CRASA Universal Service and Access Assessment Report.

Table 2.3: Snapshot – Countries with Policy and Legislation on UAS[23]

Country	Policy	Enabling Legislation for Fund	Fund Name & Est
Angola		Basic Telecommunications Law (2001)	2001[24]
Botswana	Draft Universal Access/Service Policy, 2008 (expected policy in 2010/2011)	Not Provided in Existing Law	Not yet established
DRC	No policy	Telecommunications Act	Universal Service Fund, 2002
Lesotho	No policy however the Lesotho Communications Authority has in place the Universal Access/Service Strategy of 2007	Lesotho Telecommunications Authority Act, 2000 Lesotho Communications Authority Universal Access Fund Rules, 2009 Draft Communications Bill, 2009	
Malawi	Draft National ICT Policy 2009	Not Provided in Communications Act 1998 Draft Amendment to Communications Bill 2009 intends	Not yet established

23 Annexure 7 of CRASA Report, as updated

24 HIPSSA Review

Country	Policy	Enabling Legislation for Fund	Fund Name & Est
		to provide on universal access/service	
Mauritius		ICT Act, 2001 Regulations (GN 206 of 2008) on Universal Service	2001, under ICTA (effective 2008)
Mozambique	Telecommunication Policy 2004	Telecommunication Law No. 8 of 2004 Decree No. 69 of 2006 approved the regulation of Universal access and Service Fund	2004, under the regulator INCM (operational 2006)
Namibia	Draft ICT Policy 2009	Not Provided in Existing Law Provided for in Draft Communication Bill 2009	Not yet established
South Africa	Draft Broadband Policy, 2009 Policy Directives on USALS Phase 1: 2005/6 Phase 2: 2006/7 Phase 3: 2007	Telecommunications Act , 2007 and later (when repealed) Electronic Communications Act No 36 of 2005	Universal Service and Access Fund of South Africa (USAASA), 1997
Swaziland	Not Yet	Electronic Communications Bill (2010)	Rural Access Fund will work with the USF
Tanzania	National Telecommunications Policy of 1997 National ICT Policy of 2003	Universal Communications Service Access Act of 2006 Universal Communications Service Access Fund Regulations, 2009	Universal Access Communications Fund (UCAF), 2006 (operational 2009)
Zambia	Draft Universal Access Policy 2009	ICT Act, 2009	
Zimbabwe		Postal and Telecommunications (Universal Service Fund) Regulations, 2005	Universal Service Fund (USF)

According to the information available, Botswana, Namibia, Malawi and Seychelles have not established Funds yet although they have provided for them in law and/or policy. With a mobile penetration rate of 120 percent, Seychelles has indicated that there does not appear to be a need to implement its universal service policy.[25] It is likely that the other four countries will operationalise their funds by 2012.

Angola, DRC, Lesotho, Mozambique, South Africa, Mauritius, Swaziland, Tanzania, and Zimbabwe are all reported to have a USAF that is established in law and operational – all of them have started to collect contributions, although not all of them have implemented projects yet. Of these, Lesotho, Mozambique, South Africa and Zimbabwe have implemented projects. Interestingly, although Botswana, Malawi and Zambia do not have fully operational Funds yet, they have money in the Funds from sources ***other than operator levies;*** they have used these Funds to develop universal access programmes that are driven by policy makers and regulators that have already started to finance universal access projects. In the case of Malawi, this is done in the form of pilot projects implemented through seed funding from the World Bank.

[25] HIPSSA Review, Seychelles Questionnaire Response

Table 2.4: Case Study – Mandate of the Tanzanian Fund

	Mandate	Source of Funding	% Levies	Use of the Funds	Special Provisions
Universal Communications Service Access Fund (UCAF)	Determine the criteria to identify the rural and urban under-served areas and designate universal service areas Establish mechanisms for proper fund management Set bidding conditions for award of funds Evaluate submitted communications projects Conduct research in under-served areas. Advise the Authority on matters relating to Universal Access and Universal Service Obligations and specify them. Monitor and enforce agreements (s6 The Universal Communications Service Access Act 2006)	Parliamentary Allocation Subventions by the Authority Universal Service Levy on Contributions Grants, donations, bequests or other contributions. Levies and contributions in respect of services provided by the fund. (s23 The Universal Communications Service Access Act 2006)	Up to 1.5%	Designation of operators, as a Universal Service provider in areas that are not commercially viable through a competitive bidding process This may be either nationwide or in a specified Universal Service Area Only communications licence holders may be designated as Universal Service providers. (s15 The Universal Communications Service Access Act 2006) Approved projects need to satisfy that they will adequately deal with: • People with disability • People with special needs • Delivery of quality communications services • Pricing of services in terms of affordability • Making available and accessible communication services to all people. (s17 (6) The Universal Communications Service Access Act 2006)	

Part 2

2.2 FUND ADMINISTRATION

2.2.1 Global Experience and Good Practice

Globally, Fund management and administration is approached in one of the following ways, through:

- **The Ministry**, as is the case in Colombia and Korea;
- **A division of the regulator,** which is the model followed in Uganda, Sri Lanka and Malaysia.
- **A separate agency**, as seen in Nigeria and Peru which have established separate banks or trusts to manage the funds.
- **An independent third party** which is the institutional model followed in France where the Caisse de Depots is the independent financial institution, and the United States where the Universal Service Administration Company has been contracted by the FCC. Most recently this approach has been followed in Pakistan, which provides a good example for this approach in a developing country context.

The Pakistani model is unique in that it is a Private Public Partnership run independently from the Ministry or regulator, and set up as a company with a fully authorized Board.[26] The Board consists of public and private sector representatives representing all aspects of the sector– political, bureaucrats, technocrats, operators from all sub-sectors and consumers, as illustrated in the table below. The USF CEO also sits on the Board.

Table 2.5: Case Study, Pakistan USF Board of Directors

Private	CEO	Public
• ISP representative • Fixed line representative • Mobile representative		• Minister of IT • Federal Secretary of IT • Member of Telecom MoIT • Chairperson of Regulator

Conflict of interest is avoided in the Pakistani model as the industry itself nominates its representatives. In addition the Board does not issue contracts, and private sector representatives must abstain in cases that involve their companies. There is full disclosure in this system. Although there have been recent governance issues with this model, none of the subsidies issued have been found to unduly benefit Board members. The Pakistan model is unique, especially amongst developing countries.

Important to note is that regardless of the location of the Fund, i.e. in the Ministry, regulator, or independent, it must have at a minimum ***its own dedicated:***

- Full time Fund Administrator/CEO;
- Board of Trustees or Board of Directors;
- Bank account; and
- Reporting procedures

[26] USF Pakistan Success Story, Pravez Iftikhar, USF CEO, presentation (www.itu.int/ITU-D/asp/CMS/Events/2010/Thailand-Broadband/Session4_Parvez_Iftikhar.pdf)

It has been recognised that some of the shortcomings of Funds include the high administration and capacity requirements for the Government to administer this regime effectively. While this is true in terms of Fund establishment (especially where, as in the case of Tanzania and South Africa, the Fund is a separate organisation), it is particularly true with respect to disbursement of USAF monies. In countries where the Fund is part of the regulator, shared resources are used which can reduce the Fund to a department or unit, and thus reduce its priority if the regime is not properly administered.

Developed countries such as the Australia, Canada and the United States have generally adopted regimes with higher up-front design costs but very low ongoing costs. They have overcome high disbursement costs because of economies of scale and relatively higher-capacity administrations. On the other hand, many low-income countries, including some in Sub Saharan Africa, have struggled considerably with high disbursement costs because of lack of economies of scale and relatively lower-capacity administrations. Assessing the costs of administration and ensuring organizational performance is discussed in further detail in Section 2.3

Box 2.1

The EC Directives do not require Member States to set up national compensation schemes (Funds). NRA's can establish funding systems only if operators with Universal Service Obligations can prove they face a new cost that constitutes and unfair burden (Article 5(1)).

If NRA's have a Fund, they must respect the following criteria[27]:

– Fund must be administered by an independent body;

– the body should be responsible for collecting contributions and overseeing the transfer of amounts due and disbursements to Universal Service Providers

2.2.2 SADC Experience

The SADC experience with respect to the setting up of Funds has been mixed. The Funds are either managed by independent agencies (e.g. South Africa's USAASA and Tanzania's UCAF), the regulator (e.g. Lesotho's LCA, Zimbabwe's POTRAZ, Botswana's BTA, Mauritius' ICTA, and Malawi's MACRA) or the government (Swaziland). Most countries' Funds in the region are managed under the regulator using a number of approaches to separate the Fund administration from the administration and governance of the rest of the regulatory authority.

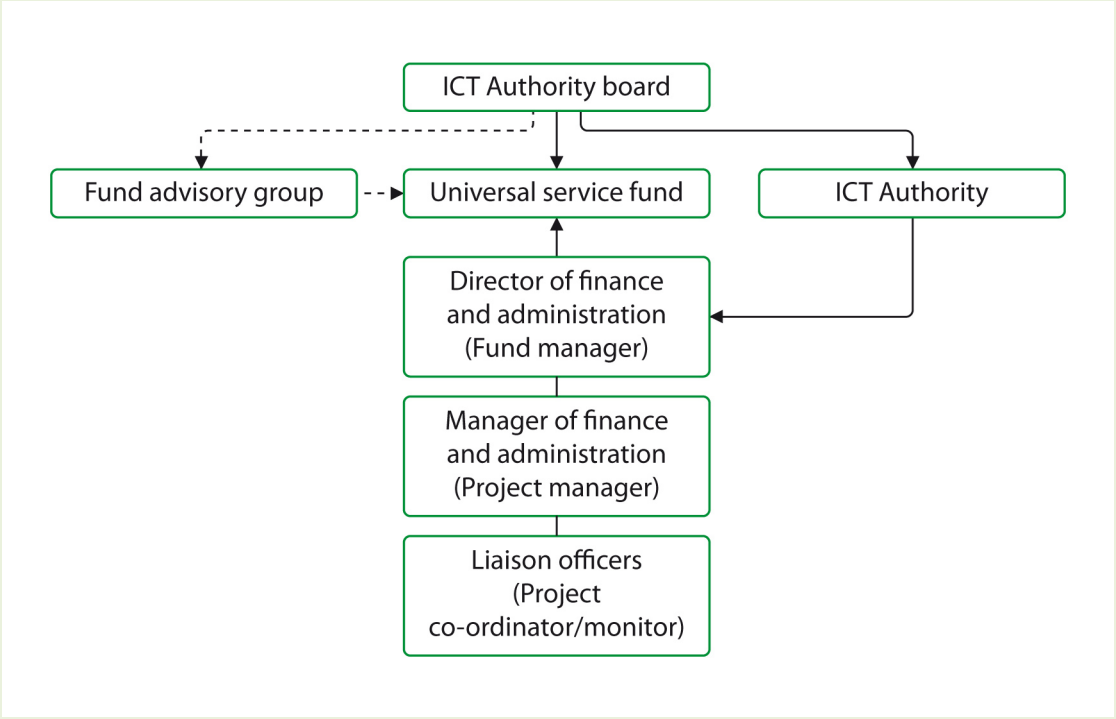
- **Lesotho's Universal Access Fund** is established under the regulator. It is a Committee of the Board of the regulator (LCA) as stipulated in the gazetted Fund Rules. The UAF Committee consists of the Chairperson of LCA (who is the Chairperson of the UAF Committee), and representatives of the Ministries of Communications, Local Government and Finance). In addition, the regulator is the treasurer of the UAF.
- **Mauritius** has adopted an interesting structure wherein it is established under the ICT Act 2001 that the regulator, ICTA, shall be the body designated to manage the USF. Mauritius thus recognized that it is thus important to draw the management and organisational structure that fits within the Authority to handle the USF, while at the same time ensuring transparency, accountability and preserving autonomy. The following structure has been set up:
    - The ICT Authority Board which is the board created under the Act.
    - The USF advisory group which provides input, suggestions and ideas to the USF management concerning project priorities, operational plans, objectives and key issues. The group shall consist of appointed representatives from the industry, the government,

[27] EC COM 96/608

public institutions with an emphasis on those most involved with fund activities, public operators, and consumer representatives.

- The Fund Administrator who oversees all fund activities.
- The Project Manager who is responsible for analysing market conditions, developing proposed project plans and acting as liaison with USF funding recipients in the implementation and evaluation of approved projects.
- Liaison officers: within the Authority (Engineers, attorneys, accountant, economist, etc…) responsible for extending professional support and resources in their fields of responsibility to the management.

Figure 2.1: Mauritian Fund Management Structure[28]



Source: ICTA

Regardless of the model followed, a concern is the human resource capacity that is being dedicated the Funds, or rather the lack thereof. In several countries, the Fund (whether a unit or a separate organization) consists of a single person responsible for the function. Additional resources are shared with the rest of the organization, in the case of the regulator, and no additional staffs are dedicated to the Fund. At present, only USAASA (South Africa) has a fully fledged organizational structure dedicated to the Fund consisting of over 55 staff members. UCAF (Tanzania) has plans to increase its capacity from the one full time resource that it currently has over the next year. Lack of in-house capacity is a constraint when it comes to implementation of the Fund and the complex tasks of project design, selection and financing. The Fund should as a rule have staff that combine skills in project management, finance, market research and analysis and technical skills, amongst others.

[28] Mauritius Country Report to CRASA, 2009

Table 2.6: SADC USAF Institutional Frameworks and Staffing[29]

Country	Fund Location	Number of Dedicated/Fulltime Staff
Angola	–	-
Botswana	Not yet	-
DRC	Regulator	-
Lesotho	Regulator	1
Malawi	Regulator (Universal Access Unit)	1
Mauritius	Regulator	-
Mozambique	Regulator	1 (Executive Secretary/Fund Manager)
Namibia	Not yet	
South Africa	Independent Agency	55
Swaziland	Regulator	5
Tanzania	Independent Agency	1 (Fund Administrator)
Zambia	Regulator (Universal Access Unit)	-
Zimbabwe	Regulator	-

No country in SADC has followed the Pakistani approach of appointing a third party Fund management company to manage the Fund on a commercial basis. In light of the challenges faced with project implementation of disbursement of funds in the region, this is an approach that could be considered to provide an efficient and incentive driven approach to managing the Funds. Recent developments in the Pakistani case demonstrate that even in this scenario, it is critical that good governance is on place, or the Fund may be destabilized.

Box 2.2: Pakistan case study[30]

The Fund in Pakistan is managed by a third party Fund Management Company contracted to perform the function by the state. Some of the key achievements of Fund, since its inception:

- The Fund was allocated a total of Rs.15.1 billion (USD 176 million) to spend on telecommunications projects in un-served areas. This could increase if Board Meetings could be held to approve signing of contracts where open bidding has been completed or where bidding could be initiated – both waiting board approvals.
- A total of Rs. 6.3 billion (USD 738 million) has been allocated for fiber optic rollout throughout the country, connecting all Tehsils.
- Through the Fund, telecommunications services have been made available to approximately 4.3 million people in 3,400 previously unserved villages; work is in progress to connect another 2,700 villages with a population of 2.5 million.

29 Annexure 7 of CRASA Report, as updated

30 http://propakistani.pk/2010/08/31/USAF-becomes-non-functional-no-new-projects-no-salaries-for-employees-for-months/. Note: currency conversion as of 19 March 2011

- In last three years, the Fund made broadband services available to 15.5 million people in urban/semi-urban areas in over 200 cities.
- Nearly 150,000 customers attained broadband services in more than 200 cities. Note that in these 200+ cities there was no broadband in the beginning of 2009.
- Under the Head of Special Projects, the Fund made various services available to 200,000 people through pilot telecenters and many more benefitting through ICT facilities for people with disabilities at Shifa Eye International Hospital and Foundation for Fighting Blindness.
- Telecom companies, with help of the Fund installed around 500 cell sites; a technical audit of 235 has been done.

Table 2.7: Management of Funds in SADC

Country	Model of Fund (Govt/Regulator/Agency)	USAF Agency Name	Year of Establishment of Fund
Angola	Not yet	N/A	N/A
Botswana	Not yet	N/A	N/A
Democratic Republic of Congo	Regulator	Universal Service Fund	2002
Lesotho	Regulator	Lesotho Communications Authority (LCA) – Universal Access Fund	2009
Malawi	Regulator		N/A
Mauritius	Independent Agency	ICTA	2008
Mozambique	Regulator	INCM – Universal Access/Service Fund	2004 (est) 2006 (operational)
Namibia	Not yet	N/A	N/A
South Africa	Independent Agency	Universal Service and Access Agency of South Africa	1998 (est) 2000 (operational)
Swaziland	Regulator	The Fund is administered by the Universal Service Obligation (USO) Committee	2010
Tanzania	Independent Agency	Universal Communications Access Fund (UCAF)	2006 (est) 2010 (operational)
Zambia	Not Yet	N/A[31]	N/A
Zimbabwe	Regulator	Board of Trustee of Fund in Regulator	2002

[31] There will be an Independent Agency upon the ICT Act becoming operational, currently first disbursement to LinkNet done by Regulator

Box 2.3: Fund Management: Summary of Best Practices

There are several options with regard to how a country structures its Fund. In SADC, most countries have already made a decision in light of Funds having been established in law in most instances. The decision to house the Fund within the regulator as a separate unit, in a separate agency, or to outsource the function to a third party depends on the country context. Regardless of the model uses:

The Fund must have a:

- Full time Fund Administrator;
- Separate Board of trustees;
- Bank account that is dedicated to it; and
- Reporting procedures.

In order for the Fund to success there should be strong leadership at the policy and institutional level, as well as sufficient autonomy for the Fund Administrator to fulfil the Fund's mandate.

Further to this, Member States must commit adequate human resources. These resources are likely to require skills relating to areas of activity as diverse as:

- determining service types and levels (e.g. legal, economics, policy),
- calculating reasonable costs of provision (e.g. economics and finance),
- deciding eligibility for funding (e.g. legal, policy, project finance),
- managing competitive tender processes for provision (e.g. legal, financial, technical, market research, market analysis), and
- drafting contracts and determining the liability of stakeholders (e.g. legal)

Not all of these skills may readily be available within existing National Regulatory Authority structures; if they exist they may not be available to be used by the Fund.

Box 2.4: Sample/Reference Material

As stated upfront in this document, there are a number of alternative approaches regarding Fund institutional frameworks and organizational structures. It is important that the particular circumstances of the country are taken into consideration before deciding on an approach. Hereunder are a few examples of approaches, and links to reference documents, that have proved successful in the context in which they were applied, and in relation specifically to Fund Management:

- Separate Institution - USAF Pakistan Success Story, Pravez Iftikhar, USF CEO, presentation www.itu.int/ITU-D/asp/CMS/Events/2010/Thailand-Broadband/Session4_Parvez_Iftikhar.pdf
- Separate Agency - Universal Communications Services Act, 2006, Tanzania – UCAF Act Tanzania.pdf
- Separate Agency - Electronic Communications Act, South Africa www.icasa.org.za/tabid/86/Default.aspx
- Under ICT Authority- ICT Act (2001) and Amendment Act (2002), Mauritius – www.icta.mu/documents/laws/ictact.pdf

2.3 FUND STRUCTURE – ENSURING ORGANISATIONAL PERFROMANCE

Like many public sector organisations, there is no "ideal" size for a Fund, however there are a number of systems that agencies responsible for Fund management could implement to assist with the achievement of the universal service and access strategy and the management of costs and operational efficiency. Some systems are more onerous than others, and to choose the most appropriate approach the agency should have a clear understanding of its objectives and mandate and the outcome it wishes to achieve. The implementation of a system to measure organizational performance from the start of the Fund is highly recommended as it assists in ensuring that the mandate can be delivered and that organizational risk is managed, particularly the risk related to financing large scale projects.

An effective technique for Fund Managers to obtain an understanding of their efficiency and capacity requirements is to introduce a costing model, such as Activity based Costing (ABC) that identifies activities in the organization and that would assign the cost of each activity resource to outputs (products and services) according to the actual consumption. This means that indirect costs (i.e. taxes, administration, personnel and security costs also known as overheads) would be assigned into direct costs (i.e. salaries for project staff and materials required for a particular project). It is much easier to trace the direct costs of a project as it is assigned on an item by item basis, indirect costs on the other hand are more difficult or even impossible to trace indirect costs as these are costs are for activities or services that benefit more than one project. As an example, it may be difficult to determine precisely how the activities of the Fund Manager or the accountant for a regulatory body in general, who only spends part of her time managing the Fund, may benefit a specific project.

Once all of the Funds' costs are mapped to a specific activity, it is in a position to estimate the cost of individual products and services, which allows the Fund to critically assess the actual costs of specific products and services, identifying its efficiencies and inefficiencies. Due to the high cost of implementing ABC as discussed above, especially in a Fund context where the Fund is within an organisation (e.g. the regulator) which may itself not have undergone ABC or other costing models to ensure efficiency; or where the Fund consists of fewer than three fulltime staff members as is the case in most SADC countries, "leaner" alternative models have become popular in recent years. The Lean Accounting model provides relevant and thorough accounting, control, and measurement systems without the complex and costly methods of ABC, and by eliminating cost allocations rather than finding complicated methods of allocation.

The Balanced Score Card (BSC) is a third example of a strategic planning and management system. The BSC is used to align business activities to the vision and strategy of the organization, improve internal and external communications, and monitor organization performance against strategic goals. It was developed as a performance measurement framework that added strategic non-financial performance measures to traditional financial metrics for a holistic of 'balanced' view of the organisation's performance. The BSC refers to 4 objectives:

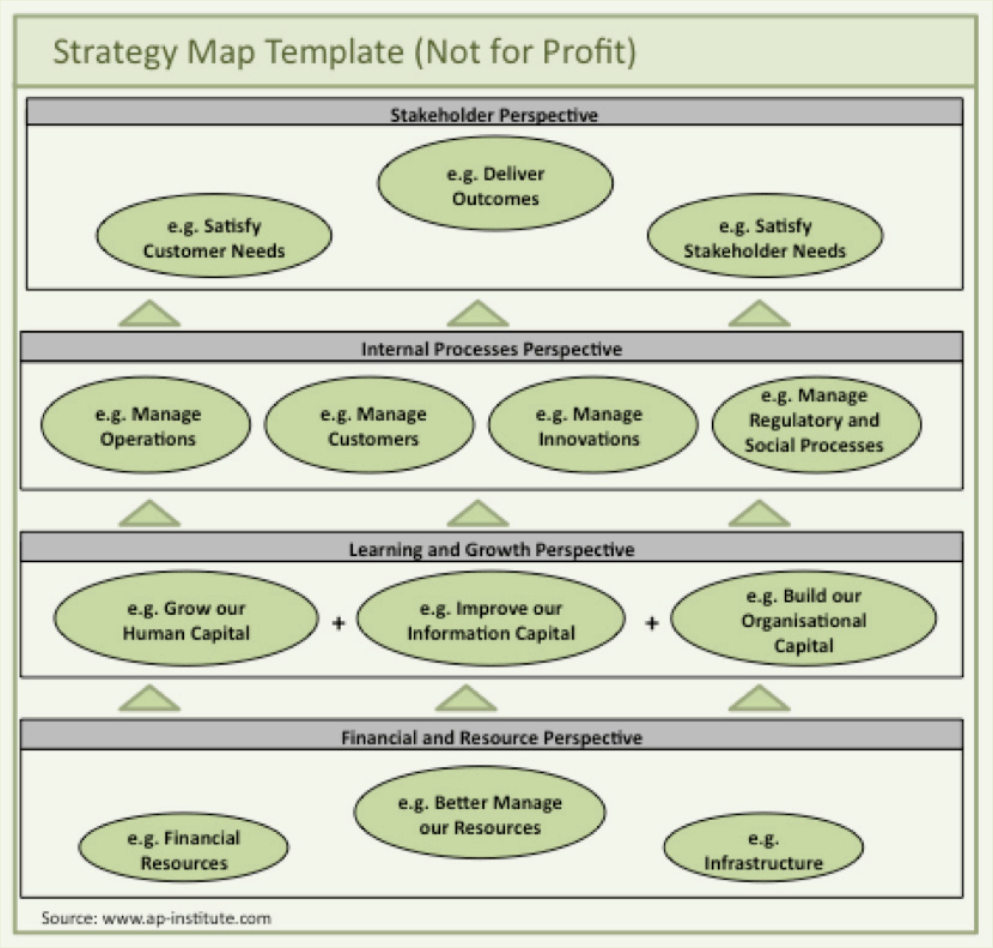
- the Learning and Growth Perspective,
- the Internal Process Perspective,
- the Customer Perspective; and
- the Financial Perspective.

The strategic map set out below provides the links between the different business objectives:

- The objectives in the Learning and Growth Perspective (e.g. developing the right competencies) underpin the objectives in the Internal Process Perspective (e.g. delivering high quality business processes).
- The objectives in the Internal Process Perspective (e.g. delivering high quality business processes) underpin the objectives in the Customer Perspectives (e.g. gaining market share and repeat business).
- Delivering the customer objectives should then lead to the achievement of the financial objectives in the Financial Perspective.

Herewith a template for government and not for profit organizations as provided by the Advanced Performance Institute (API) . It is important that Fund Managers investigate different alternatives before deciding on a specific model.

Figure 2.2 : Template for aligning administrative requirements with strategy



Sample/Reference Material - ABC, Balanced Scorecard frameworks

http://www.12manage.com/methods_abc.html

http://www.ap-institute.com/Balanced%20Scorecard.html

http://www.balancedscorecard.org/BSCResources/AbouttheBalancedScorecard/tabid/55/Default.aspx

2.4 FUND MANAGEMENT PRINCIPLES

Funds, like all financial institutions, should have clearly defined rules and principles that guide them. The importance of the key principles of accountability, transparency and efficiency in the provision of public funds, and specifically in Fund Management cannot be overemphasized. Each principle is discussed in turn below, as well as how the principle is translated into practical implementation and fund management approaches.

2.3.1 Global Experience and Good Practice

2.3.1.1 Accountability

Accountability requires that the Fund (or other public financing body such as the municipality in the case of a municipal led PPP) is responsible to all external stakeholders for the manner in which it has conducted its business for a given period. As such the following tools are necessary to ensure accountability:

- **Separate accounting –** the Fund (or donor, NGO or public financing body) should recognize that the monies it collects are for a designated purpose and from a range of sources and as such, regardless of the institutional framework, must ensure that it has its own bank accounts and associated accounting procedures. The Funds operating budget should be separate; as should its accounting for project related costs. The necessary financial controls should be put in place to ensure accountability.
- **Operating procedures** –the Fund (or or donor, NGO or other public financing body) must develop what is often termed a "Manual of Operating Procedures." This Manual sets out the specific rules with respect to critical issues such as procurement, accounting standards, project selection criteria, technical partner selection criteria, tendering processes and procedures, and disbursement procedures or participation rules in the case of a PPP.
- **Governance Framework** – there must be a clear governance framework. In the case of a Fund, in many countries the rules relating to governance are set out in existing legislation, and also in the Manual of Operating Procedures. While this is an option, it is also important to keep the Governance Manual as a separate document to give it importance and significance as critical issues on its own. The Governance Manual includes issues such as the general constitution, role and functions of the Fund, the role of the Board, Executives and staff, the management of finances and reporting requirements.
- **Annual report** – An Annual Report must be published accounting for monies spent and setting out the Funds' activities, levies collected, disbursements and any other key issues that affected the Fund in a given year. Based on an analysis of websites of CRASA members, only one of the Funds (South Africa) has made Annual Reports publically available.
- **On-going reporting –** Periodic Reports must be provided to the relevant stakeholders, including the communities with respect to the monitoring, evaluation and impact of the projects that are being undertaken. This will ensure both accountability and stakeholder and community awareness.

- **Annual auditing** – the funds and accounts of the USAF should be independently audited on an annual basis, and the audit results should be made public. Similarly, in the case of a specific project, the recipient of the public financing (whether from a Fund or other source) must provide an audited report regularly on its progress and performance.

2.3.1.2 Transparency and Trust

It is important that all public and private stakeholders have confidence in the Fund and its management team to deliver on its mandate in a manner that is fair, procedurally sound and transparent. Transparency and trust are supported by clear processes (and the Governance Manual and Procedures Manual discussed earlier). A further document that should be prepared to promote transparency is a Manual or Handbook for Recipients of subsidies from the Fund, or any public financing whether it is direct funding or through a PPP or other financing mechanism. One such Handbook is the US' BTOP Recipient Handbook which provides rules for recipients of universal access financing to abide by, compliance requirements and reporting requirements, amongst others.

Box 2.5: Model Subsidy Recipient Handbook Table of Contents (USA)

- Preface
- Chapter 1: Award Recipient Responsibilities
- Chapter 2: Project Start-Up Activities
- Chapter 3: Draw Down Funds
- Chapter 4: How to Comply with Environmental SACs
- Chapter 5: Recipient Reporting
- Chapter 6: Project Modifications and Award Action Requests
- Chapter 7: Project Closeout Activities
- Chapter 8: Grant Administration Standards: Complying with Award Terms
- Chapter 9: Understanding Stakeholder and Media Relations
- Appendix A: BTOP Recipient Master Checklist of Activities
- Appendix B: Helpful Resources
- Appendix C: Glossary
- Appendix D: Acronym List
- Appendix E: Grantee Environmental Commitment Schedule Checklist
- Appendix F: Fact Sheets

In addition, confidence in the people appointed to the Board who should be broadly representative, and should not have any financial or processional conflicts of interest instills trust.

The Fund should conduct public consultation processes and request input from the public on major decisions such as auction design, draft RFPs and contracts, and where the Fund is mandated to make recommendations on key policy issues such as definitions of underserved areas, eligible beneficiaries and eligible bidders. This will promote stakeholder involvement, and buy-in to Fund processes.

Several SADC countries including South Africa, Lesotho and Mozambique have undergone public consultation processes on issues ranging from definitions of the concepts of 'universal service' and 'universal access', as well as on subsidization projects.

2.3.1.3 Efficiency

Efficiency is a key characteristic of Funds if they are to be effective. This requires at a minimum:

- Understanding of the environment and responsiveness
- Management autonomy
- Sufficient financial resources
- Adequate human resources and capacity
- Enforcement and dispute resolution powers
- Evaluation mechanisms

An inefficient Fund can be too slow in implementing projects, in which case the steps taken may be inappropriate, too late, or too expensive, amongst others. This is a serious risk in a sector that is as fast paced as the ICT sector; and bearing in mind that technologies rolled out could be obsolete or outdated by the time they reach the target community if there is any delay. A global phenomenon, as Funds enter into maturity and many have been in existence since the 1990's, is that some have collected funds well in excess of their capacity to organise competitive bidding processes and allocate subsidies. In addition to this being attributed to inefficiency, this is also often cited as evidence that there is over-collection since contributions are often fixed and sector revenues are increasing; and also is evidence of miscalculation of the countries needs. The risk of this occurring, and the reality that it has happened in the world and in the region makes it critical to re-emphasize the importance of the Fund statutes providing for evaluation processes, the re-assessment of the levy/contribution required and the assessment of the impact of the Fund from time to time.

Table 2.8: Case Study – European Union

EU experience with State Aid for financing Broadband

In the context of market reform, good practice in financing universal access projects using public financing other than Funds in international jurisdictions includes the practice of setting out rules or guidelines on the provision of public funding for universal service and access. In the EU, State Aid Guidelines for funding broadband assist in bringing universal access and service through the presence of clear rules which:

- facilitate NGA and broadband investments from public funds in order to bring broadband connectivity to under-served areas.
- Enable the rapid deployment of broadband and especially NGA networks, thus avoiding the creation of a new digital divide.
- due to the conditions laid down for the granting of state aid (such as open access, open tenders) allow the maintenance of competition, which will in turn contribute to ensuring better and more broadband services.

Although historically funding decisions could be made on a case by case basis in the EU, in light of the significant level of investments, it has been recognised that a level of certainty is required for all stakeholders, hence the need for the Guidelines.

Box 2.6: Summary of Best Practices: Fund Management Principles

Funds must adhere to principles of good governance, accountability, transparency and efficiency. In line with global best practice all operational Funds in SADC should have in place:

- A Manual of Operating Procedures setting out the Fund rules for procurement, accounting standards, project selection criteria, tendering processes and procedures, and disbursement procedures, amongst others;
- A Governance Manual with which its Board and Senior Executives must comply – this may be combined with the Manual of Operating Procedures. It is noted that in some countries this will already be provide within the public sector rules and regulations. The Fund must then make a statement that it adheres to such rules and regulations;
- Proper financial controls including separate accounting, its own bank account and separate and public financial reporting;
- Proper reporting in the form of audited annual reports, which are made publically available;
- Public consultation on key policy and procedural matters to encourage stakeholder buy-in and participation.
- A publically available source of information on the application process, e.g. an application portal and on projects as they are in development and implementation (on-going reporting)

Box 2.7: Sample/Reference Material

Although this is not an exhaustive list of approaches, the information listed hereunder, may be useful to obtain a better understanding of workable fund management principles.

- US' BTOP Recipient Handbook (http://www2.ntia.doc.gov/files/Recipient_Handbook_v1.1_122110.pdf#Chapter5)
- US' BTOP, Overview of Grant Awards (2009), www.ntia.doc.gov/reports/2010/NTIA_Report_on_BTOP_12142010.pdf
- Pakistan USF Rules, amended in 2007 – www.usf.org.pk/Rules-Policies.aspx
- Uganda (RCDF) Manual of Operating Procedures
- USAASA Annual Reports for 2006/7, 2007/8, and 2008/9 – http://www.usaasa.org.za/index.php?q=publications,1
- Web Portal for Applications for Broadband Funding, United States http://www.broadbandusa.gov/
- American Policy of Audit Reporting by RUS Borrowers (2001) www.usda.gov/rus/8-3-2007work/1773-1.pdf
- Australian Requirements for Annual Reports (template for government departments, universal service specific) – www.dpmc.gov.au/guidelines/docs/annual_report_requirements.pdf
- European Commission website setting out consultation process for Broadband Guidelines on the application of EU state aid rules to public funding of broadband networks http://ec.europa.eu/competition/consultations/2009_broadband_guidelines/index.html

Part 2

2.4 SOURCES OF USAF FUNDING

2.4.1 Global Experiences and Good Practice

Universal Service and Access Funds are generally financed from one or more of the following sources:

- **Government general budget,** in a minority of cases, including one of the first funds, Chile's Fondo de Desarrollo de las Telecomunicaciones;
- **Levy imposed on industry**, as a percentage of annual revenue, on certain classes of licensed operators, this is the approach followed in the countries such as the USA, Malaysia and India;
- **Regulatory sources** such as the proceeds of license competitions, frequency spectrum auctions and fees. The Guatemalan Fund is an example of this approach. Additionally in Australia, 5% of the proceeds of the privatization of Telstra were used to fund rural development; and
- **Once-only contributions** from government, financed by loans or grants from international donors such as the World Bank, contributing **seed finance** to assist USAF start-up in the early years.
- **Consumers** – direct or indirect levy on consumers of communications services, for example through a direct levy on the consumers' phone bill. The French and US Funds use this form of funding, amongst others;

Whatever funding mechanism is selected by CRASA Member States, it must be carefully structured and targeted to limit market distortion. The legal instruments establishing most USAFs typically name all of the above potential sources. The primary source of funding globally tends to be through annual operator levies.

It is argued that a USAF financed mainly by operator levies typically is easy to administer, it is also independent of available government funding, and therefore particularly attractive for developing countries with limited state resources and competing developmental priorities for the governments limited resources in other sectors such as health, education and housing. However, were it is possible, contributions from the government budget, and other sources, to the USAF are encouraged.

In some countries an argument has been made for the use of part of the proceeds of frequency spectrum auctions and licensing processes to contribute to the funding for a USAF. An example is Guatemala's FONDETEL which was partially funded in this manner as well as the e-Opportunidades programme introduced by the Portuguese Government, which is funded by the proceeds of the 3G auction[32]. Possibilities for application of this approach in SADC are considered in the next section.

Each country can evaluate which mix of financing might be available and appropriate for the UAS policy implementation. This will be informed by the framework and also the demand. Regardless of the approach taken, it is critical for sustainability of the Fund that the funding mechanism is predictable, and that the timing and the frequency of the funding allows proper planning and regularity for the implementation of programmes and projects.

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[32] "Intel eLearning Deployment Guide: How to integrate ICT in Education for the 21st Century" published on www.intel.biz/Assets/PDF/designguide/Intel_elearning_Deployment_Guide.pdf and accessed on 31/01/2011

2.4.2 SADC Experiences

In the SADC region, the legal instruments establishing most USAFs typically name all of the above potential sources. In practice, all methods have been explored with Botswana's BTA having provided surplus license fee income to the Fund in 2007, and Lesotho's LCA providing seed capital of US$1.25m[33]; countries like Tanzania and Malawi[34] having received seed funding from the World Bank in 2009/10; and South Africa, Swaziland[35], Tanzania, Lesotho and Zimbabwe, amongst others, having set levies for operator contributions ranging from 0.2 percent of annual turnover to 5 percent. The primary source of funding in the region tends to be through annual operator levies.

SADC experience is that typically, all major operators, fixed and mobile, are required to contribute to the Fund. DRC is a notable exception where it is reported that only mobile operators make a USAF contribution. In light of increasingly converged licensing and regulatory regimes, in more and more cases (e.g., South Africa, Tanzania) "licensees" are defined broadly and ISPs and even post and courier companies have been required to contribute. This is consistent with the approach taken in other African countries like Kenya and Uganda. In the South African case broadcasting licensees also contribute to the Fund or offset the contribution against a contribution to a broadcasting sector Media Development and Diversity Fund ("MDDA").

Funding from spectrum and licensing processes is an option in countries where there is spectrum available and where licensing processes will soon be underway. This is likely for the licensing of new technologies such as Wimax and LTE in the region.

In light of the identification of the key challenge in SADC being the disbursement of funds and the implementation of projects, as opposed to the collection of Funds, this section provides an overview simply for completeness.

Table 2.9: South African Case Study of Fund Collection and Disbursement

South Africa has a fairly complex institutional framework where three government institutions play a role in the Fund Management process as far as collection and disbursement of Fund contributions is concerned. The regulator, ICASA, is responsible for making regulations setting out the USAF contribution and is responsible for calculating and collecting the levies from operators. In terms of the law, ICASA must send all money it collects to the National Revenue Fund (Treasury). USAASA thus plays a role only in disbursement and project design, but not directly in the setting of the levy, or the manner of collection. The money that must be disbursed has to then be allocated to USAASA by Treasury.

Box 2.8: Summary of Best Practices: Sources of Funding

The fund collection methodologies discussed in this section are not mutually exclusive. For pragmatic reasons it may be best for Member States to rely on a combination of funding sources. The decision of the fund collection methodology should score well in relation to the following[36]:

- Non market distorting – funding mechanisms should promote economic efficiency and should not distort economic or market behavior. The Fund should not impede competition, should avoid free-rider effects and should stimulate additional investment;

33 In Lesotho, since 2009 the Fund collects 1 percent of the network operators' net operating income. It furthermore started with a R10 million contribution from the LTA and 25 percent of the Regulator's operating surplus.

34 Seed funding of $1.2 million (R 10 million)

35 According to section 42(8) of the 2009 ICT Bill, Swaziland' Commission shall contribute all remaining unused funds or revenue to the Universal Service/Access Programme.

36 Rethinking Universal Service for a Next Generation Network Environment, OECD 2006

- Equity – the contribution scheme should be fair and reasonable, and similar costs should be borne by contributors with a similar ability to pay;
- Competitive neutrality – no operator, licensee or other provider should be favoured; the principle of non-discrimination should be adhered to;
- Technology neutrality – no technology should be favoured; the principle of non-discrimination should be adhered to;
- Certainty – the contribution/ arrangement should be specific, predictable and sustainable;
- Transparency – there should be mechanisms to enable the public scrutiny of information, as far as is reasonably practicable;
- Cost effectiveness – the introduction of the fund collection methodology should be cost effective, as should its ongoing maintenance and administration; and
- Avoidance – compliance is key and scope for avoiding requirements, obligations and rules should be minimized.

Where Member States have decided on a levy to be imposed on operators, the levy should be reviewed periodically. On one hand there is a need for consistency and predictability for the industry and the Fund to enable proper planning, and as such it should be in place for at least 2 to 3 years. However, the requirements of the Fund will change as universal access is achieved, as operators' revenues change, and as universal access targets are adjusted. Retaining the same levy for long periods without reviewing it may result in collections that do not meet policy objectives or market realities.

Where countries have adopted a converged regulatory regime, the regulations dealing with the USAF contribution and the levy itself should be reviewed further to public consultation in light of the additional players which may fall under the scope of the Fund.

All contributions received from operators, donors, government or other sources should be recorded and reported at least annually in the Annual Report.

Box 2.9: Sample/Reference Material

As explained above, the sources of funding and fund collection methodology applied in countries must be assessed against its impact on the market. Samples of regulations that govern collection and disbursement include:

- South African USAF Contribution Regulations www.icasa.org.za/LegislationRegulatory/ExistingRegulations/Prescribedannualcontributionsoflicenseestoth/FinalRegulations/tabid/147/ctl/ItemDetails/mid/810/ItemID/23/Default.aspx
- Mauritian USAF Regulations www.icta.mu/documents/Gn-206_2008.pdf

2.5 LEVEL OF CONTRIBUTIONS TO THE USAF

2.5.1 Global Experience and Good Practice

As discussed in the previous section, levies on operators are the main source of funding in most countries globally, as well as in SADC. Once the sources of funding have been identified, and in light of the fact that operator contributions constitute a potential form of collecting monies in all countries with Funds, there are two main ways to estimate the appropriate funding level for each country. These are as follows:

- **Policy-driven approach** – the country's universal access policy objectives and targets are assessed and an estimate of the cost of meeting these goals is determined (e.g. connecting all of the secondary schools by 2015; providing 5000 public payphones in X cities over 3 years, etc). Thereafter, total sector revenues are derived through an analysis of all of the operators' revenues (over a period of time, i.e. the last 3 years). The total cost and subsidy estimates are compared to the total sector revenues -- the percentage of total sector gross or net revenues calculated by this method becomes the high level estimate; or
- **Market-driven approach** – using a public consultation process, the Fund Administrator determined through input from operators, civil society and other affected parties, what the levy should be. In addition, international benchmarking is performed. Once the levy is decided, the anticipated annual contributions to the Fund can be determined and the USAF programmed can be designed to accommodate this amount.

There are pros and cons to both approaches. In many countries a combination of the two approaches is followed so that the costing is somewhere between the higher costing associated with the often political objectives that are costed in a policy based approach; and the operational considerations put forward under the market driven approach.

Levies on operators internationally range from 0.04 percent of revenues in Estonia to 5 percent in Colombia and India and 6 percent on certain services in Malaysia.[37] Most countries however have a contribution level ranging between 1 and 2 percent, with contributions required from fixed and mobile operators as well as Internet Service Providers ("ISPs"). As will be discussed below, the SADC levies fall broadly within the global norms, with South Africa and Tanzania both falling below global norms.

The levies can have a direct impact on the levels of disbursement. Determining the wrong contribution can lead to either over or under collection, both of which can negatively impact the perceptions of the Fund, and affect its effectiveness. The challenge is to match the size of programme to the amount available annually in the USAF. One way to overcome this challenge, although relatively untested in the realm of USAFs is the creation of "virtual funds.[38]" In terms of these funds, monies due would be recorded in operators' and the Fund Administrators' financial statements, but would only be collected once they are ready to be disbursed. As such, the percentage contribution would be determined in advance in regulations, however, such contribution would only be due once the Fund Administrator is ready to disburse them and within a given year. An approach like this addresses concerns related to the risk of unused revenue from the levies, the pace of commercial development, and the over-collection "problem",

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37 Hudson H, Defining Universal Service Funds (Intermedia, March 2010)

38 See Options to Increase Access to Telecommunications Services in Rural and Low Income Areas, Muente-Kunigami & Navas-Sabater, World Bank, 2010. http://siteresources.worldbank.org/EXTINFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/Resources/282822-1208273252769/Options_to_Increase_Access_to_Telecommunications_Services_in_rural_and_Low-Income_Areas.pdf

however, in light of the bureaucratic processes the Fund Administrators must follow to get approval for disbursement of Funds within countries, and the risk that operators may not make the payments when requested, a 'virtual fund' may be too slow to implement.

2.5.2 SADC Experiences

In SADC, universal service or access funds are mostly financed by a set levy on licensed operators' earnings. In some instances this levy is coupled with a government subsidy (e.g. Mozambique), seed funding from donor agencies (e.g. Malawi, Tanzania) and/or regulators' surpluses (e.g. Botswana, Lesotho). Levies range from 0.2 percent to 5 percent of the operators' annual gross turnover in SADC (see *Table 10)*.

It appears that primarily a market driven approach has been followed to set the levies, rather than costing the universal access programme through a policy driven approach – in some cases levies have been set prior to universal service and access targets and objectives being defined. SADC Regulators and Fund Administrators have arrived at levies through benchmarking coupled with public consultation processes. This is the case in South Africa, Tanzania, and Mauritius.

Table 2.10: Contributions to the USAF in SADC[39]

Country	Levies on Operators	Other Contributors	Comments
Botswana	N/A	Government	Seed Capital from Regulator for Future USAF
Democratic Republic of Congo	2%	None	Only the mobile operators contribute[40]
Lesotho	1% of Net Operating Income	25% of NRA operating Surplus Seed Capital from NRA Govt	
Mauritius	5% gross revenue from international roaming ; 1,50 Rupees on incoming international calls		
Mozambique	1% in income after tax	Government, Interest of Fixed Deposits, Surplus fund at the end of Regulators' financial year, and other donations (Development Partner grants, etc)	
South Africa	0.2% of Gross Annual Turnover		
Swaziland	0.05% of Net Operating Profit	None	Only the mobile operator contributes

39 HIPSSA *Review, as updated*
40 Sepulveda, 2009

Country	Levies on Operators	Other Contributors	Comments
Tanzania	0.3% Annual Gross Turnover	Development Partner grant	
Zambia	Regulator allocates 10 % of its 3% Annual Gross Turnover from license revenue		UAS activities are funded solely on budget submissions by the UA unit. Legislation is yet to be put in place which shall specify allocation toward the Fund.
Zimbabwe		2% contribution from all operators[41]	Any monies appropriated by act of Parliament for the purposes of the Fund. Any surplus funds at the end of the Regulators financial year. Any other monies to which the Fund may be lawfully entitled may also be used

Box 2.10: Summary of Best Practices: Level of Contribution

With regard to establishing the level of contribution (where an operator levy is imposed):

- Levy contributions should be arrived at in consultation with all stakeholders; a public process and publication of the final decisions in binding regulations or rules is advisable.
- It is best not to put the actual percentage contribution in the law as it should be aligned with policy objectives and targets which may change; and with market developments. A range may be put in the law to guide the regulator/Fund Administrator in setting the levy.
- Levies should be reviewed periodically to ensure alignment with market developments and national policy objectives.

[41] Available at www.potraz.gov.zw/index.php/component/blog_calendar/?year=2010&month=03&modid=80&start=40 as reflected on 2/02/2011

2.6 RECAP – MAKING SURE YOUR USAF FRAMEWORK IS COMPLETE

Table 2.11: Checklist for USAF Rules and Regulations

The following describes the issues which must be addressed in terms of locally relevant, technically sound and legally binding regulatory documentation, in order to enable a transparent, accountable and well structured Fund.

SADC Member States are urged to assess how their frameworks fare against this checklist:

- Member State has detailed objectives for the regulator or agency to implement the UAS policy?
- Member State has detailed institutional arrangements such as establishing a specific UAS department or directorate within the regulator, or establishing a separate implementing agency?
- Frameworks specifies the functions to be fulfilled in developing a detailed UAS programme– e.g., defining and zoning areas of the country to determine those which are served, unserved, commercially viable, non-viable, setting strategy, determining priorities, designing projects, monitoring outcomes, etc?
- Framework provides for the development of guidelines, principles and procedures of the UAS implementation, any supervisory or monitoring board, or consultative committee? Has the Member State since made them?
- Member State's rules specify responsibilities such as UAS programme approval, official sign-off on UAS disbursements, and other detailed accountabilities?
- Country's rules require annual reports, their implementation, success and challenges, progress towards the UAS objectives and their public dissemination; does a template exist?
- Member State rules provide for periodic reviews of the UAS policy, objectives, strategies and the regulation in case changes in the market or policy-environment require updates.

Specifically relevant to the USAF, does your framework have:

- Detailed rules on process and eligibility for USAF disbursement;
- Specific financial regulations, including the holding and investment of USAF funds, eligible costs and expenses, limits on operational and administrative costs, and financial control, reporting and independent auditing; and
- Detailed accounting rules for operators in order to establish the correct USAF licensee levy.
- Details relating to the institutional framework and operating framework for the Fund (Administrative Rules, Manual , etc)

Are all of the above captured in binding regulatory documents (i.e. published in regulations, guidelines, rules, as required, and be enforceable) and were these regulatory documents finalized following public consultation?

Part 3

FINANCING UNIVERSAL ACCESS PROJECTS

Part 3

3.1 UTILIZATION OF FUNDS

3.1.1 Global Experience and Good Practice

3.1.1.1 Disbursing Money to Finance Projects

In the period 1998-2006, only 26 percent of USAF funds collected globally had been redistributed to the ICT sector for use on universal access projects[42]. Regulatel[43], the regulators' association in Latin America, conducted a fairly comprehensive analysis of fund disbursements in that region and found that:

- in the 13 Latin American countries with Funds, the amounts collected ranged from USD 1 million in Ecuador to USD 1,8 billion in Brazil.
- of the 13 countries, 6 of them had not disbursed any of the monies in the Fund,
- of the 13 countries 4 had disbursed less than 45 percent, and 3 particularly effective funds in Chile, Mexico and Paraguay had spent over 95 percent of the money collected.

Emerging markets such as India and Pakistan have fared better in respect of the ability to disburse the monies in the USAF. In addition, in the EU (e.g. Finland, Ireland, and Sweden), where public aid has been provided in terms of the Recovery Plan and through mechanisms other than USAFs, disbursement levels to date are quite high. In 2010, the European Commission adopted a record number of 20 decisions covering aid for broadband development in, among others, Catalonia, Finland and Bavaria, authorising the use of over €1.8 billion (USD 2.55 billion) of public funds for broadband development.[44] Excluding national funding (provided by a specific country on a country by country basis), between 2007 and 2013 a total of €2.3 billion (USD 3.25 billion) was allocated to broadband infrastructure investments and €12.9 billion (USD 18.3 billion) to information society services through the EU Structural Funds,; and a further €360 million (USD 510 million) was issued through the Fund for Rural Development and used for broadband funding. The EIB invested in 2009 €2.3 billion (USD 3.25 billion) (a total of €12 billion (USD 17 billion) in the last decade) in broadband infrastructure.

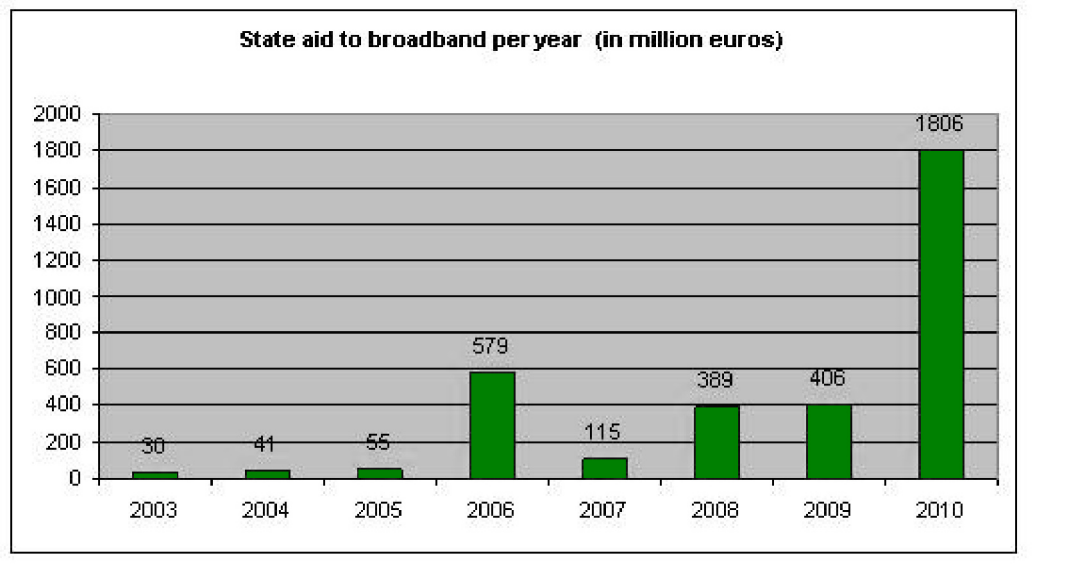
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42 GSM Association , 2009

43 Regulatel membership comprises 19 Latin American regulatory agencies from Central and South America and Mexico. The organization was created in 1997 "to promote cooperation and coordination of efforts, and to promote the development of telecommunications in Latin America." Its structure includes a Plenary, a President, the General Secretary and a Management Committee. See http://www.regulatel.org/

44 See Complete list of EC decisions at http://ec.europa.eu/competition/sectors/telecommunications/broadband_decisions.pdf

Figure 3.1: Approved State Aid for Broadband in the EU (2003 – 2010)[45]



While disbursement of funds is an achievement, it is important to understand what makes some countries able to disburse monies to projects swiftly and effectively. It seems that the common characteristics of markets such as Sweden, Pakistan, Finland and India include clear rules, effective public consultation processes and transparent processes. In addition good governance is important – since its dismantling in 2010, the Pakistani Fund has not been able to make any project decisions.

It is critical that financing is provided in line with the good governance principles discussed in Part 2 of this Toolkit. In the United States, despite high levels of disbursement, utilization of funds by the Fund has been plagued by concerns around governance, prioritization and efficiency with respect to the use of the funds. The USA is reforming its Fund to address concerns, particularly in High Cost Areas, relating to the reasons for the increase in subsidies in high cost areas over the past decade for these very reasons.

In developing countries the problem does not tend to be overfunding, in part due to the fact that unlike the United States, most developing countries and emerging markets have adopted the least cost subsidy approach to financing projects. This is discussed in Part 3 under section 5 on "Bidding Processes".

3.1.1.2 Speed of Financing

Another challenge with respect to the utilization of the Fund is the speed of financing. In Latin America, Regulatel found that there are 5 main reasons for countries being slow to finance projects, namely:

- where the Fund is located with the regulator, the regulator doesn't prioritise universal service;
- the speed of the political process, governments fail to pass enabling legislation, or hold back approvals for funds to be spent;

[45] Available at http://europa.eu/rapid/pressReleasesAction.do?reference=IP/11/54&format=HTML&aged=0&language=EN&guiLanguage=en as reflected on 2/02/2011

- the time needed to design, evaluate and assess and implement projects is significant;
- Since the projects are often considered 'public investments' they are subject to lengthy approval processes as any other process utilising public funds;
- disbursements may be subject to additional constraints from third party organizations such as the IMF

These challenges are not unique to Latin America and will be discussed in more detail, in a SADC context below.

3.1.2 SADC Experience

Utilisation of Funds in SADC is a challenge. To date at least four out of seven countries have subsidised operators rolling out in high cost areas or working on projects that provide ICT in underserviced areas and this can be seen in *Table 13* below. Other than South Africa which provided subsidies for telecentres as early as 1999, the other countries subsidies were issued post 2008. The other 10 countries are at various stages of commencing disbursement or are planning to do so. Table 11 below looks specifically at the Mozambique case for which historical data is available, and Table 12 looks at the Lesotho case.

It should be noted that in the case of Mozambique, the Fund was first disbursed in 2006. Recently, in October 2010, the Fund issued a bid to provide GSM coverage and services in 14 areas in the North, South and Centre of the Mozambique. It is anticipated that $3.7 million will be disbursed for this project in 2011. In addition, in 2011 the Fund intends to issue another bid for the provision of infrastructure and Internet services in districts and localities.[46]

Table 3.1: Disbursement of Mozambique USF[47]

	2006	2007	2008
Collected	$657,354	$903,862	$1,780,334
Spent	$0	$0	$383,456

[46] INCM Submission, April 2011

[47] RIA Sector Performance Review, Mozambique (2009/10); uses August 2010 exchange rates to arrive at dollar amounts

Table 3.2: Disbursement of Lesotho USF (projects completed)

Disbursement Method	Competitive, using Reverse Auction		
Collected[48]	$1,250,000		
Spent	$1,348,283		
Project Name	**Type**	**Year**	**Amount (US$)**[49]
'Malefiloane Area	Infrastructure for GSM Coverage	2010	990,000
Tebellong Area	Infrastructure for GSM Coverage	2010	720,000
Makhaleng Valley	Infrastructure for GSM Coverage	2010	506,000
Hloahloeng	Infrastructure for GSM Coverage	2010	1,418,000

Source: RIA Sector Performance Review, updated by Lesotho CRASA/HIPSSA Questionnaire

48 Fund has not started collecting from operators yet – seed funding was provided by regulator

49 Country Questionnaire, used March 2011 exchange rates to arrive at dollar amounts

Table 3.3: Analysis of USAF Disbursements in SADC[50]

Country	Starting Year of Fund	Starting year of Disbursement	Model of Disbursement Not Determined = ND	Amount collected (US$ '000)	Amount Disbursed (US$ '000)	Comments
Angola						
Botswana			Would be Competitive Bid	3,750	0	
Democratic Republic of Congo		Not yet disbursed	-			
Lesotho	2009		Competitive Bid	2,100	-	Subsidies in 3 areas awarded to 2 operators
Malawi	-	2009	Competitive Bid	1,200		The collected amount is donor funded through the govt.
Mauritius						
Mozambique	2006	2008	Competitive Bid	3,000	200	
Namibia	Not yet established	-	-	-	-	-
South Africa	1997	1998	Competitive tender	90,068	30,988	
Swaziland	1990	2001	Non-competitive	38,000	6,000	
Tanzania	2009		Competitive Tendering and reverse action	3,000	-	
Zambia	1996	2009	Hybrid of tender bid and Fund Direct financing through purchase of ICT equipment for projects	12,000	65	The amount collected is actually a budget allocation
Zimbabwe	2002		ND	5, 000	0	The collected amount is as from February 2009

[50] HIPSSA Review

The Tanzanian Fund only commenced collecting Funds once it had a structure in place to deal with disbursement (2010). Malawi, Namibia and Seychelles have the same opportunity – this builds trust, ensures transparency and good governance, and will avoid the challenges associate with unused funds.

Box 3.1: Summary of Best Practices: Utilisation of Funds

With regard to disbursement of Funds and issuing of subsidies the best practices are:

- The legal framework should encourage efficiency and transparency and enable the speedy disbursement of Fund, Member States should ensure that the founding statues for Funds do not make it difficult for Fund Administrators to disburse funds through lengthy approval processes, and other bureaucratic processes linked to Fund disbursement. Approval processes should be Fund specific and should recognize the difference between USAF and other public funds
- In order to ensure that the institutional framework enables the speedy disbursement of funds it is recommended that the Fund is given sufficient autonomy to disburse funds. This can be done through giving the Board Members or Trustees of the Fund disbursement powers so that further approvals are not needed (see Chilean case where the Council for Telecommunication Development has 3 Ministers, 3 professionals and a sub-Secretary of Communications and has total autonomy regarding the use of the Fund). Giving Boards the powers to approve programmes or projects requires that their members:
  - are qualified to decide on projects;
  - are representative of the sector and have no conflicts of interest;
  - have clear operational guidelines to follow (i.e. Operational Manual and Governance Manual discussed in Part 2 section 1 of "Fund Management Practices"
- A clear Delegation of Authority Framework exists across the organization
- Along with the power to disburse funds, Funds should be required to report throughout the project and 'ex post' and the necessary checks and balances including reporting requirements and auditing requirements should be put in place.
- Funds should have a maximum amount that can be rolled over from one year to another without eliciting a review of the USAF contributions. This will incentivize Fund Administrators to disburse monies.
- Member States should only start to collect monies and put them in the USAF once they have a structure in place to deal with disbursement – this builds trust, and encourages efficiency and transparency.

Box 3.2: Sample/Reference Documents

There are a large number of possible approaches to collect and disburse funds and provide subsidies. Herewith is a few examples, included are practical examples of model forms that would need to be issued by Fund Administrators and returned to them by operators:

- Swedish disbursement http://ec.europa.eu/eu_law/state_aids/comp-2010/n030-10-en.pdf
- Malaysia USAF payment form – www.skmm.gov.my/link_file/what_we_do/usp/pdf/USP_RONR_template.pdf
- Mauritius USF Monthly Payment Form www.icta.mu/market/quarterly.htm

3.2 DEVELOPING PROGRAMMES AND PROJECTS

This section deals with the design of ICT programmes and projects for SADC countries using monies from Funds, as well as other financing mechanisms which may include funding from local or municipal government, donors or other sources, in combination with private sector resources. The Toolkit recognizes that projects should be tailored to the country specific requirements as determined through an analysis of the policy context, the existing and future infrastructure plans, the service requirements and demand by the population. Badly designed projects and programmes will result in ineffective project implementation, and in some cases a waste of human and financial resources.

3.2.1 Global Experience and Good Practice

3.2.1.1 Designing Programmes vs. Developing Projects

Although often used interchangeably, universal service "programmes" and "projects" are not the same. Projects exist within a universal access programme. Using the policy and legislation as a guide, an important first step for Funds is to decide what their priorities are and design *programmes* to fit those priorities. The benefit of this approach is that it clearly identifies the priorities of the Fund upfront. It narrows the potential focus areas presented in the legislation and policy, which to an extent represent a political wish-list, into a more structured set of objectives. It enables the Fund Administrator to identify projects within a programme that will have a high socio economic impact and are likely to be expensive to implement with a low financial return for the operator. Projects within a programme can be compared for relevance.

Projects must then fit within the scope of a programme, and responsibility and accountability is clear within the Fund structure. In addition, each programme should have a budget. The programme budget is linked to its level of prioritization and the types of projects associated with that programme. As such, a schools programme would be considered separately from a high cost areas programme. Adopting an approach where programmes are pre-defined has the following advantages:

- Pre-prioritisation, the development of programmes as a first task for the Fund forces the Fund to consider its mandate and take it from a conceptual level to a practical one. In designing programmes and making decisions on the associated budgets, the Fund is in effect identifying its strategic priorities;
- Encourages diversification and reduces the risk that the Fund will neglect a specific area of need, for example many Funds focus on infrastructure and extension of fixed or mobile networks; money is spent on these high cost projects and little attention is paid to other potential beneficiaries such as schools, people with disabilities, or hospitals.
- Ability to select staff specifically for a programme, and ensure adequate capacity to address the types of projects that are likely to be implemented under a programme. This can assist in accelerating the use of monies in the Fund.
- Ability to budget and report on a programme-by-programme basis; this allows a country to measure its progress well on a particular area (e.g. school connectivity, or population coverage).

The disadvantages of a programme-based approach include:

- The need to provide more resources (human) for the Fund. Programmes, if effectively constituted, can be seen as 'departments' and are best run by dedicated staff, where the Fund is situated within the regulator this may be difficult to implement efficiently.

3.2.1.2 Design of Established Programmes

In SADC although countries have polices and Funds, not all countries have established programmes as discussed in section 3.2.1.1. above. Countries with identified UAS programmes include Malawi, South Africa and Zambia. Establishment of programmes will assist in prioritizing projects when Funds are used. Some reference Funds with established universal service and access programmes include:

- The **American Universal Service Fund,** which is administered by the Universal Service Administrative Company (USAC), under the direction of the regulator, the Federal Communications Commission (FCC) has four programmes related to High Cost Areas, Low Income groups, School and Libraries and Rural Health Care (See Box 3.3.).
- The **Nigerian Universal Service Provision Fund (USPF)** has four programmes namely the Universal Access Programme, Universal Coverage Programme, Universal Service Programme and ICT for Development Programme. The latter includes issues such as applications, content, software and training, unlike the Universal Access and Service Programmes which deal with funding of services and networks primarily.
- **Pakistan's Universal Service Fund** has a Rural Telecommunications Programme, an Optic Fibre Cables Programme, a Broadband Programme and a Special Projects Programme, which includes telecentres and pilot projects.
- **Uganda's Rural Communications Development Fund ("RCDF")** has identified ten programmes as stipulated in Table 15, each with projects under it. The original policy programme which ran from 2003 – 2007 had an additional programme namely "Call Centres".

Table 3.4: Uganda Programmes and Projects, 2010[51]

RCDF Achievements as at 21-01-2010			
SN	**Programme Area**	**Commissioned Projects**	**Projects Under Development**
1	Internet Points of Presence (PoP)	76	-
2	Internet Café	55	53
3	ICT Training Centres	67	1
4	Web Portal	78	0
5	Public Pay Phones	3349	750
6	Research Projects	4	1
7	Postal Support Projects	35	-
8	Multi-purpose Community Telecentres	13	-
9	School ICT Laboratories	108	100
10	Health Care ICT Facilities	43	53

51 Available at www.ucc.co.ug/rcdf/ as accessed on 2/02/2011

Box 3.3: Case Study: Programmes Established by United States USF

Schools and Libraries Program of the Universal Service Fund, commonly known as "E-Rate," provides discounts to assist most schools and libraries in the United States to obtain affordable telecommunications and Internet access. The Schools and Libraries Program supports connectivity – the conduit or pipeline for communications using telecommunications services and/or the Internet. Funding is requested under four categories of service: telecommunications services, Internet access, internal connections, and basic maintenance of internal connections. Discounts for support depend on the level of poverty and the urban/rural status of the population served and range from 20 percent to 90 percent of the costs of eligible services. Eligible schools, school districts and libraries may apply individually or as part of a consortium. Applicants must provide additional resources including end-user equipment (e.g., computers, telephones, etc.), software, professional development, and the other elements that are necessary to utilize the connectivity funded by the Schools and Libraries Program.

High Cost Program ensures that consumers in all regions of the nation have access to and pay rates for telecommunications services that are reasonably comparable to those services provided and rates paid in urban areas. Without High Cost support, residents of some areas of the country would have to pay significantly more for telephone services than those living in other areas because of factors such as dense terrain, low populations, or the high fixed costs of building a telecom network. USAC is responsible for data collection and maintenance, support calculation, and disbursement for the five components of High Cost Program support that provides over $4 billion per year to telecommunications carriers throughout all states and U.S. territories. Currently, over 1,700 eligible telecommunications carriers receive High Cost support.

Rural Health Care Program makes discounts available to eligible rural health care providers for telecommunication services and monthly Internet service charges. The programme is intended to ensure that rural health care providers pay no more for telecommunications in the provision of health care services than their urban counterparts. The Rural Health Care Program reimburses telecommunications and Internet service providers for services provided to rural health care providers. While health care providers apply for these discounts, USAC works in conjunction with service providers to make sure these discounts are passed on to programme participants. Support is available for telecommunications services and monthly Internet access charges used for the provision of health care. Support is also available for limited long-distance charges for accessing the Internet. The level of support depends on the location and the type of services chosen and is calculated individually for each HCP. A health care provider can save on services it already has, upgrade current services, or install new services.

Low Income Program of the Universal Service Fund, which is administered by the Universal Service Administrative Company, is designed to ensure that quality telecommunications services are available to low-income customers at just, reasonable, and affordable rates. Lifeline, Link Up, and Toll Limitation Service (TLS) programme support are the three components of the Low Income Program. Lifeline support reduces eligible consumers' monthly charges for basic telephone service. Link Up support reduces the cost of initiating new telephone service. Toll Limitation Service support allows eligible consumers to subscribe to toll blocking or toll control at no cost.

3.3 PROJECT DESIGN

3.3.1 Global Experience and Good Practice

3.3.1.1 Top Down vs. Bottom Up approach

Once a programme is designed, projects must be developed. Project design is not a 'one size fits all' approach, in fact each of the SADC Member States will need to design projects that are specific to its needs and gaps as identified through the conducting of detailed market research (market gap analysis) and stakeholder consultation. The last decade of universal service and access experience has shown that community involvement, particularly in public access projects, is a critical element that informs their sustainability. As such, projects that originate within the community or at a minimum have the buy in of the community that will receive or use the services, have inherent advantages. This is a "bottom up" approach to project development which is advocated by many governments, regulators and Fund Administrators. The USA's National Telecommunication and Information Administration's (NTIA) Stakeholder Outreach and Sustainability/Recipient Toolkit provides an overview of strategies that can be employed to conduct stakeholder outreach and get community buy-in for approved projects so that they can be sustainable[52].

Historically 1st generation Fund projects have been primarily top down (e.g. Colombia, Peru), with the Fund defining the locations and requirements. However, in the last 3 years bottom up projects have amongst others, been trialed in Chile. In Sub Saharan Africa the tendency has been towards top down projects, primarily allocated through competitive processes such as least cost subsidy bids. They have been for both public access and private service projects as described in Table 10. All Funds however seem to recognize the value of 'top down' approaches as seek to involve communities from the outset.

3.3.1.2 Defining Project Objectives

In order to identify universal service and access targets and to develop practical and feasible projects to meet those targets, the necessary policy questions need to be answered, and an understanding of what is "on the ground" is critical. At a minimum, the status quo and the potential changes in the short term, must be understood in a country if a relevant project is to be designed, which means that the following must be considered:

- Current policy and regulatory tools available to meet defined targets and objectives;
- Short and medium term policy changes anticipated which will impact the ICT environment such as licensing of new players, reduction of prices, etc.
- Current infrastructure and infrastructure requirements to meet the defined targets;
- Infrastructure roadmap of operators using all types of infrastructure and technologies;
- Market dynamics and demand analysis for public and private access
- Impact of non-ICT factors such as electricity, roads and access

An understanding of the above will assist in the determination of access gaps. In considering access gaps, it is necessary to have a clear understanding of the two separate gaps that could exist, as these gaps are

[52] http://www2.ntia.doc.gov/files/btop_tookit_2_122110_final.pdf

addressed differently. There is a market efficiency gap and a true access gap. There are also two dimensions to the challenge of achieving universal reach, both of which need policy makers' attention, namely poverty and isolation.[53] Both urban and rural areas experience poverty, however the cost of addressing poverty and isolation together in the case of rural areas, is much higher than that in urban areas.

The market efficiency gap is accordingly regarded as the difference between what markets are actually achieving under current conditions, and what they could achieve if regulatory barriers were removed, and regulatory incentives are provided. This gap can be bridged through more private provision of service facilitated by effective competition and by market-oriented policies and regulations that create a level playing field for new entrants. It is generally thought that this frontier can be reached without subsidies.

The true access gap however, recognizes that intervention is still required to reach some areas and population groups that will not be served even with the most attractive, liberal market conditions. Unless additional investments are mobilized through interventions some people and places remain beyond the limits of the market. The USAF is a mechanism focused on the true access gap.

It is important for countries to understand the importance of addressing both the market efficiency gap and the access gap. In order to effectively bridging these gaps a thorough analysis of the market should be conducted wherein a rigorous needs analysis is conducted. This is discussed in greater detail in Section 6 of the HIPSSA UAS Assessment and Guideline Update document.

In the case of broadband and NGN rollout which are still underway and thus it is more difficult to use the traditional market gap analysis framework, the "white", "grey" and "black" area framework discussed earlier is used. In this analysis consideration is given to the number of broadband networks in an area. Again, the objective is to ensure that financing interventions do not distort the market.

These objectives should guide the different types of projects to be implemented in a country. In the next section, the types of projects to address these objectives are discussed.

3.3.1.3 Facilitating Sustainability: Starting with an Exit Strategy

Often, the goal of keeping a project going once it has begun is usually expressed as one of sustainability. Sustainability is frequently linked to the challenge of financing the project and any form of OBA, including the Fund, will seek to make a meaningful, preferably once off intervention to stimulate ICT sector development. When a public financier starts a project, it should at the same time have "an exit strategy" or a means to wind down the financial support after a certain period of time. From the beginning there should be clarity on:

- What the targets are (financial and developmental)?
- When the funder intends to exit/pull out of the project?
- What mechanisms are in place to ensure sustainability? How will the project fund itself in the long term?

As discussed in Part 1, the key principles of a successful Fund are accountability, transparency and efficiency. These principles support the key pillars to ensure sustainability of a project sponsored by the Fund, are similar to the pillars indentified by the World Bank for OBA in general and can be summarised as follows:

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[53] Andrew Dymond & Sonja Oestmann, "Universal Access and Rural Communication Development Funds: Success factors world-wide and practical insights from Uganda", Intelecon Research & Consultancy Ltd, 5August 2002.

- Increased transparency through explicitly tying subsidies to targets and defined outputs (of a programme, or in the absence of a programme then a policy);
- Increased accountability achieved by shifting performance risk (and thus project risk) to service providers through amongst others well crafted Service Agreements and contracts (see Part 3 for details relating to model agreements);
- Increased engagement of private sector participants, their capital and their expertise by encouraging them to meet identified gaps;
- Encouragement of efficiency and innovative approaches through the design of projects which allow the service provides to design their own solutions through least cost subsidy schemes;
- Increased sustainability through the provision of once-off subsidies that are then linked to sustainable long term service provision; and
- Effective monitoring through the alignment of payments to agreed deliverables/outputs by the service provider (see Part 4 on Monitoring and Evaluation).

Through the above-mentioned elements of the project set-up, from inception to contracting to payment of subsidies upon delivery, the Fund ensures that its exit from the project is clear upfront and that the project has increased potential of being sustainable.

The principle of defining and exit strategy is easier to achieve when networks or infrastructure are being subsidized. Where funding is being provided to users groups (e.g. schools, or persons with disabilities) the likelihood of an 'on-going' subsidy is higher – the question in this case is generally related to availability and affordability.

Table 3.5: Projects and Modalities for Selected Sub Saharan African Countries that have Disbursed USAFs[54]

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 USAF providing subsidies/ Financing, %
Ghana	Common Telecomm unications Facilities	7	Competitive, least subsidy requested	Competitive, least subsidy requested	Public voice access + Private voice service	All operators, both fixed and mobile	USAF only
	Last Mile Initiative	Unknown, at least one (1)	Competitive, least subsidy requested	Competitive, least subsidy requested	Access to ICTs (voice + Internet) by Community MDAs	…	USAF only
	Community Informa-tion Centre	Unknown, at least one (1)	…	Competitive, national tender	Public voice access + Private voice service	…	Government of Ghana (100%)
	Schools Connecti-vity Project	10	Competitive, least subsidy requested	Competitive, national tender	Access to ICTs (voice + Internet) by Schools	…	USAF only
Madagascar	VSAT for Unserved	1	Competitive, least subsidy	Competitive, least subsidy	Public voice access +	Incumbent fixed	USAF only

54 Sepulveda, Report on USFs in Sub Saharan Africa

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 USAF providing subsidies/ Financing, %
	Communi-ties		requested	requested	Private voice service	operator	
	Access Regions, Districts and Communes	1	Sole-Sourced Contract between MinCom and Operator	Negotiations	Public access and Private service to voice + Internet	Selected Operator	USAF only
Nigeria	School Access Pro-gramme (Secondary Schools)	1	Competitive, combination quality and cost selection	Competitive, subsidy requested by selected candidate	Access to Internet by Schools	Schools	USAF + Intel Corporation (in kind training)
	School Access Pro-gramme (Tertiary Schools)	1	Competitive, combination quality and cost selection	Competitive, subsidy requested by selected candidate	Access to Internet by Schools	Schools	USAF only
	Community Communi-cations Centre (CCC)	1	Competitive, least subsidy requested	Competitive, subsidy requested by selected candidate	Public access voice + Internet	Cybercafé Operators	USAF only
	Accelera-ted Mobile Phone Ex-pansion (BTS)	1	Proposal by eligible candidates & evaluation by USPF Sole-Sourced Contract between MinCom and Operator	Same subsidy level set by USPF for eligible candidates	Public voice and Internet access + Private Internet service	All network operators	USAF 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	USAF only
Rwanda	Rural Telephony Project	Unknown, at least one (1)	Competitive, least subsidy requested	Competitive, subsidy requested by selected candidate	Public voice access + Private voice service	All operators, both fixed and mobile	USAF only
	Low prices for Internet connectiv-ity	Unknown, at least one (1)	Competitive, least subsidy requested	Competitive, subsidy requested by selected candidate	Public access to Internet	All ISPs	USAF + ITU subsidy
	One Laptop per Child Pro-gramme	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	USAF + Government of Rwanda

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 USAF providing subsidies/ Financing, %
Togo	2008 Pro-gramme 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	USAF only
Mode/ Average	3- 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	USAF only

3.3.1.4 Well Designed Projects are Targeted

Box 3.4: Information that will assist in the establishment of targets[55]:

- ***Baseline data*** indicating the situation at the beginning of project implementation. When such data is not available, the project should include an activity to collect it from the start.
- ***Historical trends*** in the indicator value over time. What pattern of change has been evident in the past? Is this pattern likely to continue?
- ***Stakeholders' expectations*** of progress. Exploring the achievement expectations of all of the partners, as well as the beneficiaries will assist in providing a realistic idea of what can be achieved.
- ***Universal Access Expert judgments and research findings.*** Experts knowledgeable about the programme sector and local conditions as well as research findings are other useful sources of information for target setting.
- ***Accomplishments of similar programmes (and projects).*** Information on what is being done under similar conditions by other agencies and organizations who have a reputation for high performance.

Well designed projects are targeted and measurable. It is important for Fund Administrators and other financiers to specify outputs against which subsidies will be disbursed at the outset. Assuming that the relevant information is at hand (see box above), there are a number of approaches that can be taken to define targets areas and target population groups. In many countries geographic targeting is used, in others means-tests, self selection or community based targeting is used. In the latter examples, the beneficiaries of financing tend to be end users. In the case of geographic targets, although beneficiaries are ultimately end users, the direct recipients of financing are operators who will implement projects in a given area. Below is a description of each targeting approach:[56]

- **Geographic targeting** – this type of targeting is best implemented using an evidence based approach derived from having conducted market research in an area. Geographic targeting results in projects that are designed to accommodate beneficiaries that are concentrated in certain areas. Because areas tend to be large and movement of individuals within an area cannot be controlled, there may be a few unintended beneficiaries of the subsidy; however the cost of excluding them does not exceed the benefit of isolating a particular area and targeting it.

- It is most precise or effective in areas where the wealthy and the poor are geographically isolated; or where infrastructure and service gaps are based on geography – as would be determined through market gap analysis. Traditional universal access models identify the market access gaps and use Funds to address challenges outside of the market efficiency gap. However, in the case of broadband projects, which may require more financing than a Fund can handle, and may require on alternative public financing, a new model has been conceptualised. In an EU context, the State Aid Guidelines capture this new model in that they follow a colour-coded map of areas that should be awarded funds. Areas with no broadband

55 Adapted from USAID, TIPS Reort, 1997

56 "Guidelines on criteria and modalities of implementation of structural funds in support of electronic communications", Commission of the European Communities, Brussels 2003

infrastructure are considered "white" and are more likely to receive aid/financing assistance, while "grey" areas, with just one network, and "black" areas, with at least two or more broadband network providers, may find it harder to pass a state aid market test. This distinction is adapted to the situation of NGNs (whose deployment is still at an early stage), by requiring Member States to take into account not only existing NGN infrastructures but also concrete investment plans by ICT operators to deploy such networks in the near future.

Box 3.5: Geographic Targeting: EC Criteria for Determining an Areas Eligibility for State Aid for Broadband

White areas: *no broadband infrastructure exists* and none is likely to be developed in the near future. Support measures for broadband deployment in these areas are most likely to be considered compatible with state aid rules.

Grey areas: *only one broadband operator exists*. Measures may be compatible if no affordable or adequate services are offered or are likely to be offered to satisfy the needs of citizens or business users and if no less distortive measure is available. The Commission accepts that state aid may be the only alternative where the area is underserved and the inherent profitability of investment is low

Black areas: *at least two or more broadband network providers are present and broadband services are provided under competitive conditions.* Any state intervention in these areas will be viewed negatively as there is in principle no need for intervention, unless the member state is able to establish a clear market failure.

- **Self selection targeting** – projects are designed to ensure that the outputs that have been chosen by the beneficiaries receive a higher share of subsidies. Thus a 'sliding scale' of subsidies is possible in terms of this approach. For example, progressively higher subsidies can be provided for more basic services or services that those who can afford would not necessarily want (e.g. basic and low cost devices or services). This approach can complement the previous approach described, i.e. geographic targeting.
- **Means test targeting** – is an approach that sees beneficiaries determined based on affordability. This is determine using income, a proxy means test, or sometimes using living standard measures (LSM) such as availability of a dwelling. It has been argued that this approach is most effective in middle income countries, particularly where an existing social grant or welfare system in place which can be used a point of reference. A key risk with this approach , and many user based approaches is that users can move from one 'level' or 'status' to another – whether the means is determined by income or access to a social grant, making monitoring and implementation of this type of targeting by the Fund Administrator more complex.
- **Community based targeting** – this approach allows beneficiaries to be identified by the community itself; this increases ownership and buy in with an impact therefore on sustainability. However, this approach may take more time to implement and is at risk of special interests that may exist within communities.

Geographic and self-selection approaches are most commonly used for outcome based aid projects across sectors, including the ICT sector. particularly in low income countries. Means tests are also commonly used in middle income and wealthier countries. Each approach has a different administrative cost and implementation impact on the Fund as described in the box below.

Table 3.6: Comparison of Targeting Approaches[57]

Approach	Cost and Administrative Complexity to Implement	Effectiveness (OBA General)	Effectiveness (ICT)
Geographic Targeting	Low	Low – Moderate	High
Self Selection Targeting	Low	High	Low – Moderate
Means Test Targeting	High	High	Moderate
Proxy Means Test Targeting	Moderate	Moderate	Moderate
Community Based Targeting	Moderate – High	Moderate	High

3.3.1.5 Developmental Impact of the Project

This section provides guidance on the manner in which the Fund Administrator can assess the impact of the project on the country's socio-economic objectives and targets. This requires consideration of the projects' intended beneficiaries (see targeting, section 3.3.1.4 above), the impact on beneficiaries, the analysis and quantification of benefits, and the sustainability of the project. Projects that are most likely to succeed are those that are commercially successful (i.e. successful from a market perspective) as well as from a developmental perspective. This means an equal focus on demand and needs as on supply and socio-economic impact. Where the impact is skewed towards the socio-economic or developmental impact, and market impact is not given enough weight, as has been seen through several unsuccessful telecentre and Multi-Purpose Community Centre (MPCC) projects in the SADC region, , sustainability becomes an issue.

Impact assessment requires qualitative analysis as well as quantitative analysis. The following checklists[58] provide an overview of the basic issues to be addressed qualitatively and quantitatively from a developmental and market perspective.

Table 3.7: Seeing if the Projects is Aligned with a Developmental Rationale[59]

Vision and Objective	What are the core idea, objectives and key outputs of the project? Describe the before/after picture (e.g. X villages with no access at project inception will have MPCCs, Y institutions will have high speed broadband access to the internet through 5 regional POPs)
General development focus	Is the project aligned with developmental goals set out in policy or other instruments in the country? Can the project influence the broader developmental agendas within the ICT sector, or affected sectors (e.g. health, education) Will the execution of the project promote sustainable and equitable development?

57 See Baker & Grosh, Measuring the Effects of Geographic Targeting on Poverty Reduction (World Bank), Living Standards Measurement Study, Working Paper No 99.

58 African Connection, Rural ICT Toolkit (page 44 – 45)

59 Table sourced from Baker & Grosh, Measuring the Effects of Geographic Targeting on Poverty Reduction (World Bank), Living Standards Measurement Study, Working Paper No 99.

Project beneficiaries	Is the project targeted at specific communities, classes of people, income groups, age groups, gender? How will the project meet the needs and demands of its targeted beneficiaries?
Nature of benefits	What is the primary nature of the benefits of the project? Will the project have an impact on working conditions, employment or the quality of life? What secondary or indirect impacts will the project have (e.g. better service delivery) What will the effect of the project be on freedom, values, culture, democracy, etc?
Distribution of benefits	What special benefits will the poor, and other income groups enjoy? How much local participation does the project encourage – design? Implementation? Ownership?
Gender considerations	Does the project design take into account different gender roles, perspectives, interests and priorities? Will research data, demand and expected impacts be reported according to gender? Does the capacity building component of the project take into account gender? What is the specific value of the services/products arising from the project on women?

Table 3.8: Seeing if the Projects is Commercially Aligned (with the Market)

User needs and demands	Has the development rationale of the project been confirmed through a baseline study which sets out the demand, and sample/ references for the project services? Has detailed research been conducted to support the definition of beneficiaries and target groups?
Services and prices	How will the project outputs be paid for? How will the retail process relate to the cost of supply? Subsidy levels? If there is a different between cost and price, what is the rationale? How long is the situation expected to persist? Is it an issue of regulation or affordability?
Affordability	Has market research been conducted on affordability and willingness to pay? What are consumers' alternatives in the absence of the project?
Costs	Does the project deliver its objectives in the most cost effective manner possible?
Policy and regulation	Are the prices to be charged regulated? Are there any regulatory impediments that constrain the project from delivering outcomes in the most cost effective manner? (licensing, interconnection, infrastructure sharing, etc) Are there regulatory impediments that constrain the project from delivering outcomes in a sustainable manner? (licensing, interconnection, price regulation, etc.)

3.3.1.5.1 SADC Experience

The SADC projects that have been implemented to date have used mainly geographic targeting, in some cases based on a market study, and community based targeting. No country has formally used a means test – i.e., a social grant scheme, or welfare system – as a basis for implementing ICT sector universal access projects. This is partially due to the fact that the trend in SADC has been the funding of infrastructure projects, as opposed to usage projects, i.e. those targeted at individuals such as people with disabilities, the elderly or low income users.

The region has experienced a number of 'failed' projects which have considered the developmental impact, but not necessarily the market/commercial impct of the project. While it is recognized that projects are to be rolled out in areas that are not perceived to be commercially viable, projects must be sustainable and must thus be able to be designed in a way that ensure commercial viability over the long term once either the supply side or demand side constraint is addressed.

Box 3.6: Summary of Best Practices: Designing programmes and projects

In order for Member States to use proactive best approaches to project and programme design, the following guidelines should be borne in mind:

- Financiers should encourage the development of 'bottom up' or hybrid projects that are initiated at the local community level; these projects should inform the design of universal access programmes.
- Funders should ensure transparency in programme and project design. Public consultation should be built into programme and project design to the extent practicable – this would require input from operators, community members, and equipment suppliers, other affected government departments and relevant institutions such as schools and clinics[60].
- Financiers, including Fund Administrators should learn from previous projects implemented in similar contexts and take into account learnings from other Funds in the region and in the world.
- Well designed projects should adopt a 'total cost' approach and thus should take into account basic criteria for the successful deployment of the project, even where they are not directly ICT related – such as electricity availability, rights of way, localization of content, and training and capacity building;
- Every project should have well defined project objectives and outcomes that are reflected in the performance indicators associated with it, and captured in the Service Agreement and Contract between the Fund and the project implementer. These include quality of service requirements, quantities of the equipment or service, and other key indicators.
- Projects should be technology neutral – bidders should be empowered to select the technology that they will deploy as long as the technology meets the Funds' quality of service requirements, as well as national spectrum and type approval regulations;
- Projects should not distort the market and must not create an exclusivity for the provider of the network or service;
- Project design should take into account licence requirements and use licensing as an incentive where appropriate;
- Projects should ensure maximum accessibility – and thus should take into account the needs of all members of communities including People with Disabilities, even if the projects are not specifically targeted at this beneficiary group[61].

60 See Nigerian USPC Consultation 1: Strategic Plan and Operational Plan.

61 Consistant with the objectives of the Convention on the Rights of Persons With Disabilities

Box 3.7: Sample/Reference documents

Project and programme design can take many different approaches. It is recommended that the examples listed below be tested against the guidelines listed above, whenever an appropriate approach is considered.

- United States NTIA Stakeholder Outreach and Sustainability Toolkit - http://www2.ntia.doc.gov/files/btop_tookit_2_122110_final.pdf

Irish Application Forms for Broadcasting projects www.bai.ie/publications_fundingdocs.html

- Implementation of Universal Service for ICTs in Mauritius, ICTA Consultation Paper 2004/1 – www.icta.mu/documents/publications/uso-feb04.pdf
- Nigeria's USPF Consultation Paper 1: Strategic Plan and Operational Plan www.ncc.gov.ng/uspf/USPF%20Consultative%20Paper%20Public%2010-30.pdf
- ITU Connect a School Toolkit www.connectaschool.org/itu-module-list
- ICT Project Superiority Performance through Gender Sensitivity: Last Mile Initiative Cheat Sheet http://pdf.usaid.gov/pdf_docs/PNADN053.pdf
- E-Accessibility Policy Handbook for People with Disabilities (ITU, G3ict and the Centre for Internet and Society) – www.telecentre.org/group/telecentrefordisabilities/forum/topics/eaccessibility-policy-handbook?xg_source=activity or www.cis-india.org/advocacy/accessibility/e-accessibility

3.4 TYPES OF PROJECTS

Projects designed well and in line with the guidelines set out in this Toolkit will allow for the channeling of USAF monies, and where relevant other public funds to areas where private operators currently have no commercial incentives to invest and stimulate competition and choice for consumers by ensuring open access of all service providers to the subsidised networks. The type of project implemented in a country depends on national priorities, the scope of the Fund in terms of projects it can cover (in law), available money for financing projects and market and technology developments in the country. Projects can typically be divided into two types:

- Those aimed at addressing **user needs** which include the needs of institutions (e.g. schools and clinics) as well as targeted population groups such as people with disabilities, low income users and the elderly.
- Projects addressing **infrastructure gaps** in high costs areas which typically include rural and remote areas.

These projects must be approached differently by Fund Managers, and must be designed to meet the specified objectives. Most countries have prioritized the latter type of project. However, where Funds allow user needs to be subsidised this approach should be followed and different programmes developed, particularly in a broadband context. It is noted that the implementation, monitoring and evaluation of projects aimed at addressing user needs is often challenging in light of the dynamic nature of beneficiaries and the fact that beneficiaries may move in terms of location (rural to urban), and economic status (poor to middle class), amongst others. Some of the projects that Funds can consider that have been proven are discussed below.

It should be noted that USAFs are not likely to have sufficient finances or expertise to complete large scale infrastructure projects. As such, such projects and projects related to competitive areas (possibly within the market efficiency gap) may be approached differently – they might be better financed through other mechanisms than the Fund, such as PPPs.

Table 3.9: Snapshot of Some Past SADC Universal Access Projects

SADC Funds' experience with project design is limited, however all countries have implemented ICT projects aimed at addressing ICT for development through PPPs, donor led projects and private sector initiatives. Only Malawi, Lesotho, South Africa and Mozambique have project design experience in the context of the USAF. Other countries have designed projects in the context of universal service obligations imposed in licenses.

- South Africa's Fund developed a telecentre project in 1997/8, which was the first USAF project in the SADC region. The Funds' evaluation of the programme revealed that it was not successful.
- In addition, projects such as SchoolNets in Malawi, South Africa and Namibia, have been funded by PPPs between education departments, NGOs, ICT departments and donors. Again, none of the SchoolNets have been funded through the USAF.
- In South Africa, mobile licensees have obligations to roll out internet connectivity to schools. Although it is a noble project, the requirement only includes a single internet modem, with no requirement for equipment or training. In addition, there was no coordination between government departments which resulted in duplication of efforts;
- In Lesotho projects have been designed and funded with the objective of rolling out infrastructure for GSM coverage;
- In South Africa an Underserviced Area License (regional) project was designed in terms of which successful bidders were awarded subsidies of R15 million to rollout infrastructure over three

years;

- Mozambique undertook an Internet service pilot project to provide an advanced level of service to four District Centres in the provinces of Zambézia and Nampula through the provision of Internet POPs, with a minimum service radius of 5 km from the District Centre.
- Tanzania in 2010 rolled out the first phase of its National ICT Backbone Network, through a PPP between ZTE and the Tanzanian government. This will increase broadband access, and has already had a significant impact on wholesale pricing.

3.4.1 Infrastructure Projects

Funder: Private funding, Public Funding Models including Ownership, Financing Incentives (including USAF), and PPPs (national, local, municipal)

Funding: Subsidies, grants, loans, guarantees

All Funds include in their mandate the addressing of access gaps through encouraging infrastructure rollout. Historically, the bulk of Funds have been used on these types of projects only in rural and high cost areas, in light of the fact that mobile technology addressed gaps that previously existed in urban areas through private sector financing. However, despite the prevalence of mobile networks, even in developing countries, a challenge has remained with respect to the rolling out of transmission networks. Wholesale transmission – available and affordable national and international backbone networks – has been a key challenge for developing countries. This includes fibre optic cables (terrestrial and undersea), satellite systems and microwave towers, amongst others. In addition to being the most expensive types of projects to implement, these infrastructure projects are also the most complex to cost and implement. Additionally, in Africa, although wireless and the 'mobile miracle' were the solution for access to voice telephony, wireless networks will not be sufficient to provide high speed broadband at globally competitive levels. Hence the need to find ways of financing the roll out of broadband networks, with sources additional to USAFs.

Several countries have made government funding available for the development of backbone networks, and most recently broadband networks. In developing countries funding tends to form part of a government stimulus package, or financing scheme that is not necessarily provided through a Universal Service Fund. In Germany, France, and Japan, targets have been set to achieve national broadband coverage by 2011.

The American Reinvestment and Recovery Act appropriated US$7.2 billion for the Department of Agriculture's Rural Utilities Service (RUS) and the Department of Commerce's National Telecommunications Information Administration (NTIA) to expand broadband access and adoption in communities across the U.S., which will increase jobs, spur investments in technology and infrastructure, and provide long-term economic benefits. RUS is making loans and grants for broadband infrastructure projects in rural areas via its Broadband Initiatives Program (BIP); The NTIA is providing grants to fund comprehensive broadband infrastructure projects through its Broadband Technology Opportunities Program (BTOP).

Key principles to be borne in mind when infrastructure projects are financed publically include:

- the network should be open and provide universal coverage in the area concerned.
- the amount of the compensation for rolling out the network cannot go beyond what is necessary to cover the additional costs to deploy the network in non-profitable areas.

Table 3.10: Case Study, Swedish Broadband and NGN Financing

In Sweden, financing of rural broadband networks is linked to the following conditions:

- a requirement to provide the network on a non-discriminatory, open access basis to third parties for 7 years from project completion;
- a requirement to provide passive and active infrastructure (ducts, dark fibre, and bitstream access included)
- access to at least three operators at infrastructure level
- access to any operator at the highest levels (bitstream access)
- a claw back condition in the contracts which requires the recipient of the subsidy to pay back part of the financing if the demand in the area exceeds expectations making the subsidy unreasonably high (claw back is maintained for 5 years after the network is operational).

Table 3.11: Case Study, German Broadband Financing[62]

In Germany, broadband expansion is to be done through:

- Capitalizing on synergies in infrastructure construction across the country
- Guaranteeing supportive frequency policies
- Committing to growth and innovation-geared regulation
- **Providing appropriate financial support**

As with all financing, broadband financing in Germany exists in the policy and regulatory context. Funding it to meet national targets and as such is for two purposes – (1) connecting households without broadband access; and (2) connecting households with broadband access below 1Mbit/second. The maximum subsidy is 200,000 Euros per project; up to 90 percent of the profit gap can be funded. In addition, funding can be made for technical and consulting services obtained from third parties – a maximum of an additional 100,000 Euros is available for this per project.

In the general fiscus, there is a scheme enabling people to claim tax deductions for laying cables to homes – the plan is to expand this to any installations connecting broadband to buildings and distributed within houses and apartments.

Last Mile Access – Municipal and Local Authority Networks

Funder: Private funding, Public Funding Models including Ownership, Financing Incentives (including USAF), and PPPs (local, municipal)

Funding: Subsidies, grants, loans, guarantees, users/community access

In many countries, the emergence of municipal broadband last mile networks provides an additional source of financing – from the municipal government. According to the ICT Regulation Toolkit:

> *"On balance, this model is difficult to use for building a strategy for the developing world unless central or local government has both the vision and resources to under-write the initial installation and first few years of operation. But even then, the relationship with private sector interests (e.g., ISPs) must be clarified and it must be proven that the*

[62] The Federal Government's Broadband Strategy (Germany) www.bmwi.de/English/Redaktion/Pdf/broadband-strategy,property=pdf,bereich=bmwi,sprache=en,rwb=true.pdf

establishment of municipal networks does not run counter to general market development, which must eventually take place, and the health of private sector operators".

In a recent German case (2009) municipalities will invest in and own specific ducts to encourage broadband deployment in underserved areas. Such dedicated multi-fibre ducts are made available to broadband network operators to deploy their networks, thereby encouraging infrastructure based competition.

Box 3.8: South African Cases[63]:

An effective approach that has been used in local access deployment is the guarantee of a certain amount of government telecommunications traffic. In effect, the local government acts as an anchor tenant that justifies the investment by the private sector in funding and operating a network. This is the approach that has been adopted in the Wireless Philadelphia initiative, Knysna UniFi Project, and the City of Johannesburg.

3.4.1.1 Infrastructure Sharing

The USAF can promote infrastructure sharing, which will in turn promote operator efficiencies and reduce costs, through the manner in which it designs its infrastructure projects. A good example of this is the Indian Universal Service Obligation Fund (USOF). The USOF launched a scheme to provide sufficient back-haul capacity to integrate the voice and data traffic from the access network in the rural areas to their core network by strengthening the Optical Fibre Cable network. In terms of this scheme, any infrastructure that is rolled out using money from the Fund must be built on an open access basis as long as it is technically feasible. This ensures that there is competition in the universal service area, and that other operators are able to share their funded infrastructure thus deriving maximum benefit for the funder. At least 70% of the subsidized bandwidth capacity, created under the scheme, shall be shared with the licensed service providers in the area of ASSAM at a rate not more than 22% of the current TRAI ceiling tariffs.

3.4.1.2 SADC Experience – Infrastructure Projects

Major broadband network projects in the SADC region have not been funded using USAF subsidies. Outside of South Africa (discussed below), Lesotho and Malawi have initiated USAF funded infrastructure projects – both are underway and cannot be reviewed yet. Major infrastructure projects in the region have included the building of a National ICT Backbone (NICTBB) in Tanzania, an open access network developed by Broadband Infraco (a parastatal) in South Africa, and a project being explored by the DRC government in consultation with an equipment vendor.

In South Africa, funding of R15 million (approximately $2 million) over a period of three years was given to Under Serviced Area Licensees (USALS) who competed to provide service in identified underserved areas. The licensees were given a fixed subsidy to be used on infrastructure. Of the seven USALS that were licensed, 1 is still providing retail services. Critiques of the USAL Framework indicate that it would have benefitted from:

- Policy support, e.g. asymmetrical interconnection regime
- More targeted and increased subsidization policy, the amount set aside appears to have been too little compared to the investment required;

63 http://infodev-study.oplan.org/the-study/folder.2006-02-02.6810074519/5-5-ROLE-OF-PUBLIC-PRIVATE-PARTNERSHIP/

- Definition of underserviced – the identified areas included larger cities in order to make them more viable, however they also had competition from all three mobile operators even though fixed teledensity was under 10 percent.
- Experience of USALs – due to the requirements of the ITA, the USAL applicants did not necessarily have ICT sector experience although they may have been experienced business people or community leaders; this impacted their ability to navigate the complex ICT sector including roaming and interconnection negotiations with mobile and fixed incumbents;

No USAFs in SADC have used the Indian model of making infrastructure sharing a condition of funding. However, it should be noted that this model may not be as significant an incentive in SADC in light of already existing infrastructure sharing and facilities leasing regulations and legislation in many countries in the region.

3.4.2 School and Library Connectivity Projects

Funder: Private funding, Public Funding Models including Financing Incentives (including USAF), and PPPs (national, local, municipal, NGO, donor, etc.)

Funding: Subsidies, in-kind contributions, grants and loans, community access/user revenues

Schools have come to be seen as a good way of achieving universal access not just for students and the immediate school community, but also for the surrounding community. By connecting schools, countries can connect communities. School Connectivity programmes have been developed in many countries including using a combination of license obligations USF financing, and PPPs, these countries include:

- Ecuador
- Ireland
- Australia
- United States

Some of these funds include specific provisions for school connectivity in their mandates.

3.4.2.1 Funding School Connectivity Directly

Chile, Colombia and Ecuador offer examples of countries that have used money in the Fund to finance school connectivity, mainly in areas where there is no existing access. In Ecuador this is in line with the national strategy which seeks to provide the majority of schools in the country with Internet connections. The telecommunications regulator (*Commission Nacional de Telecomunicaciones*, or CONATEL) included school connectivity on the annual plan that identifies universal service and access targets for funding from the Fund. [62] The Fund, FODETEL, has financed a number of school connectivity programs, including a US$ 469,000 project providing broadband connections and free Internet access to 74 schools in the Cantón Montúfar Municipality.[64]

Such activity should also be well measured, focused on areas and communities with potential for sustainability in the medium term, and designed to be responsive to market forces, with several types of financial instrument that respond to entrepreneurial need, while not distorting or misdirecting embryonic and still emerging markets.[65]

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64 Connect a School, Connect a Community – www.connectaschool.org/itu-module/1/60/en/schools/connectivity/regulation/Section_3.5.1.1_USF/

65 www.ictregulationtoolkit.org/en/Section.3286.html

3.4.2.2 Funding School Connectivity Indirectly

Pakistan's USF does not fund schools directly, but has effectively aligned its infrastructure financing programme to the financing of school connectivity. In the Pakistani model, as part of the universal access strategy the successful bidder is given obligations regarding connecting educational institutions and communities. Included in this is the obligation to provide each higher secondary school, college and library in the area covered with the subsidy free connection, free broadband access for the first year, 5 PCs in a Local Area Network and the training of 2 trainers.[66] The same approach can be taken for other public institutions such as clinics and hospitals.

3.4.2.2.1 Funding an "E-rate"

An Education Rate, or "e-rate" is a way in which Funds can be used to finance users as opposed to infrastructure. An e-rate is an approach that can be used to address universal access challenges for schools that already have an infrastructure connection. Through the setting up of an e-rate the Fund can reduce ongoing usage charges for all schools. Implementation of an e-rate requires a financing method to "pay" operators for the discounts they are providing to schools. This can be financed from the Fund and the schools claim the fees from the Fund, or by the operators, i.e. through discounts directly given by operators – the latter is more feasible in light of the affordability challenges faced by schools that may not be able to afford to wait for reimbursement. The money for the e-rate can be an obligation on operators as in South Africa, or operators can claim the discount back from the Fund as in the United States. The US scheme has six different levels of discount in order to focus the maximum subsidy in poor and rural areas. The method used to measure poverty is the percentage of students eligible for the national school lunch programme that provides a free lunch to poor students.

Two issues are vital for implementing an e-rate scheme: providing quality bandwidth and a fixed and predictable monthly cost for schools' users. It is recognised that a pre-requisite is the existence of one or several ISPs in the desired geographical areas for the schools to choose from.

3.4.2.3 SADC Experience with School Connectivity projects

3.4.2.3.1 SADC Experience – Direct and Indirect

In SADC, Mozambique, Malawi, South Africa and the founding country Namibia has SchoolNet programmes established through PPPs. SchoolNet Africa, established partnerships with a wide range of organizations, donors, development agencies and private sector companies. It developed an African SchoolNet Toolkit which is designed to help education planners and practitioners integrate information and communication technologies (ICTs) into education systems. [67]

3.4.2.3.2 SADC Experience – E-rate

In SADC, South Africa has a legislated e-rate. E-rates have also been achieved through PPPs in Angola and Zambia. Private-public partnership models have also been used to achieve the e-rate objective of discounting internet access in some countries in the region, namely Angola and Zambia. Zambian ISP Zamnet provided cheaper access rates to SchoolNet members and Angola's Ebonet agreed to link four schools to the internet using a special rate which was 30% less than the normal rate. However these kinds

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66 USF Pakistan Success Story, Pravez Iftikhar, USF CEO, presentation (www.itu.int/ITU-D/asp/CMS/Events/2010/Thailand-Broadband/Session4_Parvez_Iftikhar.pdf

67 www.schoolnetafrica.org/english/africansn_toolkit.html

of agreements are historic and as anticipated since they exist outside a formal framework, have tended to be time-limited and only cover a limited number of schools.[68]

3.4.3 Telecentres/Cybercafe/Information Access Points (Community Access Projects)

Funder: Private funding, Public Funding Models including Ownership, Financing Incentives (including USAF), and PPPs (national, local, municipal, NGO, donor, cooperatives, etc)

Funding: Subsidies, in-kind contributions, grants and loans, community access/user revenues

Regardless of the funding model, whether it is from donations government, Funds, community groups, or payment by users any sustainable community access project model must be demand driven. If the community in which the telecentre, cyber café or Internet Access Point (collectively referred to as Community Access Projects) is situated has no *need* for its services, it will not succeed and financing it will be inefficient and wasteful.

Box 3.9 – Community Access Projects

The places in the community with shared access to computers and the Internet have a variety of names and are referred to in this Toolkit as "Community Access Projects". They can be divided into three broad categories, which are defined as follows in the Handbook for Telecentre Staffs [69]

- **Telecenters.** Multi-purpose community telecenters tend to be in the public sector, operated by governmental bodies or non-governmental organizations (NGOs), serve a low-income clientele, and have a community development mission. Typically, telecenters offer a broad range of communication services related to the needs of the community, some of which are free or subsidized by external bodies such as governments or NGOs. Along with computer and Internet access, these services might include: desktop publishing, community newspapers, sales or rental of audio and video recordings, book lending, training, photocopying, faxing, and telephone services. Some – like the Hungarian telecottages and the Western Australia Telecenter Network telecenters – provide postal, banking and employment services.
- **Cybercafés** The commercially-oriented cybercafés that are found on streets adjoining China's Tiananmen Square to the neighborhoods of Buenos Aires. They are usually in the private sector and focus primarily on providing customers with the use of computers and connections to the Internet and the Worldwide Web. Their clients tend to be more urban, more educated, and more economically well off than the clients of telecenters. The principal attractions at the cybercafés are computer games and e-mail. For example, there are 26,000 PC *baangs* in Seoul, Korea where people under 30 go to socialize and play on-line computer games. The PC *baangs*' support comes from consumer fees and sales of refreshments. Similarly, in Peru, almost 3,000 private sector Internet *cabinas* are sustained by charging fees to users (about US$0.40 per hour) for PC, e-mail and Internet services.
- **IAP**. Information access points fall between the cybercafé and telecenter approaches. While they focus on the Internet, they emphasize information seeking. The most dramatic example is Canada's Community Access Program that established 10,000 access points in rural and urban areas across the country between 1994 and 2001. Computers and network connections were placed in community centers, libraries, schools, and other public places in order to make Canada "the most interconnected country in the world." Canada's success has motivated other national

[68] www.balancingact-africa.com/news/en/issue-no-159/top-story/e-rate-for-african-schools-shy-how-would-it-work-and-who-pays

[69] Definitions of Telecentres, Cybercafes, and IAPs adapted from Handbook for Telecentre Staffs, Module 1: http://ip.cals.cornell.edu/commdev/handbook.cfm

IAP initiatives: the Government of México designed a network of Centros Comunitarios Digitales (DCCs) as part of its Sistema Nacional e-México. The Government's plan is to have more than 12,000 DCCs by 2006, covering 75% of the nation's population. Across the world, in the State of Tamil Nadu, the Sustainable Access in Rural India (SARI) initiated a plan to establish "tele-kiosks" in up to 100 villages in Madurai District as the first phase of an initiative that will see thousands of IAP kiosks flooding villages all over the state. IAP can be used to support sector specific initiatives in health, education, e-government and the like.

The telecentre model, used to provide voice access using money from the Fund in Latin America has had mixed results. It proved successful in Latin America in the mid 1990's when the challenge related to bridging the digital divide related to primarily voice. These centers initially provided shared access to voice and after a while internet services, as well as basic office administrative services such as fax, photocopying and scanning. Over time, to create demand, telecentres have had to become more sophisticated in the services they provide (e.g. videoconferencing and VoIP), and have become Information Access Points and partnered with other services and institutions such as schools, post offices and café's. They can thus deliver a broad range of information resources, technologies and other services, particularly in rural and underserviced areas.[70] Cybercafé's which tend to be in urban areas and commercially driven, are the least likely to be beneficiaries of universal access financing in light of the fact that they operate in competitive markets with higher demand, but also higher supply.

Successful telecentre and Internet Access Point projects have been carried out in Latin America, particularly by first generation funds, for example in the Dominican Republic (LINCOs Programme), Brazil (GESAC Programme and Digital Project; and Uruguay (CASI and CASIL programmes). In addition, Hungary has had a successful programme. In the United States, under the ARRA, the NTIA is providing grants to fund amongst others public computer centers and sustainable broadband adoption projects via its Broadband Technology Opportunities Program (BTOP). Important to note, in this era of convergence, is the important role that Information Access Points can play in providing access to the full range of ICTs including rural radio and television services. The Mali, Chad and Sri Lankan cases which combine radio broadcasting with telecentre and training facilities are often cited in this regard.[71]

Experience has taught Fund Administrators that telecentres are most likely to success is advanced services are also provided, and if the telecentres projects follow infrastructure projects. Internet connectivity is critical to the success of telecentre projects, hence the need to ensure that infrastructure challenges in the locality have been addressed before the telecentre is rolled out. In addition if there is a network of telecentres, for example Kenya's Digital Villages/ Pasha Centres, and a financing model that takes into account the total cost of running the telecentres (including maintenance costs, equipment and training and capacity building cists) which ensures long-term sustainability.

3.4.3.1. SADC Experience with Telecentre Models

Telecentre (and MPCC) projects are probably the most popular type of projects in the region. In the SADC region, South Africa has an extensive telecentres project rolled out initially by its Fund in the late 1990's and the early 2000's with mixed results.[72] Currently Malawi is using its seed funding for telecentre pilot projects. The lessons learned from the Latin American projects and consistent with those learned across Africa and in particular in South Africa,

- A broad spectrum of services, including interactive email, voice, (including VoIP), and chat services promote usage; affordability is key, thus low costs services like chat and VoIP are particularly popular;

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70 New Models for Universal Access, page 223

71 See www.kothmale.org/ on successful Sri Lankan Multimedia Community Access Projects including broadcasting

72 See Peter Benjamin Report

- Community involvement in the running of the telecentres will play a role in ensuring its sustainability. This includes partnerships with local NGOs, local government authorities, and community members and leaders.
- Internet connectivity must be reliable, affordable and of good quality and speeds;
- Literacy rates will affect uptake, and in particular e-literacy; coupled with sustainability will be affected by availability of training, and the ability of community members to create their own locally relevant content;

3.4.4 Content and Applications Projects

Funder: Private funding, Public Funding Models including Financing Incentives (including USAF), and PPPs (NGO, donor, IT company, software developers, etc)

Funding: Subsidies, in-kind contributions, grants and loans

Most Funds have prioritized the rollout of infrastructure, and recently this infrastructure consists of wholesale transmission and broadband networks. In order to maximize the use of these networks, relevant content and applications must be available for consumers to use – this however is an area of funding that most USAFs have not delved into. The Kenya ICT Board which facilitates access, but us separate from the Fund in Kenya, has several programmes to support local content development through the issuing of subsidies. It furthermore provides subsidies to support the development of applications. As ICT sector strategies focus more on broadband uptake, it becomes critical that mechanisms are developed to promote the development of relevant, user friendly, culturally and linguistically sensitive information. Financing of content and applications can include funding:

- Local content production
- User friendly and graphics based interfaces
- Local content in local languages
- Shared content (e.g. tourism, education, e-government) that is locally relevant, where possible to a community level

3.4.4.1 SADC Experience with Content and Applications

There is no evidence of SADC funds having funded content or applications, although a separate Media Development and Diversity Agency exists in South Africa, to which broadcasters contribute according to a fixed levy. This fund is use to finance the development of the local media industry. SADC USAFs, in cases where they cover broadcasting (South Africa) or where they have a broad electronic communications mandate (Tanzania, Malawi) can consider using the monies for stimulating demand through investment in content and applications for use with advanced services, assuming the inclusion of broadband or internet access in their universal access targets.

3.4.5 Pilot Projects

Funder: Private financers, USAF or Other Funding Options including donors, and NGOs

Funding: Subsidies, in-kind contributions, grants and loans

In order to ensure the development and innovation of the Fund, financing can be reserved for pilot projects in developing areas, or for new ideas that demonstrate potential with respect to addressing challenges of access. The Fund working with NGOs and donors, can then continually test new approaches

and technologies. Ideally the success stories can be carried to the next stage and become projects (which may be financed by the Fund, PPPs or other public financing).

Globally good practice on conducting pilot projects has been identified. It is important that the objectives of the pilot are clear and that an "Objectives Document" is prepared by the Fund before starting the pilot. There is a risk that because a pilot is smaller and is a test, it is not planned as well as a 'real' or large scale project.

The Objectives Document for a pilot project should set out the purpose of the project and include the following headings:

- Objectives – what is the thesis being tested?
- Project Team – who from the Fund and its partners is involved in the pilot? What are the roles and responsibilities?
- Sample and Sample size – what is the location/population/technology/etc being tested and why?
- Timeframe – provide a start date and end date so the project can be managed properly;
- Budget – what is the budget? Who is paying for what portions (if a partnership)?
- Monitoring and Evaluation Plan – what is being measured? What are the indicators that will be assessed? What is the baseline data?
- Overlapping Projects – Has a thorough analysis of the landscape been conducted to determine if other regulatory bodies are conducting projects that may overlap or interfere with this project? Is there a need for coordination?

3.4.5.1 SADC Experience with pilot projects

Table 3.12: SADC Pilot Projects, Mozambique case

Mozambique – An Internet service pilot project to provide an advanced level of service to four District Centres in the provinces of Zambézia and Nampula through the provision of Internet POPs, with a minimum service radius of 5 km from the District Centre. The internet tender was won by Mozambican broadband wireless operator INTRA Lda.

There are several pilot projects underway across the region –in fact in all countries. It is expected that Funds will conduct pilots in Malawi, Mozambique, South Africa and Tanzania in 2011. Based on past experience, it appears that it is key that Member States ensure that pilot projects are not treated as stage 1 of a larger project, driven by the Fund who coordinates partners and not vice versa, are inclusive of the community, and planned properly. Additionally, training and preparation for the pilot project as well as monitoring and recording every aspect of the project is important for its success, and possible replication in future.

The risk with pilots, as has been evidenced in many countries, and discussed above, is that the government, regulator or Fund embarks in many pilots but never uses the results to develop a project. In addition, if not properly contextualized pilots, which are fully funded, do not alert governments to issues relating to sustainability and long term viability. For example, telecentre pilot projects in South Africa in the late 1990s demonstrated the usefulness of the concept, however, once the pilots became self-standing projects, problems arose relating to training, community ownership and maintenance.

Box 3.10: Sample/ Reference Documents: Types of Projects

Projects vary and range from those related to infrastructure deployment to those dealing with content development. They include long term projects, as well as pilots. Notwithstanding the variety of projects, a number of key issues must be taken into account including the impact on gender, the availability and accessibility by People with Disabilities, and the sustainability of the projects. Good practice guides on conducting projects, and ensuring that the needs of all users are taken into account, exist globally. Hereunder are but a few examples of good practice guidelines that are applicable to all types of projects:

- Pilot projects - Practical Guide to Pilot Projects and Large Scale Deployment of ICTs in the Education Sector (Global e-Schools and Communities Initiative) – www.gesci.org/assets/files/Knowledge%20Centre/pilot-ICT-projects.pdf
- Incorporating the Needs of PWD in Projects - E-Accessibility Policy Handbook for People with Disabilities (ITU, G3ict and the Centre for Internet and Society) – www.telecentre.org/group/telecentrefordisabilities/forum/topics/eaccessibility-policy-handbook?xg_source=activity or www.cis-india.org/advocacy/accessibility/e-accessibility
- Telecentre Projects - Handbook for Telecentre Staffs – http://ip.cals.cornell.edu/commdev/handbook.cfm
- Telecentre Projects - How to Get Started and Keep Going: A Guide to Community Multimedia Centres: www.comminit.com/en/node/181530

  School Connectivity projects – ITU Connect a School, Connect a Community, www.connectaschool.org/

  School Connectivity projects - Useful budgeting tool to assist in calculating the Total Cost of Ownership fro large scale deployments (Excel) at http://www.gesci.org/knowledge-tools.html#ict

Box 3.11: RECAP – Applying the knowledge, Implementation of Projects – Some Experiences

Research on universal service project implementation has enabled Member States to glean some key lessons from the experiences of developed and developing countries that have financed universal access projects. These include that:[73]

- **Projects have a risk of falling into "pilot syndrome."** Pilot projects are important to test the viability of a project in a given area or amongst a given community. Most countries in the region have commenced a small scale version of what is expected to later turn into a full regional or national rollout, often supported by donor or NGO funding. The risk with pilots, as has been evidenced in many countries, is that the government, regulator or Fund embarks in many pilots but never reaches the 'real' project. In addition, if not properly contextualized pilots, which are fully funded, do not alert governments to issues relating to sustainability and long term viability. For example, telecentre pilot projects in South Africa in the late 1990s demonstrated the usefulness of the concept, however, once the pilots became self-standing projects problems arose relating to training, community ownership and maintenance.
- Funding consists not only of provision of financial resources, but funders must play a key role in designing and packaging projects, as well as in monitoring and evaluating them as discussed in

[73] Initial recommendations from "New Models for Universal Access to Telecommunications Access in Latin America", 2007. Adapted by authors to address SADC context.

the following sections. **Funders however, are not responsible for project implementation.** In the case of the USAF, implementation of the Fund is not synonymous with the implementation of projects and this is a critical distinction to make. In many instances projects have been unsuccessful because Funds, with no project implementation experience, no community experience, and insufficient capacity, have become project executors or implementers.

- The use of universal access funds for community telecentres (e.g. South Africa, Malawi, Mozambique pilot) has a mixed track record, because these **public access projects require complementary programmes such as those relating to training, education, applications and content, to ensure effective use of the Internet. Partnerships are effective, but all partners must play their role.**
- Universal access programmes are not substitutes for sector reform and the periodic updating of the legal, regulatory and institutional framework. Many operators in Latin America indicated that the greatest challenge to providing services in rural areas is not commercial, but rather legal or regulatory barriers. This includes licenses and permits, spectrum management and fees, interconnection, rights-of-way, taxes or other fees imposed by state or local governments, and lack of infrastructure sharing requirements. As discussed in Part 1 (Sector Reform Checklist), sector reform should precede universal access interventions.
- From an infrastructure perspective, lack of sufficient wholesale transmission, domestic backbones and last-mile broadband networks are bottlenecks for universal coverage and universal access goals. Mobile last mile access is of a lesser concern in most countries from a network perspective, although affordability may be an issue. These gaps in infrastructure are a major roadblock to the provision of last-mile broadband solutions using new wired and wireless technologies.
- Universal access programmes focus largely on stimulating supply, and are largely designed by government agencies to follow a top-down approach. A few countries have recently allowed operators and local communities to propose universal access programmes or pilots. But these bottom-up approaches pose special challenges for financing with public sector funds, without going through a public tender process or some other mechanism to assess the proper subsidy level.
- Many universal access programmes suffer from a lack of clear goals and a lack of adequate metrics, in their design and in their monitoring of progress. These goals mainly related to national universal access goals, such as the average distance people need to travel to reach a payphone or telecenter; or national or regional penetration on a national or sub-national level which provides a basic, but inadequate benchmark to measure the success or failure of universal *access* programmes. The definition of measurable targets and the actual evaluation metrics is thus essential (see Table 30).
- Universal ***service*** is not yet a goal in most developing countries. The focus on universal access rather than universal service is a rational decision in light of limited human and financial resources, and market access gaps in the countries in the region.

3.5 CALCULATING THE COSTS OF UNIVERSAL SERVICE AND ACCESS

3.5.1 Cost Modeling – Global Experience and Good Practice

Once relevant programmes have been identified, one of the challenges faced by financiers and Fund Administrators relates to determining what level of subsidy is necessary, deciding how much funding to allocate to each programme and how to distribute the funding across projects. As discussed earlier, in a Fund's context subsidies are to be provided where it is not economically viable for commercial providers

to provide service. Thus, simply stated, **the subsidy level should match the gap between the level of investment a company would be willing to make and the investment required to provide the service.** A cost based approach can assist Fund Administrators to determine what this gap is. However, over time, and through experiences in other jurisdictions, it has become clear that the determination of "cost" is not only complex, but not necessarily accurate either.

If a USO costing approach is followed, the choice of the costing methodology to be used is important. This decision is likely to require:

- public consultation;
- specialized accounting systems to be put in place by operators specifically for the purpose; and
- Knowledge on the part of the Fund Administrator of cost modeling and costs analysis

Experience with cost based approaches to the determination of subsides have shown that the information asymmetry that exists between the Fund Administrator and the operators can affect the final determination of cost and lead to inefficient financing of projects. The operator has far better knowledge than the Fund Administrator of the costs of its operations. In addition, it is in the operators' interests to inflate costs in light of the potential subsidy that may result.

3.5.1.1 Different Projects, Different Costs

In addition to the above concerns with getting accurate cost information, a key concern has been related to the fact that different projects will have different costs and cost structures. A project that is related to the rolling out of infrastructure will be costed differently from an e-rate project or a project to put computer labs in schools. The cost assumptions, technology deployment choices and revenue estimates will differ from project to project and from country to country. In conducting an initial cost analysis, each Member State should recognize that the objective is to get indicative pricing to be confirmed through the bidding or other project allocation processes.

Cost analysis will require:

- Market data which is below national level, preferably on the area in which the service is to be provided.
- ICT access – which is more micro that national penetration levels, i.e. payphones within the project area, telecentres, mobile access (network coverage), mobile service (subscribers), fixed lines, internet access (home, business, shared), and broadband access (home, business, shared).
- Geographical information on the project area – terrain (mountains, hills, valleys, forests, deserts) which will impact network planning and the costs of constructing a network, as well as the technology choice
- Population centre's and population – total population of the region, area, major population centers and levels of urbanization

3.5.1.2 Sample Cost Models

3.5.1.2.1 ICT voice model and public access model

Various models exist to estimate ICT project costs. Two of the more user-friendly models are the World Bank's ICT voice model[74] and the Public Access Broadband Model.[75] Both models determine commercial

[74] www.infrastructureafrica.org/tools/models/ict-voice-model

viability based on the balance of costs and revenues in every pixel of land in a country. The models estimate the revenues associated with any particular area based on:

- population density, income distribution, and the assumed budget share going to voice telephony in the case of the ICT Voice Model; and
- population density, income distribution, and the assumed budget share going to broadband services

The costs of serving any particular area in the models is based on amongst other things, the terrain, the network plan needed to cover the area to serve the estimated demand (i.e. cell size), which in turn determine the number of base stations that need to be built, amongst others.

In the Voice Model, which is a **private service model,** only the costs of providing a voice signal are considered, exclusive of the handsets and chargers and any other consumer premises equipment. In the broadband model, which is a **public access model,** only the costs of providing 'outdoor' broadband connectivity are considered. These costs exclude costs associated with local retailing of broadband services (via phone shops and Internet cafés) and providing the computers, laptops, keyboards, dongles and other equipment needed to access the internet.

3.5.1.2.2 Top down model for tariffs, interconnection and universal service

COSITU and COSITU SP2 are top down models which allow Fund Administrators to estimate costs. They enable the estimation of costs, sensitivity to market risk (BETA) in the calculation of capital costs; the possibility of excluding the interurban service in the determination of the amount of access deficit where regulatory policies demand (e.g. Venezuela); plus visibility of intangible assets whose treatment is different from tangible assets. COSITU is available from the ITU and a cost concept was deliberately chosen that takes account of the data that may be found in almost all developing countries. COSITU calculates the distribution of the cost of universal service obligations; and provide information on the determination of the impact of universal service policies and formulation of associated policies.

3.5.1.2.3 Cost Model for Large Scale School Connectivity Projects

GESCi has developed a cost model for regional and national school connectivity projects which are excel based and available at www.gesci.org/knowledge-tools.html#tco. It uses a Total Cost of Operations approach which addresses infrastructure and 'hidden' costs such as training, maintenance and usage, amongst others. It thus provides a holistic approach.

[75] www.infrastructureafrica.org/aicd/tools/models/ict-broadband-universal-coverage-model

Table 3.13: Total Cost of Ownership Modeling Tool[76]

TCO Tool – contents	
Step 0: Assumptions	Contains basic project parameters used for all the calculations, like the number of schools and students.
Step 1: Central Costs	Contains the costing elements related to the central planning and management of the project, both initial and ongoing over a period of 5 years.
Step 2: All schools – initial costs	Includes all initial (one time) costs for the deployment to all schools.
Step 3: All schools – running costs	Includes all regular costs related to the execution and maintenance of the project in all schools

3.5.1.3 Recent Modeling Trends

Because of the complexities related to cost modeling, while it is acknowledged that it assist Fund Administrators and Universal Access Project Financiers to assess costs and arrive at the maximum subsidy, it is no longer a requirement for them to engage in costly, time consuming and often complex cost analysis to arrive at a cost-based subsidy; rather reverse auctions coupled with benchmarking, or use of cost modeling tools such as those discussed in the section above, can be used to enable them to award least cost subsidies. As such, two approaches are now the most common in relation to arriving at costs:

- Use of cost information to approximate the maximum subsidy; and
- Use of benchmarks derived from available local, regional and international information.

Box 3.12: Shifting Away from Detailed Cost Modeling

The United States recently reviewed its US funding system for high-cost areas. Over the past decade, total high-cost funding has quadrupled to US $ 7 billion per year. As part of the review, the Federal-State Joint Board is considering introducing auctions, based on the experience of developing countries, but modified to suit the United States' conditions. This will determine the amount of funding that would be available. Many commentators believe that auctions are better than administrative approaches for this purpose.

[76] www.gesci.org/knowledge-tools.html#tco

In Australia, the move away from a cost modeling approach in the last decade required a legislative amendment:

> *In 2000, an important amendment to the legislation was introduced – the formula for calculating the Net Universal Service Cost, which was previously the fundamental element of USO subsidy calculations, was not included in the amended legislation. The amendments do not prescribe any methodology for calculating or otherwise establishing, USO subsidies. Rather, the legislation simply provides for the*[77] *Minister to determine USO subsidies, having regard to advice of the ACMA. The Minister may determine subsidies for the supply of services under the USO in a universal service area for up to three years in advance.*

Table 3.14: USO funding and subsidies arrangements by year, Australia[78]

	2005-06	2006-07	2007-08	2008-09	2009-10
Extended Zones	$21,266,489	$19,087,175	$17,131,189	$17,131,189	$17,131,189
Extended Zones Payphones	$2,084,385	$2,133,213	$2,183,183	$2,183,183	$2,183,183
NSW/Qld and SA/Vic pilot areas	$15,468,902	$12,689,765	$10,412,164	$10,412,164	$10,412,164
Payphones excl Extended Zones	$11,145,976	$11,407,073	$11,674,286	$11,674,286	$11,674,286
Standard Area	$121,438,120	$112,374,354	$103,675,415	$103,675,415	$103,675,415
TOTAL	**$171,403,872**	**$157,691,580**	**$145,076,237**	**$145,076,237**	**$145,076,237**

3.5.2 SADC Experience

In the region, it appears that no countries have developed cost models to determine universal service costs. Most Funds have used competitive bidding and least cost subsidies to arrive at 'costs' and thus define the maximum subsidy – this will be described in Part 3 in the section regarding the "Bidding Process" in greater detail.

Using the African Development Bank Group cost model, estimates for financing gaps in selected SADC countries have been made available using 2006 data. Member States are encouraged to visit the model to assess the accuracy of the baseline data that has been provided and to get an indication the costs in their specific countries. The estimates are based on an analysis of the access gaps, and typical GSM and CDMA network costs. This information can be used in conjunction with a bidding process to arrive at a maximum efficient subsidy level informed by the market.

[77] www.acma.gov.au/WEB/STANDARD/pc=PC_312204
[78] www.acma.gov.au/WEB/STANDARD/pc=PC_2483#uso

Table 3.15: Financing the SADC Fibre Optic Backbone Funding Gap

(Indicative Maximum Subsidy TOTAL)

	Gaps (kms)	Necessary investment (US$, million)
Angola	782	21
Congo DR	1,781	48
Lesotho	2	<1
Malawi	477	13
Mozambique	21	1
South Africa	12	<1
Tanzania	1,220	33
Zimbabwe	226	6
Total	**5,158**	**139**

Source : Africa's Infrastructure : A Time for Transformation, p 68 - http://www.infrastructureafrica.org/rec/sadc-southern-africa-development-community

Box 3.13: Sample / Reference Documents

Cost modeling is a very complex process and careful consideration should be given to the approach followed. Herewith please find useful reference documents regarding the issue:

- African Development Bank Group ICT Voice Model www.infrastructureafrica.org/aicd/tools/models/ict-voice-model
- African Development Bank Group Universal Broadband (public access) Model www.infrastructureafrica.org/aicd/tools/models/ict-broadband-universal-coverage-model
- ITU COSITU and COSITUSP2 www.itu.int/ITU-D/finance/COSITU/index.html
- GESCI School Connectivity cost model – www.gesci.org/knowledge-tools.html#tco.
- Telcentre Toolkit – Making the Connection, Scaling Telecentres for Development – http://connection.aed.org/pages/MakingConnections.pdf

3.6 ELIGIBILITY CRITERIA

3.6.1 Eligible Costs

3.6.1.1 Funding CAPEX, OPEX or both?

An important decision, often decided in legislation or the Fund's mandate related to what subsides may be used for. This should be captured in a Subsidisation Policy or Eligible Costs Guidelines.

Many Funds focus on the provision of subsidies for infrastructure, with Funds such as that in Pakistan being limited to providing money for CAPEX initially. Recently, in light of the realization that projects must be sustainable, a total cost of operations approach is preferable. Thus where infrastructure is funded, it may also require elements of Opex such as human resource, energy and transmission costs, to be covered in order to make the project sustainable in rural areas where these costs may be higher than in urban networks.

The USF model in Pakistan has been to subsidise CAPEX. Initial auctions brought a lot of interest and bids from the market. However, high Opex and low revenues in rural areas is discouraging operators in Pakistan for bidding for projects in more remote and more sparsely populated areas. In response to this dilemma, in Pakistan, the USF issued a public consultation document[79] that provided a high level view on the operational expenditure related to rural infrastructure projects. The USF proposed that Opex costs for a typical GSM or CDMA network in a rural area, which is variable depending on the location, population, traffic, etc, consists of:

- Energy Costs (60%), which includes
  - Commercial (20%)
  - Generator fuel (40%)
- Transmission/backhaul costs (15%)
- Other costs (25%), which includes
  - Security costs (5%)
  - Operations and maintenance (O&M) (18%)
  - Insurance costs (2%)

The above-mentioned costs are considered to be higher in rural areas than in urban areas in light of the characteristics of these areas.

3.6.1.2 Non-Infrastructure projects

Importantly, in making this decision, it should be noted that non-infrastructure projects are also key. In certain projects such as those promoting applications and content, or those stimulating demand such as 'e-rate', telecentres or schools programmes, ideal funding may not include any infrastructure. CAPEX will relate to equipment and furniture, however in these cases funding of OPEX is even more critical.

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79 www.usf.org.pk/FCKeditor/editor/filemanager/connectors/aspx/UserFiles/resources/rtes/RTeS%20Consultation/RTeS%20Subsidy%20Consultation%20Paper%2018Nov09%20-%20Ver007.pdf

3.6.2 Eligible bidders

The requirement that projects do not distort the market is key and remains the same regardless of the financing model adopted. It is central to the design of bidding processes and the determination of eligible bidders whether in a traditional Fund financing model, or in a PPP exercise.

In the case of a Fund in determining bidder eligibility, key questions that the Fund Administrator must answer include whether the following categories of companies are eligible to compete. Typically the categories that are considered globally include:

- State owned Entities – in Australia and India state owned entities are Fund beneficiaries and thus amongst those eligible to apply – they must however compete equally with similarly licensed players in the market;
- New Entrants – in many countries new entrants are excluded through eligibility criteria (implicitly) due to a lack on track record;
- Non-licensed companies, as in the case in Latin American countries where provision of universal access was seen as a means to achieve a license in otherwise closed markets – hence bids for some regional projects (and licences).

3.6.3 Eligible Areas

Fund Administrators must make a critical and strategic decision regarding the designation of areas in which the competition will be held. Amongst the key initial considerations to be made by Fund Administrators are competitive market interests – assess the apparent commercial interests of the players likely to bid, and group the UAS areas in such a way as to increase attractiveness and maximise the number of competitors.

Eligible areas may differ depending on the service or network to be provided. As discussed in Part 2, the traditional universal access model used is to identify the market access gaps and use the USAF to finance rollout outside of the market efficiency gap.

However, in the case of next generation network and broadband projects (whose deployment is still at an early stage, yet it is critical that the public has access to the services on an urgent basis for them to participate effectively in society), assessment of market access, efficiency and true gaps will not lead to the identification of areas needing attention. Rather, broadband and next generation networks, which have a different rationale for their financing, but still should not be financed through market distorting measures should follow a new model. The EU State Aid Guidelines follow a colour-coded map of areas that should be awarded funds. As discussed earlier, areas with no broadband infrastructure are considered “white” and are more likely to receive aid, while “black” areas, with at least two or more broadband network providers, and “grey” areas, with just one, may find it harder to pass a state aid market test. Member States have to in the case of NGN take into account not only existing NGN infrastructures but also concrete investment plans by telecom operators to deploy such networks in the near future.

3.6.4 SADC Experience: Eligibility Criteria

3.6.4.1 Eligibility of State owned entities/ parastatals/ government-owned companies to be financed

The main concern with government owned companies competing for subsidies, is the potential for conflict of interest as UAS competition is in fact the implementation of government policy. This raises the question of whether the government can be impartial in awarding a UAS subsidy if a participating firm is

owned or partially owned by the government. This scenario would have to be considered in SADC countries such as:

- South Africa – Sentech, Telkom, Broadband Infraco, SABC
- Zambia – Zamtel
- Tanzania – TTCL, Airtel (formerly Zain),
- Swaziland – MTN Swaziland

Best practice dictates that there is no fundamental problem with government owned companies being awarded projects if the process followed has been transparent and fair – this is linked to the institutional framework. The process of selecting the state owned entity as the universal access provider should have been carried out in the public (through consultation processes), should be fair, and the opportunity to participate should have been made available to other participants in a similar situation in the market. In a liberalized environment, the Fund Manger will sit outside of the Ministry, and thus will not be responsible for conducting the process. This also assumes that the companies are contributors to the USAF.

3.6.4.2 Eligibility of New entrants and smaller players

No SADC countries have explicitly excluded new entrants from their bidding processes. New entrants are contributors to the Fund, but in many instances can be excluded from participating in the bidding process on the basis of lack of experience or track record in the market. For example, if one of the criteria is 5 years of network rollout experience, and the newest entrant was licensed 3 years prior. This requirement would effectively disqualify such a company from competing.

3.6.4.3 Eligibility of Non-licensed companies/ companies who do not contribute to the Fund

In South Africa, the USAL licenses were issued in this manner. No other SADC countries appear to have issued licenses to bidders winning USAF subsidies. There are mixed views and approaches with respect to the eligibility of non-licensed, but experienced companies in the bidding process. There are two categories on non-licensed companies. The first is an international company with experience in an external market, but no license in the country – thus no contribution to the Fund. The second could be a local company providing an unlicensed service (e.g. internet cafes). There is debate about whether such companies, particularly the former, should be included.

In some instances, the license is part of the award, as such, this is not an issue in these cases. Where it is not, according the ITU Handbook:

> *In general, existing operators are likely to be in a better position than local or foreign new entrants to win a UAS competitive bid as they already know the market and have an existing network and service provision operation in the country which they may only need to expand, while new entrants need to set up a network and operations from scratch. Nevertheless, new entrants can win UAS tenders if either the local players are uninterested in participating, or if the new entrant is willing to make a low bid as a part of a long-term strategy for entering the market. A similar situation may emerge when new low cost technologies become available that may render irrelevant any potential competitive advantage that existing local operators may have acquired by virtue of their presence in the market.*

3.7 AWARDING SUBSIDIES

3.7.1 Smart Subsidies

Specific Guidelines for Smart Subsidies, consistent with those presented in the ICT Regulation Handbook are that a smart subsidy provided by a financier of universal access projects should:

- be once off
- encourage cost savings and market growth;
- kick start a project or service with the objective of ultimately seeing the programme become commercially viable; and
- encourage service provision in regions where, without the subsidy, investors might otherwise have been reluctant to invest.
- link subsidies to optimal results;
- be designed to support cost-minimization incentives; and
- Embody and facilitate good governance.

3.7.2 Reverse Auctions

In Part 1 it was discussed that private sector players have the option to "play" and contribute to achieving national universal access goals. Financiers must then select operators who will be awarded (smart) subsidies or financing through a fair and transparent process.

Reverse auctions are a means of distributing monies from the Fund. The auction design places the Fund Administrator in a position to receive cost estimates (such as those obtained through the African Development Bank Group model) and check them against cost information divulged by operators in the bidding process. In a fair and transparent process with multiple bidders, the bidder who requests the lowest subsidy should "win" and be awarded the project and accompanying subsidy. They are thus incentivized to bid a cost that is as close to the actual cost of service provision (and in some cases, such as India's 2007 auction, below). Through reverse auctions countries such as India, Colombia and Peru have rolled out projects at a significantly lower cost than originally anticipated.

A model auction would see the government defining a service in an area, conducting the relevant demand studies, and issuing an invitation to eligible companies to compete for a subsidy to provide such service. The company bidding the lowest subsidy wins. They are thus given the subsidy in order to enable them to provide the service.

A country that has disbursed significant amounts of money from the Fund and has *not* used reverse auctions is the United States. Interestingly, the US has been criticized for the manner in which funding for its High Cost Programme is awarded and the level of subsidy which has been growing for the past decade. It is argued that the US approach of determining amounts available and doing the costing from a financier perspective is inefficient and thus ineffective. While projects are awarded and delivered, this is not necessarily at the lowest cost and there is potential for market distortion.

Not all auction attempts have been successful. A notable case is the Australian case of a 'failed auction' in 2000. The Department of Communications Information Technology and the Arts conducted a pilot to issue a tender inviting the incumbent (Telstra) and competitors to bid for an $85 million subsidy to provide services in 2003/4. Bids were to be opened in mid 2001. No bidders came to the party in light of the fact

that they argued that the subsidy was too low for them to properly compete with Telstra. Telstra had advantages in the identified areas in terms on access to information, as well as infrastructure advantages which made it cheaper for Telstra to provide the service and thus easier for the company to compete for and win the subsidy. Lessons learned from this process include the need to ensure that the role of the incumbent is carefully factored into the design of the auction; in addition, even with an unsuccessful auction, the government was able to comfortably believe that the level of subsidy was not excessive. Lastly, the Australian auction sought to increase competition and not just to reduce the subsidy, two goals which may not have been appropriately achieved using a single process. Thus, the goals of the auction should be clear and well defined. The most successful auctions have been carried out in order to achieve the lowest subsidy.

Table 3.16: Reverse Auction Lessons[80]

Lessons can be learned from experiences in other jurisdictions about best practice approaches to auction design and processes. The main objectives of a competitive bid are to select a qualified organization (with experience, personnel, track record, etc) that has the necessary capacity (e.g., capital, expertise, manpower, etc.), the long-term motivation (through sustainability or profitable business), and the minimum requirements for funds.[81] A fair, efficient and transparent reverse subsidy process can be carried out if attention is paid from the beginning to the auction design.

- the process must be transparent, competitively neutral and technology neutral
- use reverse auctions to reduce the reliance on detailed cost information, and only to supplement the results of the subsidy
- the opportunity to collude, signal or game the process should be minimized and if possible eliminated through auction design (Peruvian subsidies increased from 22 percent in the first auctions, to 95 percent in later ones – this has been attributed to operators 'learning the game' and starting to take advantage of the process to obtain higher subsidies;
- Pilot auctions are useful to refine the auction process.
- Key decisions must be taken on:
  - The geographic location of the project that is to be subsidized.

3.7.2.1 How Low Can You Go? Getting the least cost subsidy

Based on global experiences, primarily in developing countries and emerging markets, some key strategies have been identified to get operators to rollout services for as little subsidy as possible – in some countries the subsidy has been as low as zero. This was the case in Chile, where the competitive tender allowed new entrants and offered new licences. Chile's successful bidder accepted zero subsidies and used the process as a means to enter the market and access spectrum. In this case, linking the universal service objectives to something that the operators wanted (license rights) to provide to be incentive enough such that the financial incentive (subsidies) was secondary. The Fund thus achieved its objective by working with the regulatory regime and without disbursing funds for that project.

Other strategies to encourage bidders to compete and bid low subsidies include:

- The proper design of attractive bidding areas, sometimes called bidding "lots"
- Bundling opportunities to encourage economies of scale. This would enable successful bidders to provide adjacent services to the one bid. This may not be applicable in many SADC countries, where a converged framework is in place or under development, this is a lesser

80 www.ictregulationtoolkit.org/en/Section.3296.html
81 www.ictregulationtoolkit.org/en/Section.3296.html

consideration as licenses are in any event technology and service neutral affording operators rights to provide any service using any technology – as such bundling internet services and voice services, or public payphones with internet POPs may be inherent in the licensing regime and thus in the bidding process.

- Coupling the award of the subsidy with other licence rights. For example, offering reduced cost use of radio frequencies to the winning bidder. In the SADC region, access to frequencies such as WIMAX in the 2,5 GHZ and 3,5 GHz bands is coveted. In many countries, these technology opportunities could be used to facilitate universal service;
- Allowing the winning bidder to provide other services (i.e., a service-neutral approach); and
- Mandating infrastructure sharing, both for transmission and access such as wireless towers which will reduce the costs for the successful bidder, and increase efficiency.

3.7.3 Fixed Subsidies

While minimum subsidy allocation has been proven to be an effective OBA-based mechanism to finance projects, other approaches can also be improved that encourage efficiency. For example, the Fund can indicate that a certain amount of funding is available for projects relating to a specific universal service challenged. The Fund Administrator sets a fixed subsidy and awards the funds to the operator that provides the most comprehensive service for that subsidy – this approach is likely to work for smaller projects where the costs can be assessed ahead of time with reasonable accuracy by the Fund Administrator, and for "bottom up" projects where costing information can be provided by the project initiator (usually at community level).

As such, in the case of a smaller project, if X amount is available, the operator that can provide the most internet connections, computer labs, of connect the most clinics, for that amount would be awarded the project. A business plan would have to be provided to allow the Fund Administrator to confirm the viability of the project, and the award would still need to be accompanied by a contract and service agreements as discussed in Part 3 regarding "Key Bidding Documents".

Fixed subsidies are also appropriate when the Fund is dealing with non-infrastructure projects, i.e. projects for financing users' needs. These Funds would include fixed subsidies to elderly people, or people with disabilities who would be entitled to a monthly or annual subsidy to cover usage costs. The subsidy is likely to be given to the operator and a discount issued to the consumer for ease of administration.

The risk with this approach is that it risks being seen as not transparent. This is in light of the fact that finance is likely to be provided on a first come first served basis; or on the basis of subjective criteria such as the impact of the project, the track record of the project initiator, the lowest requested subsidy or the perceived economic and social impact of the project. This, in the case of small, bottom up and user needs projects, should be weighed against the lack of efficiency, potential bureaucracy and complex processes associated with revere auctions and smart subsidies. Regardless of the approach, the principles of OBA should be respected.

3.7.4 Selecting Approaches on a Project by Project Basis

The disbursement approach will depend on the project being undertaken. This is important to note upfront and in the operating manual to ensure transparency, clarity and stability in the framework. In Uganda the level and process framework was decided upfront, and based on the level of subsidy required. A higher subsidy (above $100,000) requires:

- A larger project
- A more complex, more open process for larger subsidies (open tender)

- Fewer Bidder eligibility restrictions (international and local)

Table 3.17: Uganda Disbursement Level & Process Framework

Uganda's RCDF disbursement levels	
Level 1	Open tender[82]: The disbursement of RCDF funds or public telephony projects, with potential total subsidy amounts in excess of US$ 100,000 shall be by international open tender.
Level 2	Open tender: The disbursement of RCDF funds for Internet Points-of-Presence and training contracts, with expected subsidy amounts of less than US$ 100,000, are by open tender but with invitations publicised domestically and simplified procedure.
Level 3	Open tender: This procedure is for outsourcing contracts to facilitate bulk (outsourcing) of Levels 4 and 5 disbursements. The purpose is for offloading the administrative burden from the RCDF, or for the management or franchising of public telephone or ICT businesses.
Level 4	Open tender[83]: The disbursement of RCDF funds to institutions seeking to establish 'vanguard' ICT and community telecentre projects (that is, schools, colleges, hospitals, associations, NGOs or other). These will normally be by open tender *within the district*. The key evaluation criteria will be a business plan demonstrating contribution in cash or kind, and financial profitability and/or sustainability following start-up contribution.
Level 5	Direct disbursement: The disbursement of the RCDF funds to applicants seeking support for one or a small number of investments (5 or less) 'rural packages' to enhance signal reception for public telephony kiosks or telecentres, requiring grants equal to or less than $1,000 each. The main criterion for being considered will be a business plan demonstrating financial profitability and/or sustainability following start-up contribution, for provision of services in rural communities that do not have good services.

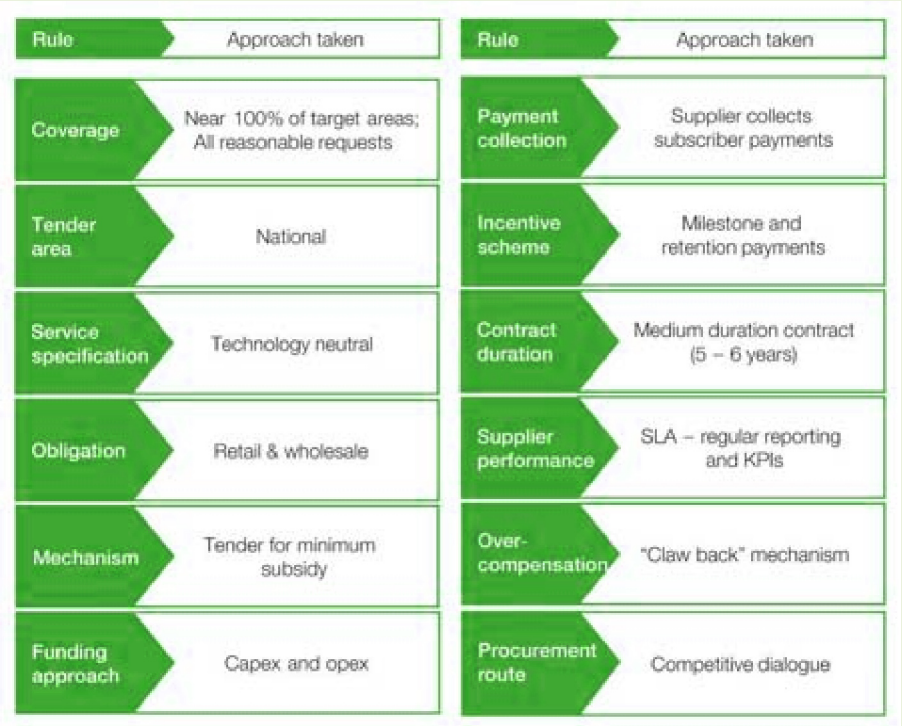
Source: RCDF

In another case, in Ireland, the scheme design for the provision of broadband using public financing involved detailed considerations of the requirements that should be placed on the successful tendered, and how these would affect the broadband market (so as not to distort it). Each requirement combined international practice with a strong understanding of the local market and rigorous analysis to ensure a balanced intervention. Some of the key areas in the scheme design are illustrated in the figure below.

82 Telephony tenders will typically require a subsidy of much more than US$ 100,000 (for example, over US$ 1 Million) however, any subsidy over US$100,000 is considered major.

83 Under certain circumstances, small sized subsidies (less than $15,000) may be disbursed directly through approval of a sound business plan

Figure 3.2: Key elements of Irish National Broadband Scheme design



Source: Analysys Mason, 2010

3.7.5 SADC Experience

Most Funds in SADC have indicated that they have or will use competitive bidding to issue projects, and that they will use least cost subsidy approaches. There does not appear to be a least cost subsidy approach that has successfully been carried out. Mozambique's attempt did not elicit any bidders, which is not unheard of – Australia and Pakistan have had similar experiences. The situation could reflect that there is not sufficient demand in the identified area.

Competitive least cost subsidy bidding is used as a project selection method in Malawi, Tanzania, South Africa, Mozambique, Madagascar and Lesotho. While this is a good approach, it should be noted that this approach is not a 'once size fits all' approach, and this seems to be the understanding in SADC. This approach should only be used for certain types of projects such as –

- Large capital investments in networks;
- Large sums of subsidies to be disbursed (e.g., starting from several hundred thousand dollars to several million); and
- Companies as subsidy recipients.

For projects such as user subsidies, or smaller scale projects, lengthy and expensive least cost subsidy processes may not be necessary – telecentres in certain areas may be an example, especially since the costs are easier to derive. In such cases fixed subsidies may be appropriate.

Box 3.14: Summary of Best Practices: Awarding Subsidies

- A mix of approaches to fund allocation is key and is dependent on the type of project being considered. Least cost subsidies are effective for large scale infrastructure projects. Fixed subsidies may be appropriate for smaller projects with more predictable costs.
- To minimize the level of subsidy required, and to reduce the potential for market distortion (especially in large scale infrastructure projects), the following components should be included in any bidding process:
  - Market research and public consultation
  - Open tender processes
  - Lowest cost subsidy approach
  - Technology neutrality
  - Link award of funding to the use of existing infrastructure (if there already is some) in the area which reduces the potential for negative impact on existing operators by creating a market for them
  - Link award of finding to the provision of an open access network
  - Ensure a clawback clause to avoid over-subsidisation or market distortions
- Where a competitive bidding process is embarked upon, the various steps of the UAS bidding design process are as follows:
  - Formulate the bid objectives and desired outcomes;
  - Articulate bidder eligibility, UAS areas, and separate or bundled UAS service provision;
  - Present the UAS bidding strategy and detailed projects to potential bidders for discussion and integration of feedback;
  - Conduct detailed design of the bidding process, including key parameters of the subsidy contract and license;
  - Prepare detailed bidding documents; and
  - Ensure a transparent bidding process.
- The formulation of bid objectives and desired outcomes should be based on each Member State's UAS policy. In addition to achieving the UAS targets, bid objectives could include minimizing subsidies or increasing competition in the market.
- Decisions on who is eligible for participation in the competitive tender for subsidies have an impact on the objectives and desired outcomes.
- Define a Disbursement level and process Framework (see Table 27)

Box 3.15:Sample/Reference Documents

As discussed above, there are a large number of considerations in deciding how funds should be allocated. Herewith please find a few examples of approaches and recommendations:

- EC State Aid Guidelines for Broadband http://ec.europa.eu/competition/consultations/2009_broadband_guidelines/index.html
- Universal Access and Universal Service Funds: insights and experience of international best practice www.inteleconresearch.com/pdf/050713%20-%20universal%20access%20and%20universal%20service%20funds%20v3.pdf
- Universal Service Obligations: To Incumbents www.idrc.ca/biodiversity/ev-118644-201-1-DO_TOPIC.html
- Costing and Financing Universal Service Obligations in a competitive Telecommunications Environment in the European Untion (Wissenschaftliches Institut für Kommunikationsdienste (WIK)) http://ec.europa.eu/archives/ISPO/infosoc/telecompolicy/en/Study-en.html

3.7.6 How To Invite Bidders – Key Bidding Documents

3.7.6.1 Pre-Process Documents

Before the bidding process commences it is critical that the bidders have sight of some key documents which will inform their strategy, the bid price and even their interest in the process. This is particularly important in a liberalized and partially competitive market where the funder will need to choose a single operator to provide the service/network and where there is a risk of anti-competitive outcomes.

Ideally, the bidders will have two opportunities to consider the documents. The first opportunity would be when they are put out for stakeholder comment as part of a public consultation process. The second would be when the 'final' documents are issued at the commencement of the bidding process – the documents should be almost final subject to minor changes once the bid is awarded. No substantive changes should be made upon award, as this would mean that the bidding process was unfair in that had the other bidders known they may bid differently.

Key documents are:

- Expression of Interest or Request to pre-Qualify – A public notice setting out a description of the services or facilities to be subsidised; the geographic area of the project; the competitive process that will be used to award the subsidy; and key dates in the process, especially the deadline for submitting applications/bids. The responses to this document will serve as an initial screening process for parties that will be permitted to participate in the full competition process initiated by the RFP;
- Request for Proposals (RFP), also known as the Bid Documents, Tender, or Invitation to Apply (ITA)
- Copy of the Draft License -a licence to operate the new network and provide the services (if applicable, if non licenced players are allowed to bid)
- Copy of the Draft Financing Contract– this is the document governing the payment of the subsidy. It provides contractual certainty to permit the financing of the project – and service requirements.

- Service Agreement (can be combined with Financing Contract) – specifies targets and milestones (e.g. Network construction milestones, and service rollout, schools connected, cities connected); technical performance requirements, including services to be provided, quality of service, etc; and penalties and remedies for failure to perform. See Table 33.
- Model Performance Guarantee
- A bid bond – The bid bond is a bank guarantee provided by the bidder, ranging from 1 to 5 per cent of the maximum subsidy, which the bidder will have to fortify if the bidder withdraws its bid. The purpose of the bid bond is to deter companies that are not serious bidders.

Table 3.18: Preparing a Service Agreement/Contract

Key clauses in a Service Agreement[84]

- Measurable targets (network construction milestones, service rollout, schools connected, cities and population covered, etc)
- Phases and Procedures for certifying completion of phases of project & subsidy payments
- Technical performance requirements, including services to be provided, quality of service, etc.
- Claw back clause – providing for repayment of subsidy (or excess subsidy) should there be higher demand in the area than anticipated, to avoid market distortion
- Penalties and remedies for failure to perform
- Dispute resolution procedures
- Other commercial provisions
  - – Representations & Warranties
  - – Performance guarantees
  - – Term, termination & amendment rules
  - – Force majeure and non-performance
  - – Insurance, indemnity, etc.
  - – Other standard commercial agreement terms

Note: Alternate approaches can include licence conditions and letter of credit from UA Fund instead of a Service Agreement. Another consideration depending on the nature of the project may be to include continuous repair and maintenance requirements for the duration of the licence.

3.7.7 In Process Documents

3.7.7.1 Business Plans

Any application for universal access financing, including for a pilot project, should be accompanied by a business plan enabling the evaluation of the sustainability of the project, as well as in the case of a comparative bid, to evaluate applications against one another. The process followed by a financier should effectively be a due diligence process, leading to the selection of the best bidders. The checklist below sets out the key elements of any business plan that the USAF or other financier may require:

- The project objectives– a brief introduction to the project idea and how the project addresses the identified opportunity;

[84] Adapted from Presentation entitled "Least-Cost Subsidy Auctions for Universal Access Telecom Projects: **A Practical Implementation Guide,"** Hank Intven & Curt Howard (2004).

- Ownership and control – a clear outline of the ownership structure, as well as supporting legal documents;
- Management team – a description of the key participants in the project involved in the day-to-day running of the project, their experience and track record and that of the founders and managers; An organizational chart with clear responsibilities and a human resource plan should be included;
- External advisors – bankers and accountants, and their credentials; technical and management consultants;
- Demand assessment/Market Analysis – based on a review of population dispersion, income, available services, unserved and underserved areas, affordability, economics, etc. This should include an assessment of current trends, as well as projections on expected usage (e.g., number of calls, Internet minutes of use, messages, pages printed, photocopies, forms delivered, or whatever mode of information and service is to be offered). This should also include a competitor analysis;
- Legal and regulatory framework, licences and authorizations – a summary (and possibly copies) of approvals, authorizations and licenses required, as well as those that have already been obtained. Licenses and authorizations in the ICT sector, as well as outside should be considered;
- Marketing, Sales and Distribution plan – setting out the product and services to be provided, the marketing strategy and the main distribution channels.
- Technical assessment – an assessment of the area's access to communications infrastructure, the topography, the access technology and other systems (e.g., power) required; an analysis of frequency spectrum requirements, if any. This assessment should recommend the most suitable technology and related costs;
- Financial details – Financial schedules, showing breakdown of costs and revenues for each major item, unit, department or service (e.g., telephone, fax, computer, Internet & email, training, photocopying, etc.) should be included; Amortization of costs, depreciation and replacement strategy should be shown. Additionally, projections of number of users, traffic usage, prices and revenues, expenses, financing costs, operational costs and salaries, etc should be provided;
- Risk Analysis & Sustainability – Earnings or potential earnings should be detailed and a risk and sensitivity analysis, or "what if analysis" to see how the business model adjusts to changing prices, expenses and competition;
- Funding requirements – a summary of funding requirements and of financial contributions, including in-kind contributions, from all sources. The scale of the investment and the scope of services proposed must be justified;
- Subsidy details – Estimated revenues & subsidy requirements. If a network project, subsidy should cover net cost of network expansion – i.e. after deducting projected revenues from area to be served;
- Training, capacity building and any other human resource development plan – the needs of the project and the assigned effort, plan, costs and partnership(s) to meet all stated goals for staff or users.
- Community inputs – if appropriate, an assessment of support from the local community to confirm that the requirements are understood by the community and the local sponsor(s);
- Partnerships – should outline the nature of partnerships required and secured for successful project implementation (NGO, private sector, donor, community, etc).

3.7.8 Post Process Documents (for Project Implementation)

Section 8 of Part 3 of this Toolkit deals with documents that should be issued to all bidders and interested stakeholders before the bidding process begins, in the interest of predictability and transparency. At the end of the process, the following should be issued to the successful bidder:

- *License (if applicable, and only if financing is linked to regulatory process)* – a licence to rollout the infrastructure, operate the new network or provide the services if the bidder was not already a licensee, or was not permitted to provide the services or networks in question – relevant schedules should be included;
- *Financing Contract* – the contract governing the payment of the subsidy by the Fund. It provides contractual certainty to permit the financing of the project – and service requirements.
- *Service Agreement* (can be combined with the Financing Contract) – the contract (or Annex to the Financing Contract) which specifies the targets and milestones, technical performance requirements, services to be provided, quality of service, etc, as well as penalties and remedies for failure to perform.
- The successful bidder must provide the Fund with a *Performance Guarantee*.

In light of the fact that the documents would have been made publically available at the commencement of the process (pre-process documents), the finalization of the above should happen swiftly. Any substantive changes to the above documents may require an additional public process. If substantive changes, such as those set out below, are made without the input of stakeholders, and in particular competitors, it may be argued that the process was unfair and that the terms on which the project was bid are different. Substantive changes would include changes to the following which may have been stipulated upfront such as:

- network construction milestones and service rollout,
- numbers of schools/hospitals/clinics/public institutions connected,
- numbers of cities connected, or people covered; and
- timeframes for delivery;

If any of the above changes are made, public consultation is advised.

Box 3.16: Sample/Recommended Documents

It is of great importance to follow a sound process in a bidding process. Herewith is an example of the process followed in India:

- Indian USOF Expression of Interest and Tender Documents for Infrastructure project www.dot.gov.in/uso/implementationstatus.htm

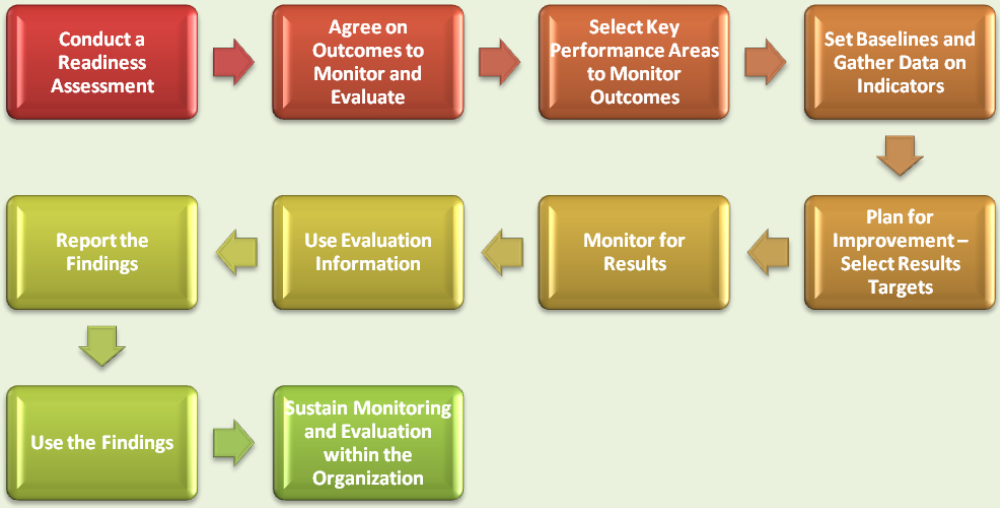
Part 4

MONITORING AND EVALUATION

Part 4

The Fund, like the other financial mechanisms, is outcomes based, and does not finance projects for the mere sake of financing them. It is important for the Fund to get a "return" on its investment even if that return is social or socio-economic as opposed to financial. To achieve this, in addition to good governance, as discussed in Part 2, and good project design which is covered in Part 3, monitoring and evaluation are key. The Fund's role does not end at the allocation of monies – it must follow the projects, monitor them and evaluate them. This is the subject of this section of the Toolkit.

Figure 4.1: 10-Step Monitoring and Evaluation Framework[85]



Source: World Bank, 2004

The World Bank provides a 10-step Monitoring and Evaluation ("M & E") model and handbook[86] which is illustrated above and should be borne in mind when reading this section. M&E involves everything from project initiation and conducting a readiness assessment, to selecting indicators and eventually having findings, using them and feeding them back into the organization.

In discussing M & E some key terms should be understood:

- Monitoring is the **continuous assessment of project implementation** in relation to agreed contracts and agreements (as discussed in Section 8 of Part 3 of this Toolkit), and of the use of inputs, infrastructure, and services by project beneficiaries. It provides Fund Administrators and internal and external stakeholders, including project implementers, with continuous feedback on implementation of USAF financed projects, and of identified programmes. It is only through monitoring that actual or potential successes and problems can be easily and quickly identified – this enables the adjustment of the project or programme as may be required.

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85 See Kusek & Rist, "Ten Steps to a Results Based Monitoring and Evaluation System" www.oecd.org/dataoecd/23/27/35281194.pdf which sets out the "10 steps" and provides a detailed analysis of the implementation of each step, as well as case studies.

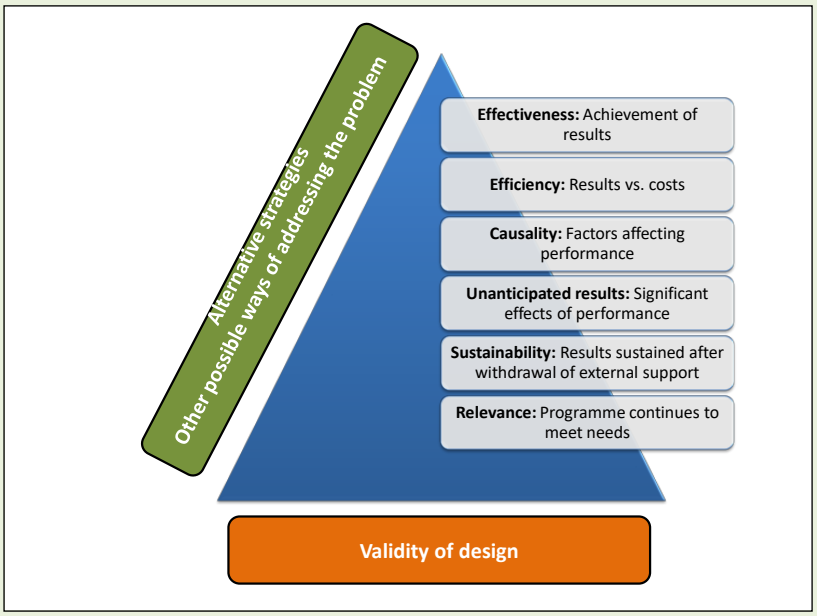
86 Ibid.

- Evaluation is the **periodic assessment of a programme or project's relevance, performance, efficiency, and impact** in relation to stated objectives (as discussed in Section 1.4 of Part 3 of this Toolkit, under "Developing Programmes and Projects"). It is important to note that evaluation occurs throughout the project and not just at the end. On-going evaluation enables Fund Administrators to assess a project's likely effects early on and to identify risks or unintended consequences which might necessitate adjustments in project design. Final evaluation reports are geared at closing a project and culminate in project completion reports. They include an assessment of a subsidized project's effects and its potential sustainability.

4.1 Objectives: Focusing on Outcomes, not Outputs

Evaluation is critical for many reasons and to achieve very clear objectives. The core evaluation concerns to assess universal access programme and project performance include to assess effectiveness of the project, its efficiency, any unexpected results (positive and negative) and to assess sustainability, amongst others. Ultimately it tests the validity of the design and whether alternative strategies may be relevant. The range of objectives and overall evaluation objectives framework is illustrated below.

Figure 4.2: Objectives of Evaluation



Source: Adapted from Core Evaluation Objectives, ILO, 2007.

Used carefully at all stages of the project cycle, monitoring and evaluation can help to strengthen project design and implementation and stimulate partnership with project stakeholders. It can:

- **Influence decisions relating to market reform and the sector financing strategy –** Relevant analysis from project and policy evaluation can highlight the outcomes of previous interventions (non-financial), for example the outcomes of regulation, of similar projects in other countries within the region, or in countries with similar contexts, and the strengths and weaknesses of their implementation.
- **Improve project design** – effective M&E facilitated by the use of relevant indicators for monitoring project performance. can lead to improvements in project design. In order for this

to work, however, basic data needs to be collected on a regular basis, and baseline data should be available giants which to measure progress.

- **Incorporate views of stakeholders** – "ownership" of project objectives and stakeholder buy-in will only arise from consultation, particularly in the ICT sector which has diverse interests. This in turn increases accountability and encourages the sustainability of universal access projects. Objectives should be set and indicators selected in consultation with stakeholders, so that objectives and targets are jointly "owned". A reliable flow of information during implementation enables funders to keep track of progress and adjust operations to take account of actual implementation experience.

4.2 Linking M&E to Universal Access Project Design

Earlier in the Toolkit (Part 3) the need for the project to be targeted was discussed, as was the need to develop an exit strategy upfront. The decisions made at that stage of project development, have an impact on M&E. Needless to say, a well designed project is easier to assess. Good design has five critical components:

- **Measurable objectives** for the project, for which indicators can be defined
- **A structured set of indicators**, covering outputs of network or services provided in terms of the project and their impact on identified beneficiaries
- **Provisions for collecting data and managing project records** so that the data required for indicators is compatible with existing statistics, and available at reasonable cost (where the funder is not the regulator this is one area where partnerships become useful, since this will require coordination between the entities to get data from operators if not specified in the SLAs signed at project commencement)
- **Institutional arrangements for gathering, analyzing, and reporting project data, and for investing in capacity building**, to sustain the M&E service (where Funds are separate from regulators this may require coordination between the entities to get data from operators)
- **Proposals for the ways in which M&E findings will be fed back to stakeholders, financiers, and other affected parties.**

These five components help to ensure that M&E is relevant, within the capacity of the Fund and effective.

4.3 Measuring the Impact – Common challenges faced

To identify appropriate indicators to track these outputs Fund Administrators need to know:

- The target area
- The target population/beneficiaries
- The specific services
- The kind of access
- The quality standards
- The content or applications to be affected?
- The specific awareness or knowledge to be developed.

Member States should seek to avoid some of the common project management problems that arise when Member States do not properly design projects or specify objectives and targets include:[87]

- Targets and indicators ***do not include an objective standard*** against which achievement can be assessed. For example, an indicator of "system developed" is used for an output such as "system for coordination, monitoring and evaluation of school connectivity programmes". The standard needs to be defined explicitly.
- Targets do not make ***reference to a baseline or starting point*** *and this provides no basis for comparison or analysis*.
- ***Too many indicators*** with little consideration of the time, human resources and cost required to collect the indicator data. The risk is that some of the indicators may not be related to the objectives sought to be achieved.
- Indicators that seem ***unrealistic*** due to lack of data to construct the specified indicator and/or because the indicator is very difficult to measure.
- ***Inconsistency between the universe of the output and the indicators***. For example, the ***output*** relating to a few sample areas but the specified ***indicators*** relating to the entire country.
- ***Copying of indicators contained in CRASA, NEPAD, ITU or other guidelines*** without consideration of their relevance to the country specific programme or project context.
- ***Inadequate or Infrequent*** use of ***gender sensitive indicators***.

4.4 Using the results

One of the weaknesses in the region is the lack of information sharing and the absence of publically available information on Fund Administrators' websites. It is not sufficient to merely conduct evaluation as an information-gathering activity. It is also important to disseminate and communicate evaluation results to key stakeholders and interested parties in a consistent format and to monitor and report trends.

As indicated earlier in the Toolkit, consultation is key. In addition to delivering a final report, it is useful to organize meetings first with project implementers and additionally with interested stakeholders. Consultation allows all stakeholders to hear about evaluation findings, but also interpret them and construct meaning – these are opportunities for learning, exchanging ideas and improving models. Ensuring openness and a wider access to evaluation results increases their credibility and use. See box below.

Table 4.1: Providing Feedback

Reporting Back…ways to be accountable and transparent post M&E
• Submit a publically available Annual Report and audited financials
• Prepare a detailed written report for management and all project stakeholders
• Make a brochure on the principal evaluation lessons and recommendations
• News release, press conference, articles, electronic publications (e-mail, Internet, websites)
• Stakeholder consultation/briefing
• Seminar, workshop, or group discussion

[87] Adapted from UNFPA project management framework

4.5 Implementation

Disseminating evaluation results does not ensure that recommendations will be implemented, now does it guarantee that lessons learned will be followed. It is important to understand the important role of Funds in pro-actively following up in order to ensure incorporation of recommendations, or of lessons learned in future decision-making processes such as the design and development of a new programme or project, or the allocation of funds. Once a project has been evaluated, it is good practice for the Fund to establish an implementation plan based on the recommendations with a timetable and identification of parties responsible for follow-up actions.

Box 4.1: Samples/References

Ten Steps to a Results Based Monitoring and Evaluation System (World Bank) – www.oecd.org/dataoecd/23/27/35281194.pdf

Part 5

REGIONAL HARMONISATION, THE ROLE OF CRASA

Part 5

5.1 Harmonisation and Regional Integrations

CRASA has a critical role to play in the SADC ICT sector in promoting the harmonization of universal service and access regimes. Annual reports requested from members request high level information on universal access policy frameworks, Fund management and project implementation. In conducting the research and analysis regarding USAFs in the SADC region, it became clear that although Member States are engaged in various activities which seek to facilitate universal access, and in some cases universal service, these initiatives are not documented in a consistent manner across countries.

In addition, an interesting observation is the impact of the formation of an association of universal access funds with the support of the CTO. This provides a forum for those funds, namely South Africa's USAASA, Tanzania's UCAF and Mauritius' ICTA, that may not be members of CRASA as they do not fit within a regulatory body to meet and exchange experiences. It is important that there is close collaboration between CRASA and this organization to avoid gaps in knowledge exchange, the sharing of experience and documentation and to promote regional harmonization.

Table 5.1: AUSAFA – African Funds' Association[88]

The African Universal Service and Access Fund Association, established in 2008, aims to help African Universal Service and Access Funds to fulfill their collective mission to improve rural ICT access. The association is a platform for members to collaborate, share knowledge and pool resources.

AUSAFA was established in Lilongwe, Malawi when representatives of 12 USAFs issued a Declaration, adopted the Constitution and elected the office bearers. All USAFs promote rural connectivity through developing, funding and supporting appropriate projects. There are numerous examples of USAF success stories in Africa and Latin America; but they are rarely told. AUSAFA collects and disseminates information about these rural connectivity projects so that they can by analysed, adapted and replicated by stakeholders around the world. As a central repository for global USAF activities, AUSAFA will formulate a set of best practices for the use of all stakeholders.

Due to the specialised nature of their work, USAFs have unique needs in terms of advisory and training. Many have found it difficult to meet these needs because appropriate services are not readily available, and when they are available, they are often extremely expensive.

AUSAFA aims to ensure that all its actions are demand driven and is therefore gathering information related to advisory services and training as part of a needs assessment exercise. The most demanded advisory services and training will be procured by AUSAFA under a common pool.

5.2 Lessons for CRASA

Further to the guidelines for Member States arising from this report, it is recommended that CRASA's role with respect to the important topic of universal access policy, and specifically with regard to the management of Funds, should be aligned with the following guidelines:

- CRASA should be responsible for gathering information from Member States on an ongoing basis, through its Universal Access Committee, on the practices set out below. In addition to gathering information, CRASA should analyse it and provide Members with best practice information and lessons learned on:
  - Universal access policies, programmes and strategies;
  - The manner of collection of Funds,, and monies collected annually

88 www.cto.int/Default.aspx?tabid=230

  - The application of Funds and levels of disbursement
  - Successful projects regionally and globally, including key issues on technology, policy frameworks, bidding processes, and other aspects of project design
  - New universal access models based on innovations globally and regionally in the areas on technology, finance, licensing and bidding processes, and project design
  - Partnerships that may be replicated across the region
- CRASA should ensure that there is adequate training available for Member States to generally promote universal access policies, but specifically provide capacity building on fund management , project design and monitoring and evaluation;
- CRASA should compile annual statistics and indicators to assist the 14 members to measure the success or otherwise of the Funds;
- CRASA should work in consultation with the USAF Forum to promote collaboration and regional harmonization with respect to fund management.