

# **CSIR response to GG 33467: Review of the Universal Service and Access Obligations Framework (USAOs)**

## **1. INTRODUCTION**

The existing framework governing the delivery of US and UA by means of obligations placed on the existing licensed telecommunications operators has not necessarily delivered the desired results in all respects.

Many underserved areas remain without services and in some instances there are rural areas where access to communication services and ICT have deteriorated.

This is despite the best efforts of organisations on which USAOs have been imposed and despite the creation of the Universal Service and Access Agency of South Africa (USAASA).

Further, many of the existing holders of Universal Service Area Licences (USALs) have failed to become viable companies.

The review of the existing framework for USAOs together with other initiatives such as the USAASA strategy review initiative, and the announcement of the Minister of the Department of Communications Minister Padayachie are welcomed.

Our submission focuses on the questions posed by ICASA in sections 14 and 15 of the ICASA Discussion Paper: Review of Universal Service and Access Obligations Framework (USAOs) published in GG 33467.

Our recommendations for the way forward are tabled in section 2 below.

The remaining sections of the submission provide further background on projects underway within Meraka that we believe are relevant to the review process underway.

## **2. RECOMMENDATIONS**

- **A simple selection of a UA and US model is not the answer**

Meraka recommends that a complete review and design of a new model is required instead of a simple selection done or modification of existing models.

Neither of the models proposed adequately address the market gaps as defined in the ITU ICT Toolkit module on Universal Access and Universal Service.

Model 1 adapted to better address the market gaps not addressed by the traditional model is proposed.

Some of the issues requiring attention in model 1 are:

- A review of which licensees will carry USAOs. It is incorrect to impose USAOs on some licensees and on others.
  - A complete review of the existing USAOs in the light of the developments since these were originally defined.
  - For example, we believe that the USAOs imposed on broadcasters and broadcast network providers should be related to their specific activities, in areas where their competencies lie. Imposing The same USAOs as imposed not normal telecommunication service providers is beyond their scope of activities.
  - The ECA needs to be amended to allow for anyone, not only licensees to offer solutions to UA and US issues. This implies that successful proposals will then be able to apply for suitable licences to allow for implementation should their proposals be accepted.
  - The restriction should be removed that allows for only a competitive tendering process to be followed. It should be possible for anyone to propose unique solutions to the USAASA, and if successful they should be allowed to implement their proposal outside of the gambit of the tendering process.
  - A single agency needs to be responsible for the development of a UAS strategy. That same agency should be responsible for co-ordination and monitoring of UAS initiatives.
  - That same agency should have the responsibility for the monitoring of USAOs.
  - Incentives should be included for all licensees to implement the USAOs imposed on them.
  - Penalties should be phased out or used as a last resort action only.
  - The funding percentages imposed on licensees should be reviewed based on the funding requirements instead of being pegged at a fixed percentage.
  - The USAF should also be made available to fund research and development into new ways of addressing Universal Service matters. Innovation and Human Capital Development will be encouraged by such funding.
- **Undertake this USAO review in conjunction with the USAASA strategy Review**

There are two processes underway, both interlinked with the delivery of universal services.

Meraka recommends that the two processes are co-ordinated to ensure congruency of purpose.

- **ITU-infoDev ICT regulation Toolkit**

The ITU in conjunction with infoDev have published an ICT Regulation Toolkit. Module 4 of this toolkit deals exclusively with Universal Access and Universal service. The ITU toolkit is referred to in the discussion document. There are many more recommendations in the toolkit that are directly applicable to this review of USAOs.

We suggest that the contents of this module 4 should form an input document during the above review process.

- **Review the definitions of UA and US**

The definitions of UA and US as defined in GG 32939 date 8<sup>th</sup> February 2010 may require further revision. The current definitions may not adequately capture the concepts of **Availability, Accessibility** and **Affordability**.

- **Urgent attention be given to revising the E-rate regulations**

The existing E-rate definition scope and applicability requires review. The lack of clarity on its applicability is inhibiting its effective application for essential service provision beyond schools. For example, other institutions such as research facilities, training colleges, clinics, etc should also be able to apply for and get services at E-rates. E-rate should not only apply to Internet access but should cover other ICT services as well as it is not possible to roll-out network infrastructure only for Internet access.

- **Market Access and Universal Access and Service**

The ICT regulation Toolkit identifies three separate zones within the so-called market access gap – the market efficiency gap, the smart subsidy gap and the true access gap. Each of these gaps requires unique interventions and actions to ensure 100% Universal Service. Section 3.3 of the discussion document alludes to the market gap and how these should be removed.

Meraka suggests that focussing purely on removing legal and regulatory gaps will not remove the market efficiency gaps in themselves without interventions aimed at each of the above gaps.

The existing USOs are aimed almost exclusively at addressing issues within the Market Efficiency Gap without any reference to the other gaps.

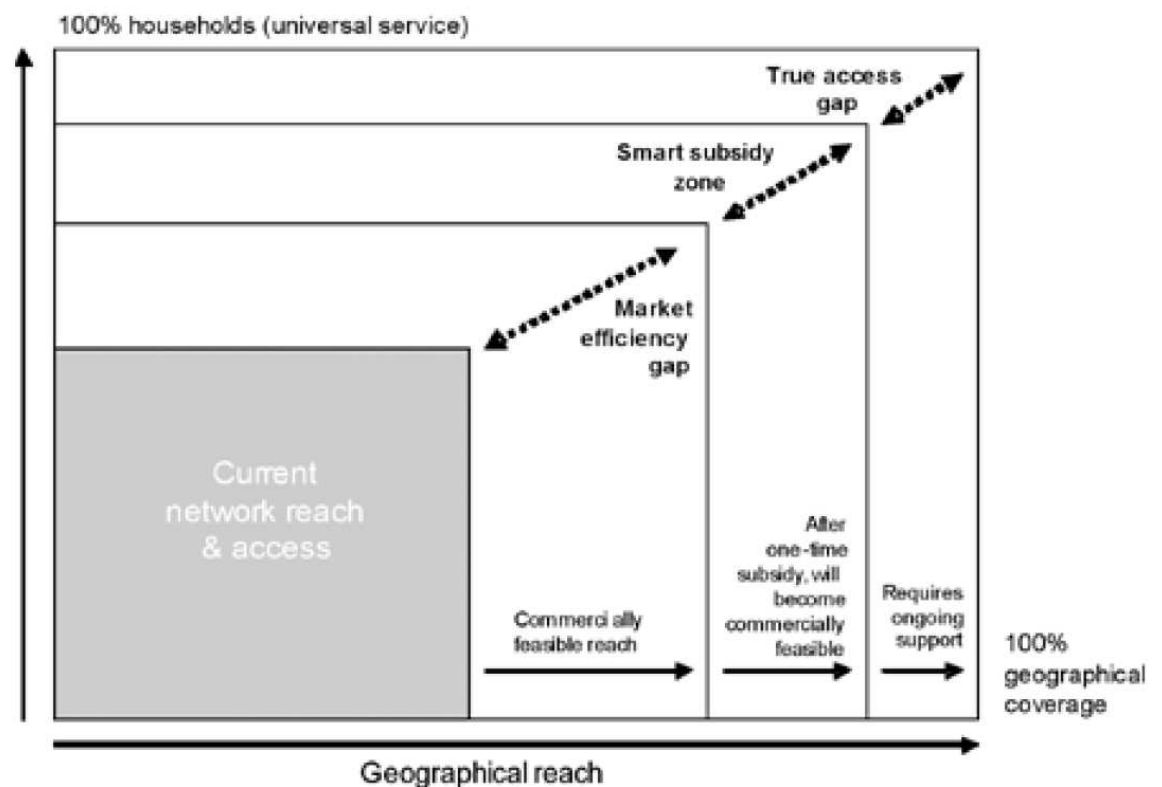
We recommend that the definitions of UA and US need to be changed to capture the above concepts and to measure more accurately in what these gaps are in South Africa.

Once these gaps are better understood better use can be made of USAOs to address the gaps in a co-ordinated manner.

- **Geographical Reach and Universal Service**

The current USAOs are structured in a manner to suggest that simple infrastructure roll-out geographically, will ultimately achieve 100% Universal Service.

The diagram below illustrates the difference between universal service and geographical reach in a manner that highlights where the market gaps exist and suggest what types of interventions beyond USAOs are required to address universal service in its totality.



Source: ITU-infoDev ICT Regulation Toolkit.

We contend that it is critical that the geographical reach of ICT is separated out from universal service so that a clear understanding of the dynamics of universal service delivery can be understood.

- **Research into UA and US**

The structure of UA and US is not fully understood in the South African context. The problem is not just geographical network roll-outs. The

problem is a complex one interrelated with what resources and assets are available within the communities that are supposed to benefit from universal service. Yet it is these very communities that must ultimately support and pay for the ICT services delivered. This lack of understanding of the larger socio-economic forces with the communities leads to networks being deployed and not used and fall into disrepair.

Few persons realise or understand what the community assets are except for "disposable income". Some of these assets are:

- Skills of the citizens, from the youth to the people with disabilities, from thriving professionals to starving artists;
- Dedication of its citizens associations - as churches, culture groups, clubs neighbourhood associations, and even highly sophisticated science communities, and;
- Resources of its formal institutions – businesses, schools, libraries, community colleges, hospitals, parks, social service agencies and large science projects such as those located at Sutherland and Carnarvon.

We contend this is why some of the incumbent operators are prepared to rather pay the penalties rather than to deliver on unrealistic USAOs which in the end bring in no income

Meraka therefore suggests that on-going and continuous research is required into the market place as well as finding new innovative ways to address the market gaps that exist in the total delivery of universal service.

- **The presence of anchor ICT users in the community, Requirement for a co-ordinated and total commitment**

Every so called underserviced area has key anchor customers for ICT services, regardless of which market gap they lie in or where they are located geographically. Typical examples are schools, health clinics, libraries, police stations, post offices, government offices and private enterprise activities such as farming and agriculture.

We contend that when proposals are designed to provide ICT services in underserviced areas, it is essential that ALL these anchor clients are identified and become involved in the justification of network roll-out.

*We believe it is incorrect to serve some schools, some hospitals and clinics, or only Police Stations or Post Offices. The project should ensure all persons requiring ICT services are served at the same time.*

Proper and total co-ordination across all government departments and institutions is essential when developing initiatives designed to address US/UA goals.

- **USAOs are built around penalties with no incentives.**

The existing USAOs models are all based on penalties which are risks to the business in the form of licence withdrawals for non-compliance. The result is that the incumbent operators on whom USAOs are imposed have taken the easy way out and rather pay the penalties, and are prepared to take legal action should ICASA attempt to withdraw their licences.

Meraka recommends that the model adopted should also provide for incentives to be offered for compliance with USAOs.

- **Alternative Subsidy options should be catered for**

The current structure of the Universal Service Fund is based on the premise that funds could be allocated to incumbent operators to encourage roll-out. However, Sustainability is also dependent on long term operational needs. The revenue streams in the underserved areas are problematic. No mechanism exists at the moment to provide for operational subsidies as well.

Meraka recommends that the possibility of providing for operational subsidies be included in any future incentive scheme offered to operators for rolling out network infrastructure in underserved areas.

- **Regular review of USAOs and the targets set is required.**

The current review as tabled in the discussion document shows that some of the incumbent operators have met and exceeded their targets and other have simply ignored their USAOs.

We recommend that the review process be undertaken continuously, allowing for regular reports. USAOs also need to be adapted as circumstances change to ensure that the USAOs are still relevant. The review process should be a function of the USAASA only.

- **USAOs offer no equivalent mechanism for accessing funds and low interest loans for UA and US as exists within the MDDA.**

The MDDA was set up to enable historically disadvantaged communities and persons to gain access to media. Yet in many instances that access is depends on the roll out of networks required for UA and US.

It should be possible for direct subsidies and low interest loans to be made available to projects directed at the delivery of UA and US

Meraka recommends that consideration be given to provide for similar mechanisms either in the USAOs or within the ambit of USAASA.

- **USAASA Implementation Framework**

The design and implementation of a framework /process for the awarding of competitive tenders for UA and US projects requires equal attention.

The above statement implies that USAASA should be responsible for designing projects aimed at UA and US delivery.

Meraka contends that it should also be possible for outside parties and instances to propose projects and initiatives to USAASA for consideration.

Thus it is in our view more important to create processes and establish criteria against which projects can be measured, than simply to continue to expect USAASA to be the only source of such projects.

- **Lack of Backbone Infrastructure in underserviced areas**

By implication, the only issue affecting the further deployment of networks for UA and US are the access networks in the "last mile". Yet there are vast areas of South Africa where backbone access is either non-existent or so inadequate that existing UA and US projects cannot be implemented. USAOs do not cover this aspect at all.

Meraka recommends that consideration be given to include in some form or another obligations for the deployment or extension of ICT backbone infrastructure into underserviced areas.

### 3. BACKGROUND

The electronic communications market place in South Africa has changed substantially since the USAOs framework was first established.

At the time the market was expected to evolve according to a pre-determined Managed Liberalisation Strategy. Since then, some 600 odd IECS/IECNS licences were granted by ICASA, Neotel was granted an IECS/IECNS licence and Broadband Infraco was granted a IECNS licence.

The New ECA came into force.

Some of the incumbent operators are of the opinion that some of the USAOs are no longer applicable to them.

Some of the incumbent operators have chosen to accept the penalties associated with non compliance with their USAOs.

Many of the USALs have failed to begin operating. The USAASA has not been very successful in the allocation of funds from the Universal Service Fund, mostly as a result of a lack of credible proposals and projects considered suitable for addressing US and UA goals and objectives.

The net result is that the ultimate delivery of US and UA in areas lacking such services has simply not taken place.

The roll-out of services to Schools and other training facilities by means of the E-rate regulations have also not been successful for various reasons.

The USAASA defined US, UA, Underserviced Areas, and Needy persons. Targets were set for each of the areas, which were published in Government Gazette Number 32939 of the 8<sup>th</sup> February 2010.

Unfortunately implementation of many of these goals and objectives cannot yet be undertaken because of a perception that certain supporting regulations and frameworks are still outstanding. Some of these are:

- The design and implementation of the framework and processes for the awarding competitive tenders for US and UA projects in terms of section 90 of the ECA;
- The review of the E-Rate regulations, to ensure these are in line with the new definitions of US, UA, Underserviced Areas and Needy Persons, and;
- The clarification of the roles of other departments in the determination of roll-out obligations, such as the Departments of Science and Technology, Higher & Basic Education and Health.

The Department of Science and Technology embarked upon the roll out of the South African Research and Education Network (SANReN), aimed at

the provision of very broadband connectivity to approved research institutions and Higher Education facilities. SANReN Phase1, addresses in the main the establishment of the national SANReN backbone network and SANReN metro networks in the larger metropolitan areas of Johannesburg, Cape Town, Tshwane and Durban. SANReN phase2 extends the national backbone to Polokwane, Eastern Cape, Free State, Limpopo, Mpumalanga, North West and Pietermaritzburg.

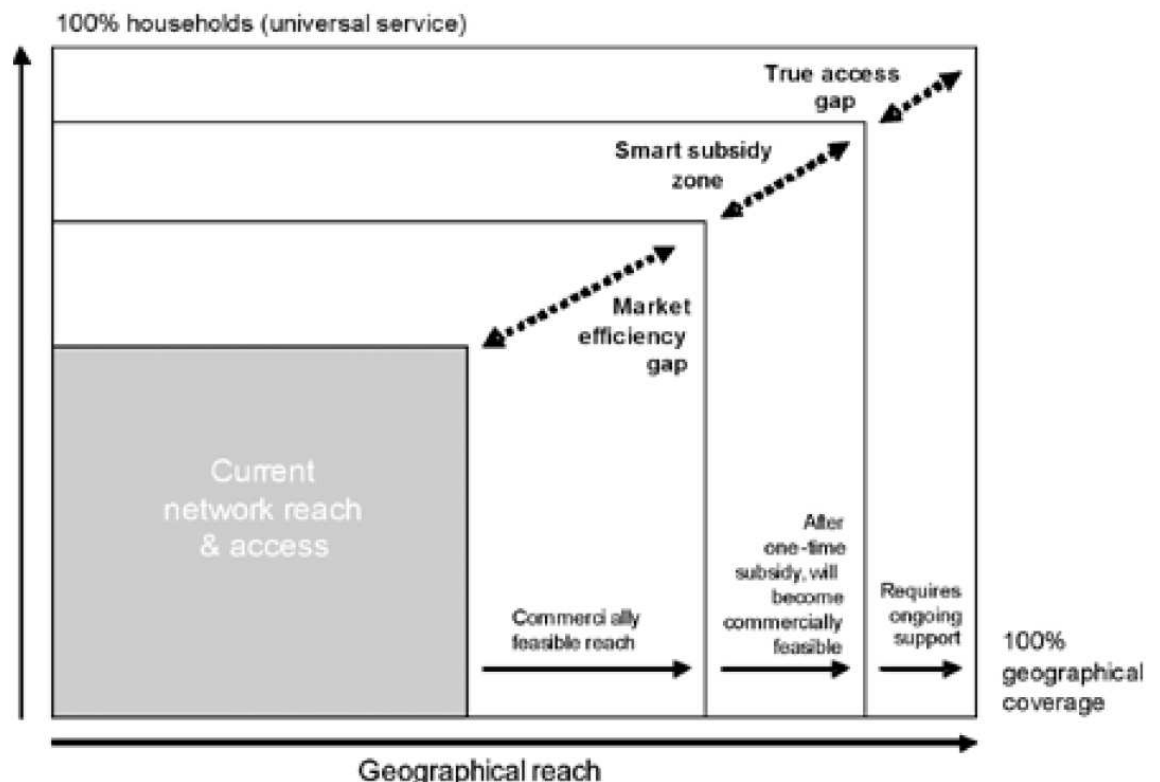
## 4. Meraka Projects

The Meraka Institute is actively engaged in research into telecommunications and ICT service delivery in Rural and Deep Rural areas.

These projects are not designed to address universal access and universal service provision directly as based on the current definitions of UA and US, such projects are assumed to mostly fall into the "market efficiency gap", where a simple regime of USAOs will encourage incumbent operators to roll out infrastructure and thus provide UA and US.

Meraka believes many underserved areas lies in the "smart subsidy zone" and in the "True Access Gap" as defined in the ITU's ICT Toolkit as depicted in the diagram below.

Geographical Reach does not imply that the areas so defined always lie in the deep rural areas, and it is entirely possible for geographical pockets to exist within the other geographical areas where one would normally assume that communities are fully aware of the benefits of ICT.



Both these gaps require specific interventions and innovative solution sot move geographical areas into the areas where normal market forces will find it attractive to roll out commercially viable networks, thus addressing Universal Service goals.

- **The Digital Doorway Project**

The Digital Doorway project is a project requiring continual ongoing support and funding to be successful. It is project addressing the "True Access Gap" with the purpose of raising awareness in those areas addressed of the benefits and rewards associated with ICT. Projects of this nature are designed to move areas into the "Smart Subsidy Zone", and then ultimately into the market efficiency gap, where normal UA and US interventions will then lead to full universal service provision by incumbent operators.

The aim of the Digital Doorway project, which has been running since November 2002, is to introduce users in remote rural areas to ICTs and to improve basic computer literacy through the approach of unassisted learning and experimentation. Around 210 systems (consisting mostly of three-terminal kiosks) have been deployed country-wide. The project is not aimed directly at the delivery of US and UA, but rather to create awareness amongst communities of ICT and the importance of access to ICT services in general.

- **The Broadband For All project (BB4All)**

The Broadband for All project on the other hand is aimed at finding new ways of delivering affordable broadband infrastructure and hence access to broadband ICT services in rural areas. One of the subprojects under the BB4All project is the DST funded Wireless Mesh Network project.

#### **Wireless Mesh Network (WMN) Project**

WMN initiative is considered to be a "Smart Subsidy Zone" project, where the intervention will ultimately extend the market efficiency gap to include areas where WMN networks are deployed.

This project is aimed at using customised wireless technologies to provide low-cost wireless infrastructure in rural areas.

The innovative approach proposed through this project is to have local entrepreneurs (called Village Operators), from within the target communities, to build and operate large area wireless networks, or more commonly referred to as community wireless networks (CWNs). Instead of the traditional top-down approach of the national operators to the 'Last Mile, Last Inch' problem, this enables a 'First Mile, First Inch' bottoms-up or grass-roots approach to infrastructure roll-out.

The Wireless Mesh Network project will stimulate sustainable rural economic development through Local Enterprise

## Development in Broadband Infrastructure and Services using innovative application of Wireless Mesh Network (WMN).

- **The SANReN Project**

This also a "Smart Subsidy Zone" intervention, designed to ensure that research institutions and higher education facilities are able to operate effectively. The process is to provide affordable high capacity connection to a substantial ICT backbone that will ultimately extend the commercially feasible reach of normal networks.

The South African Research and Education Network (SANReN) DST funded project aims to provide a very high capacity broadband network connecting all research institutions and centres for higher education in South Africa together and to the similar institutions and facilities throughout the World.

SANReN aims to make available to all beneficiary institutions access to ICT services in support of their primary missions and functions. The network is designed improve the effectiveness and relevance of the scientific research undertaken in South Africa. The ultimate goal of the project is the stimulation of long term economic development in all areas of South Africa, regardless of geographical location.

## 5. GLOSSARY

Term	Description/Definition
ECA	Electronic Communications Act no. 36 of 2005
ICASA	Independent Communications Authority of South Africa
ICTs	Information and Communication Technologies
MDDA	Media Diversity and Development Agency
UA	Universal Access as defined in terms of the ECA
US	Universal Service as defined in terms of the ECA
USAOs	Universal Service and Access
USAASA	Universal Service and Access Agency of South Africa

## 6. REFERENCES

Number	Reference
1	ITU-infoDev ICT Regulation Toolkit.
2	Discussion Document: GG 33467
3	US and UA Definitions: GG 32939