



Accreditation: Definition and challenges by Mr. Ron Josias, AFRAC Chair



Confronting technical barrier to trade



What is Accreditation?

The formal definition of accreditation can be found in the TBT agreement annexure and an updated definition is captured in ISO 17000:2004. It states that accreditation is a “third party attestation related to a conformity assessment body conveying formal demonstration of its competence to carry out specific conformity assessment task” (ISO/IEC 17000:2004). Such attestation is managed through an independent accreditation body that is often formally recognised at a national, regional and international level.

The attestation by an Accreditation Body is used by the accredited conformity assessment bodies to illustrate to their clients, regulators and government that they are competent to provide the services as stated on the schedule of accreditation issued by an Accreditation Body.

Clients of accredited conformity assessment bodies, including manufactures and exporters, use the reports and test results issued by the accredited conformity assessment bodies to prove that their products or services comply with requirements specified requirements such as a compulsory technical regulations or private specifications.

In addition to manufactures and exporters, government bodies and regulators who are constantly called upon to make policy decisions on economic growth and the protection of health, safety and environment protection, also use accreditation as a tool to support their mandates

How does accreditation support trade?

National, regional and International trade forms one of the key pillars for economic growth. Economic growth is considered as the main driver to alleviating poverty on our continent. In order to facilitate trade accreditation needs to breakdown the technical barriers caused by differing standards and conformity assessment requirements. Using accredited conformity assessment services has the following advantages:

- Avoids expensive re-testing, re-certification or re-inspection when products are traded
- Avoids costly rework;
- Facilitate ease of access to the international market through a network of Mutual Recognition Arrangements.

Mutual Recognition Arrangements (MRAs) concluded between accreditation bodies, promote the global acceptance of technical tests, inspection and calibration data as well as certificates issued by certification bodies. Signatories to the



International Accreditation Cooperation (ILAC) and the International Accreditation Forum (IAF), who manage the global MRA, represents over 112 different economies globally (as at 1 February 2013). For manufacturers and exporters in those economies it implies the elimination or reduction in the need for re-testing or re-certification to an importing country that is a signatory to the arrangement.

Therefore, for the purposes of trade, assurance of product quality and safety is derived from the product's compliance with standards and/or technical regulations. Such compliance is determined through conformity assessment: i.e. testing, calibration, certification and inspection. For the global acceptance of test and calibration certificates; certification and inspection reports, the competence of those providing conformity assessment services should never be in doubt. This competence is confirmed through accreditation.

Accreditation contributes to the development of a solid basis for effective participation in the global market and for regional integration in Africa through facilitating acceptance of test, calibration, inspection and certification results issued by bodies such as:

- Testing, calibration and medical laboratories;
- Inspection bodies;
- Certification bodies, and
- Organisations performing personnel certification.

What are the main challenges of Accreditation in Africa?

The main deliverables of accreditation in Africa depend almost exclusively on the confidence and trust the market place, regulators and governments have in reports and certificates issued by accredited CABs (Conformity Assessment Bodies). Realising the objective of global acceptance of certificates and reports issued by accredited CABs has slowly progressed over the years and many end-users are starting to relying on accreditation as the preferred tool to ensure the quality and reliability of conformity assessment activities. Furthermore, Regional Economic Communities Cooperation's and regulators in many different African economies have shown their confidence in accreditation by introducing provisions in Regional policy decisions and national regulations for compliance with relevant requirements for products and services to be demonstrated through the use of conformity assessment services provided by accredited CABs. However we still have a long way to go.

The challenges for accreditation are at different levels. For manufacturers and exporters the challenge is that they have access to a limited pool of accredited conformity assessment bodies in Africa. As the region industrialises the need for a pool of accredited conformity assessment services will grow and governments will need to consider how they can support the establishment of conformity assessment services that can be accredited.

The challenges for Regional Economic Cooperation's and governments are that setting up a single national accreditation services requires political support, is expensive, specific skills are required and may not be feasible due to a limited demand for the services. However setting up multi- economy accreditation services appears to be viable but requires political and financial support from all the economies that use it.

For conformity assessment bodies the challenges are that these bodies are often not prepared for accreditation and that it is expensive to expand their scope to service the needs of the manufacturers and exporters.

Lastly, for our continent the challenge is to have a strong quality infrastructure that can speak for our continent in the international fora and provide the necessary support to realize African growth objectives as lead by the African Union



Commission. As well as the knowledge and appreciation of what accreditation can do for our continent's economic growth and social development objectives. Furthermore, training, development and cooperation is what AFRAC lists high on its priority list. In this regard, the recently established Pan Africa Quality Infrastructure (PAQI), comprising of the African Accreditation Cooperation (AFRAC), the African Organisation for Standardisation (ARSO), the Intra-Africa Metrology System (AFRIMETS), and the African Electrotechnical Standardisation Commission (AFSEC) has gone a long way in addressing this challenge.

How is AFRAC coping with these challenges in Africa?

The African Accreditation Cooperation (AFRAC) was established in 2010 to coordinate the activities of Accreditation bodies on the continent. The aim of AFRAC is to enhance intra-Africa trade and facilitate the acceptance of Africa's goods and services in export countries through recognition of Africa's conformity assessment infrastructure as equivalent to those in other countries.

The key priority for AFRAC is to facilitate capacity building in accreditation across the continent with the goal of sustaining an internationally acceptable Mutual Recognition Arrangement (MRA), support intra-African trade, improve the competitiveness of African goods and services and to facilitate health and safety of the public and the environment.

To date the following progress has been made since 2010:

The African Accreditation Cooperation Body is recognised by the African Union Commission.

- AFRAC is member of the International Laboratory Accreditation Cooperation (ILAC) and the International Accreditation Forum (IAF) and have a seat in the decision making structures of these bodies.
- AFRAC concluded a Memorandum of Understanding with the Intra-Africa Metrology System (AFRIMETS), the African Organization for Standardisation (ARSO) and the African Electrotechnical Standardization Commission (AFSEC) which formalised the four pillars' relationship and established the Pan African Quality Infrastructure (PAQI).
- AFRAC has also concluded three Technical Cooperation agreements with the Asia Pacific Laboratory Accreditation Cooperation (APLAC-signed on 17 January 2013), the Arab Accreditation Cooperation (ARAC-signed on 25 March 2013) and the Southern African Development Community Cooperation in Accreditation (SADCA- signed 20 March 2014).
- AFRAC is also in the process of concluding a Cooperation Agreement with the Inter American Accreditation Cooperation (IAAC). The areas of cooperation with Asia Pacific Laboratory Accreditation Cooperation (APLAC), the Arab Accreditation (ARAC), SADCA and IAAC include:
 - o Training and Development;
 - o Participating in each other's Proficiency Testing programs;
 - o Participation in jointly organised peer evaluations;
 - o Information exchange;
 - o Support on technical matters;
 - o Adoption of common positions;
 - o Projects and fund procurement.
- AFRAC formalised its membership with the seven (7) Full members namely:
 - o Egyptian Accreditation Council (EGAC);
 - o Ethiopian National Accreditation Office (ENAO);
 - o Kenya Accreditation Service (KENAS);
 - o Mauritius Accreditation Service (MAURITAS);
 - o Southern African Development Community Accreditation Service (SADCAS);
 - o South African National Accreditation System (SANAS); and
 - o Tunisia Accreditation Council (TUNAC)



- The first pre-peer evaluation by AFRAC in partnership with ILAC was conducted on the Kenya Accreditation Service (KENAS) and Tunisia Accreditation Council (TUNAC).
- The first MRA for testing and certification will be signed in September 2014 between 3 accreditation bodies namely SANAS, EGAC and TUNAS.
- New accreditation bodies that are being established are supported by older accreditation bodies through attachments and training for example the Ethiopian National Accreditation Office (ENAO);

***AFRAC Members at the 4th AFRAC General Assembly
Meetings held from
21 – 26 September 2013 in Nairobi, Kenya***



***AFRAC Full Members at the Signing Ceremony held on 26
September 2013 in Nairobi, Kenya***

What are the future plan for AFRAC?

In 2012, the AFRAC General Assembly approved AFRAC's five year strategic and business plan. The plan requires AFRAC to undertake the following main functions to achieve its objectives:

- Fostering collaboration among accreditation bodies in Africa and facilitating collaboration between Member States having accreditation bodies and those without;
- Assisting and supporting the establishment of national or multi-economy accreditation bodies in Africa;
- Creation and maintenance of a system for the recognition of accreditation bodies in Africa within the framework of and consistent with global Mutual Recognition Agreement (MRA/MLA) international requirements;
- Coordination and facilitation of liaison with other regional and international organizations concerned with accreditation such as ILAC, IAF, IAAC, APLAC, Pacific Accreditation Forum (PAC) and European cooperation for accreditation (EA);
- Representation of Africa in international accreditation and other quality infrastructure fora;
- Promotion and expansion of the recognition and acceptance of the mutual recognition arrangement in Africa



internationally in both the voluntary and regulatory areas;

- g) Development of and managing training and technical assistance programs for transferring expertise and technical information, sharing of information and activities identified to assist new or developing accreditation programs, among present and potential members;
- h) Harmonisation of accreditation practices within Africa in compliance with international requirements;
- i) Establishment of an information system such as a database on accreditation bodies, proficiency testing (PT).

AFRAC has already gone a long way in meeting its 5 year targets. In the near future, AFRAC' MRA's scope will be expanded to incorporate the international recognition of Green Economy Certification and Inspection programmes such as required for energy efficiency and energy management and Green House Gases validation and verification activities. Such programmes would be required to support Africa meeting the Climate Change Agenda and the resulting monitoring of the Environment for Sustainable Development.

AFRAC is currently involved in promoting the use of accreditation as a tool for eliminating technical barriers to trade and a chapter on Accreditations Cooperation through AFRAC is included in the COMESA, EAC, SADC FTA.

AFRAC aims to be reviewed by ILAC and IAF within the next 4 years with a view to become a recognised cooperation that can do it's own peer reviews of African accreditation bodies. Accreditation bodies that become signatories members of the AFRAC MRA's will benefit from this international recognition.

The course for Africa's growth and rightful place in the global arena on matter of accreditation is set. It now requires all Regional Economic groups, governments and industries to ensure that we realize the African vision.

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Accreditation Cooperation in the African Integration Agenda by Dr. Hermogène Nsengimana, PAQI Joint Committee Chairperson



Pan-African Quality Infrastructure (PAQI) is an African continental platform for all matters related to standardization, metrology, accreditation and conformity assessment with the prime objective of strengthening the competitiveness of Africa's goods and services and contributing to the sustainable development and industrialisation of the continent.

Pan-African Quality Infrastructure (PAQI) comprises of African Accreditation Cooperation (AFRAC), Intra-Africa Metrology system (AFRIMETS), African Electrotechnical Standardization Commission (AFSEC) and African Organisation for Standardisation (ARSO) as its pillars. It was established and officially launched in August 2013 by the director of trade and industry of the African union

Commission (AUC).

As a continental quality infrastructure platform, PAQI focuses on addressing issues impeding regional and global trade, with particular reference to market access for African goods and services. PAQI plays an important part in encouraging the elimination of barriers to trade through prudent use of standards, measurement and accreditation.

PAQI works in a close collaboration with AUC and is supported by the Physikalisch Technische Bundesanstalt (PTB) from Germany.

In building a "Quality Infrastructure" in Africa, we need a prudent use of standards, accreditation and measurement.

Quality Infrastructure components include standards, quality assurance, metrology (scientific and legal) and accreditation..



All the three work closely and shall be maintained and improved in order to remain relevant as the platform for market access of products. PAQI pillars work closely in order to build a Quality system for Africa.

Globalisation is increasing the demands on developing countries to demonstrate that they have the technical infrastructure to guarantee that products originating from their countries are safe and fit for purpose.

International trade covering exports and imports depends largely on the good faith of the trading partners. As in all



human affairs, however, failures do occur and complaints do sometimes arise about inaccurate measures or unsatisfactory packaging or for some other reason.

With the growth of world trade and increasing trade liberalization as well as the rapid development of new manufacturing and distribution technologies, hundreds of third-party national and multinational inspection bodies have sprung up. These organizations are nominated by buyers to examine a huge range of products, materials, installations, plants, processes, work procedures and services, in the private as well as the public sector, and they provide reports on parameters such as quality, fitness for use and continuing safety in operation. The overall aim of such inspections is to reduce the risks to the buyer, owner, user and the consumer of the item being purchased.

For Africa to be competitive within the market there is a huge need for a network of accreditation bodies that provides affordable accreditation services to organisation engaging in conformity assessment business with regards to African products and services which would ensures the improvement on quality of African products, goods and services.

Having an accreditation cooperation namely African Accreditation Cooperation (AFRAC) in the PAQI pillars will provide several benefits to AFRICA such as:

- Give guidance regarding the policy on accreditation at continental level, leading to better utilization of accreditation resources available in the continent
- Reducing the risk of business to its customers by assuring them that accredited conformity assessment bodies in Africa are competent to carry out the work they undertake thus giving overall assurance in quality of products and services
- Enabling multilateral recognition agreement between accreditation body members in order to contribute to common conformity assessment procedures that promote intra-African and global trade.
- Representing Africa in all matters of accreditation within the international accreditation forum
- Developing and managing training and technical assistance programs for transferring expertise and technical information ,
- Sharing of information on activities identified to assist new or developing accreditation programs among present and potential members
- Harmonizing accreditation practices within Africa in compliance with international requirements.
- Promoting the development of training and assessment programmes in the areas of accreditation and conformity assessment

Accreditation activities with regards to AUC strategic plan

Now that the markets are globalized, it is a must that the structure of every country's conformity assessment be recognized by the due international forums. Without such "tool", companies that wish to concentrate on the foreign market will find difficulties, since they will likely face different demands from different markets.

The African Accreditation Cooperation (AFRAC), one of the PAQI institutions will provide assistance to the African integration agenda through supporting the AUC key sectors such as agriculture, environment and natural resources, infrastructure, trade and industry sectors by:

- Establishing an internationally recognised Mutual Recognition Agreement (MRA's) mechanism for the international acceptance of Test, Calibration, Inspection and Certification results, thereby facilitating ease of regional and international market access for the African manufacturing industry and especially agro processing industry.
- Creating industry users of such test and calibration data and inspection results similarly will take advantage of the AFRAC Arrangement. Users will have greater confidence in the accuracy of the results.



- Establishing an internationally recognised Mutual Recognition Agreement mechanism for the international acceptance of Test, Calibration, Inspection and Certification results, thereby facilitating infrastructure development and supporting modern energy services.
- Expanding the Mutual Recognition Agreement scope to incorporate the international recognition of Green Economy Certification and Inspection programmes such as required for energy efficiency and management and Green House Gases validation and verification activities.
- The exchange of information on the development and operation member accreditation schemes
- Leading to the realising of the ideal of having products "tested or inspected once and accepted everywhere". The Mutual Recognition Agreements - MRA of the conformity assessment procedures are made based on the philosophy of "once tested, accepted everywhere". Key to international trade, the MRAs promote cross border stakeholder confidence and the acceptance of accredited conformity assessment bodies.
- Ensuring that there is no need for duplicative re-testing, re-inspection or re-calibration of goods upon entry to importing countries. Government agencies rely more on results from accredited facilities as well as those of the MRA partners, as they begin to realise the credibility of accreditation programmes that are based on internationally recognised standards.

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Accreditation, a tool to ascertain competitiveness and trade facilitation, by Dr. Bruno Doko, Technical expert of the TBT Programme



Why accreditation?

Accreditation refers to third-party determination of the compliance of a conformity assessment Body (CAB) with specific/defined technical and quality standards. Accreditation is the external validation of organisations offering conformity assessment services e.g. calibration, testing, inspection and certification. Accreditation therefore reinforces conformity assessment by providing an external badge of competence for the CABs. Accreditation provides third party attestation of the competence of CABs creating the confidence needed for the free circulation of goods and services at a minimum cost for economic operators¹.

Accreditation and global trade

The increasing importance of accreditation on global markets and national economies must be considered by both industry and government to remain competitive. To stay competitive, global trading companies must have and/or rely on qualified personnel who understand the conformity assessment fields and control procedures². In the present era of Trade Globalization, market entry requires compliance to international standards and evidence of such compliance through an internationally recognized accreditation system of CABs.³

The effective operation of markets needs buyers and sellers to be confident of the reliability and competence of their (trading) partners and in the information they provide on the properties of goods and services offered. Accreditation and conformity assessment as tools in free trade have their roots in the WTO TBT agreement which is the international procedure by which technical barriers to trade are negotiated and eliminated⁴.

A pool of accredited CABs is a prerequisite for access to regional and global markets and a key determinant of competitive advantage, and economic growth. Owing to the globalization of markets and its relentless requirements, governments, particularly in developing countries are carefully reconsidering the overall arrangements to meet trade related requirements.

The rush towards accreditation: The African Context

Accreditation is an increasingly common objective of public, governments, and private sector for monitoring compliance with international standards and regulations for competitiveness and trade facilitation. Accreditation (as part of a national quality infrastructure i.e. metrology and standardisation) has become almost a de facto prerequisite to international trade. The accreditation system to prove conformity with standards/regulations and technical competence (Art. 6.11. of the WTO TBT Agreement) remains a tool to reduce the possibility of goods being denied access on the basis of inadequate conformity assessment⁵.

¹ Frenz, M and Lambert, R (2013). <http://www.ukas.com/Library/Media-Centre/News/News-Archive/2013/Economics%20of%20Accreditation%20Final%20Report.pdf>

² Ramani, C. P. and Nelson, D. S. (2008).

³ El Araby, S.

⁴ Nilsson, M. M. (ILC). The importance of standards in accreditation and conformity assessment as a tool in free trade (Merih Malmqvist Nilsson, ilac vice chair)

⁵ Standards Council of Canada accessed https://www.scc.ca/sites/default/files/migrated_files/DLFE-396.pdf



The weakness of the Quality Infrastructure sector in ACP countries, many of which are small and vulnerable economies creates impediments for their trade with third countries in spite of generous duty-free and quota-free market access granted to them by the EU and some other developed countries. Addressing TBT obstacles and building the capacity of their QI sector is no doubt an important trade facilitation step in boosting exports of ACP countries.

African countries in general face numerous hurdles, including lack of conformity with standards/regulation and technical competence, detrimental to their competitiveness and access to export markets. There is an evident need to strengthening conformity assessment services (e.g. calibration, testing, inspection and certification) to prove the reliability of the analytical test data, maintain high-quality certification and inspection procedures and establish conformity to international standards and/or those applied in importing countries. Accreditation process is today more than ever mandatory to strengthening CABs and to provide a national quality promotion strategy that builds on the NQI and assists the countries' efforts in becoming globally competitive.

The accreditation programme :

Accreditations are granted in many different fields, including :

- Testing and calibration laboratories according to ISO/IEC 17025; and 15189
- Inspection Bodies according to ISO/IEC 17020
- Certifying Bodies for Quality Management Systems according to ISO/IEC 17021 (former Guide ISO/IEC 62)
- Certifying Bodies for Environmental Management Systems according to ISO/IEC 17021 (former Guide ISO/IEC 66)
- Certifying Bodies for Product Certification according to ISO/IEC Guide 65
- Certifying Bodies for Person Certification according to ISO/IEC 17024.

The Accreditation Body itself must maintain conformance with ISO/IEC standard 17011 [Conformity Assessment – General requirements for accreditation bodies accrediting conformity assessment bodies]⁶.

In the framework of the restructuring of national quality infrastructure, most of recent national and/or international cooperation programmes encompass the support to accreditation (and/or assistance/preparedness towards accreditation) of laboratories. As an example, the EU-funded West Africa Quality Programme (WAQP) is one of the the biggest international cooperation programme that targeted laboratory accreditation as a key objective in the ECOWAS region. The data tabled below represent currently accredited laboratories by foreign accreditation bodies on ISO 17025 and 15189 standards.

Table: Laboratory accreditation programmes (on ISO 17025 and 15189 standards) from 2010.

Country	No. Laboratory	Accreditation Body	The Standard		Accreditation up to
			ISO 17025	ISO 15189	
Benin	3	COFRAC	X		2015; 2016
Burkina	3	COFRAC	X		2016; 2017

⁶ Sanetra, C. and Marbán, R.M. (2007).



	1	TUNAC	X		2018
Cap Vert	2	IPAC	X		2013; 2014
Côte d'Ivoire	1	COFRAC	X		2017
	3	TUNAC	X		2017 ; 2018
Ghana	4	DAKKS	X		2014 ; 2018
	4	SANAS		X	2014 ; 2016 ; 2017
Mali	1	TUNAC	X		2018
Mauritania	4	TUNAC	X		2018
Nigeria	2	A2LA	X		2015
	1	SANAS		X	2014
Senegal	4	COFRAC	X	X	2016; 2017; 2019
Togo	3	COFRAC	X	X	2016; 2017

COFRAC - Comité français d'accréditation ; **TUNAC** - Conseil Tunisien d'accréditation ; **IPAC** - Instituto Português De Acreditação ; **DAKKS** - Deutsche Akkreditierungsstelle ; **SANAS** - South African National Accreditation System ; **A2LA** - American Association for Laboratory Accreditation.

As shown in the table above, most of the accreditation bodies listed, except TUNAC and to some extent SANAS, are foreign bodies whose interventions reveal to be most of the time out of reach of national CABs. The majority of support so far was obtained through technical cooperation programmes. To make up for the expensive accreditation costs and to provide easy access to accreditation services, the development of an internationally recognized sub regional accreditation body that can service more than one economy, similar to the Southern African Accreditation System (SADCAS) that provides accreditation services to all the SADC countries except South Africa and Mauritius, would be of great help for smaller economies.

The TBT Programme's assistance on preparedness towards laboratory accreditation

The ACP-EU-TBT Programme tackles the accreditation issues through two programme lines⁷ including:

- Upgrading and strengthening Quality Infrastructure and related institutions
- Empowering economic operators and export sectors to comply with international market requirements

Most of the technical assistance requests recorded so far encompass capacity building assistance in the support of readiness for accreditation of CABs and certification of enterprises, seeking international recognition for trade facilitation. Along these lines, eligible projects being considered for support are:



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⁷ The ACP-EU-TBT Programme. Accessed <http://www.acp-eu-tbt.org/index.cfm>



- At National levels (http://www.acp-eu-tbt.org/pageprojects.cfm?title_page=regions)

At national level the assistance of the TBT Programme is meant to strengthening the CABs through training activities, expert services and provision of recommendations for their preparedness to accreditation purposes:

- o In **Zimbabwe** the technical assistance to support SAZ (Standard Association of Zimbabwe) consisted in training of CABs personnel (e.g., water testing and food microbiology laboratories) on ISO 17025 requirements, GLP, preparedness towards accreditation.
- o In **Benin** and **Mauritania** the cooperation projects with both ABMCQ⁸ and DNPQ⁹, consisted in training on relevant standards requirements, and the readiness of the CABS for accreditation purposes. More importantly the TBT Programme supported the attendance in advanced courses of training of trainers, e.g., 10 engineers/technicians of ABMCQ (Benin) and 5 engineers/technicians of DNPQ (Mauritania) within an advance training reference center, the LNE (Paris, France).
- o In **Mauritius**, the current actions of the TBT Programme aim at strengthening of the MAURITAS (Mauritius Accreditation Service) and to assist other 20 national CABs in their objectives towards accreditation.
- o In **Cameroun**, the ongoing assistance the TBT Programme is meant to enhance the technical capabilities of the ONCC, Office National du Cacao et Café (through training and expert services on application of ISO 17025 requirements and GLP and recommendations towards accreditation), for the improvement of competitiveness and trade facilitation.
- o In **RDC** (with OCC – Office Congolais de Contrôle) and **RWANDA** (with RBS – the Rwanda Bureau of standards) the ongoing cooperation with the TBT Programme is to assist both the inspection services and certification services in their preparedness towards accreditation.
- o Many other cooperation projects to come are at their finalization stage for further implementation.

- At regional level:

Technical assistance in the support of the operational utility of the SOAC¹⁰ could help to help set up a known accreditation body. So far, the majority of support for accreditation was obtained through technical cooperation programmes, due to the high cost of laboratory accreditation business. To make up for the expensive accreditation cost, the implementation of an internationally recognized sub regional accreditation body would be of great help for smaller economies. The TBT Programme's assistance to support SOAC would be worthwhile since it would remove dependence on expensive foreign accreditation bodies.

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8 ABMCQ : Agence Béninoise de Métrologie et du Contrôle de la Qualité

9 DNPQ : Direction de la Normalisation et de la Promotion de la Qualité

10 SOAC: Le système ouest-africain d'accréditation. Accessed

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