

The activities carried out by SADC MET over the period under review are summarised below.

1. SADC MET TC-1

Terms of reference: Address all issues and deal with all actions arising from SADC MET's membership of the Joint Committee of Regional Metrology Organisations and the BIPM (JCRB).

Framework: Global recognition of calibration certificates issued by SADC NMIs requires participation of SADC NMIs in CIPM key comparisons, the organisation of SADC key and supplementary comparisons, compliance with ISO standard 17025 or equivalent and the verification of the claimed best measurement capabilities of regional NMIs by SADC MET.

Members :Botswana, Mauritius, South Africa, Zambia and Zimbabwe.

Chairperson :Mrs M B Marobela (BOBS, Botswana).

Last meeting: 11 April 2000, Gaborone (Botswana).

The Regional Coordinator attended two JCRB meetings, one in October 2000 in Paris (France) and the second in March 2001 in Gaithersburg (USA).

The 5th meeting of the JCRB took place in Paris from 11 – 13 October 2000. It was attended by representatives from EUROMET, APMP, SIM, SADC MET, COOMET and MENAMET and dealt mainly with the approval of submitted Calibration and Measurement Capabilities (CMCs) for the BIPM MRA database in the fields of dimensional metrology and electricity and magnetism. Other issues attended to were updated JCRB Rules of Procedure for entering CMC data into Appendix C of the international MRA, entering the details and results of key and supplementary comparisons into Appendix B of the international MRA and the expression of uncertainties in the CMC declarations of National Metrology Institutes.

SADC MET was represented at the meeting by the Regional Coordinator and by the Manager of the NML. It was noted with great satisfaction that the JCRB accepted an invitation from the NML to hold its March 2002 meeting in South Africa.

At the subsequent meeting of the NMI Directors progress with the implementation of the international MRA was discussed and a symposium was held on 17 October 2000 at the French Academy of Sciences in Paris to commemorate the 125th anniversary of the Metre Convention. It was attended by Directors of National Metrology Institutes, members of the International Committee of Weights and Measures (CIPM), Regional Coordinators of Regional Metrology Organizations, members of the French Academy of Sciences, staff of the International Bureau of Weights and Measures (BIPM) and other invited guests. Eight lectures on metrology were presented by eminent experts, of which no less than five were Nobel Prize winners in Physics.

The March 2001 NMI Directors' meeting and the 6th JCRB meeting at NIST (USA) were timed to coincide with the NIST Centennial celebrations scheduled for March 5 – 7 in Gaithersburg near Washington. There was a Centennial Gala at the Ronald Reagan Building and International Trade Center in Washington on 6 March, during which the Regional Coordinator participated with about 50 national and international organizations in handing over plaques on behalf of NML and SADC MET. These will now be exhibited for one year in the foyer of the NIST building in Gaithersburg. On Wednesday, 7 March there was the NIST Centennial Standards Symposium entitled "Standards in the Global Economy: Past, Present and Future.

The main subject matter of the JCRB meeting was again progress with the implementation of the MRA in the different RMOs. It was decided that the metrology fields to be dealt with at the October 2001 JCRB meeting (8 – 9 October 2001, BIPM) would be mass, force, pressure, density, hardness, volume, torque, ionizing radiation and further parts of chemistry. Ionizing radiation was included again since no region apart from SADC MET had managed to meet the previous deadline for this field. The deadline for submissions will be 31 May 2001.

The fields for the March 2002 JCRB meeting will be temperature, flow, further parts of chemistry, the rest of length and the rest of photometry and radiometry. The NML (South Africa) was confirmed as the venue and the date was fixed as 5 and 6 March 2002. The meeting approved additional BIPM

instructions for drawing up CMC Excel files. A tentative invitation for the March 2003 JCRB meeting was received from the NRLM (Japan) as that is this institution's centennial year.

There are still plans, with the support of the PTB SQAM assistance programme, to conduct a new mass intercomparison, preceded by a training course focused on preparing participants for this regional exercise. Several further pilot intercomparisons have been held, involving Mauritius, Kenya, Uganda and Seychelles.

A final report on the pilot resistance intercomparison will be submitted at the SADC MET meeting in Maseru in April 2001.

A pilot intercomparison of mercury-in-glass thermometers over the temperature range 0 – 50 °C has commenced.

2. SADC MET TC-2

Terms of reference : Participation in the implementation of a "SADC Resource Centre for Metrology Education" according to the guidelines agreed to jointly between SADC MET, SADC MEL and SADCA.

Framework: At the first meeting of the joint working group it was agreed to form a SADC Resource Centre for Metrology Education at the NML (South Africa). It is the intention to formalize this agreement by way of an MOU between SADC MET, SADC MEL and SADCA. TC-2 is the internal SADC MET forum through which SADC MET participates in the agreement.

Members: Tanzania, South Africa and Zimbabwe.

Chairperson: Mr B Mathe (SIRDC, Zimbabwe).

Last meeting of TC-2: 11 April 2000, Gaborone (Botswana)

A meeting of the Regional Coordinators of SADCA, SADC MEL and SADC MET took place, at which inputs received at the Botswana meetings were incorporated. These were circulated to members of all three organizations and further inputs were received in response. No further actions were taken since then, since it was not clear how the process could be brought to a conclusion in an efficient way.

3. SADC MET TC-3

Terms of reference: Promote the establishment of National Metrology Institutes (NMI=s) and produce project proposals for submission to SADC Governments and potential funding agencies on the establishment of National Measurement Standards in those SADC countries, which currently have no such facilities, in the context of the SADC SQAM Programme.

Framework: At the first meeting of TC-3 it was agreed to add Seychelles and the Democratic Republic of Congo to the membership list and to amend the proposed terms of reference slightly to the above version. At the second meeting it was agreed to add Botswana as well.

Members: Angola, Botswana, Democratic Republic of Congo, Lesotho, Malawi, Mozambique, Namibia, Seychelles and Swaziland.

Chairperson: Mr F Hamutunda (ZABS, Zambia).

Last meeting :11 April 2000, Gaborone (Botswana)

The awareness seminar in Mozambique finally took place in Maputo from 1-2 June 2000. The seminar in Maseru, Lesotho followed from 5-6 June. The seminars featured presentations by WTO, UNCTAD, UNIDO, PTB (Germany), NIST (USA), INMETRO/IPT (Brazil), CSIR-NML (South Africa), SABS-Trade Metrology (South Africa), ZABS (Zambia), Trade Metrology Department (Swaziland) as well as local contributions. Attendance was good, the discussions were lively and it is felt that the purpose of creating awareness amongst the government and private sector decision makers was achieved. It is understood

by everybody that the events were the first steps in a process, in which the follow-up will ultimately determine success or failure.

SADCMET would like to express its sincere appreciation to the supporters of the events, which included NIST (USA), which sponsored the attendance of Dr Steve Carpenter (USA) and Dr Vera Poncano (Brazil); PTB (Germany), which paid for the expenses of the SADCMET TC-3 chairperson Mr Frederik Hamutunda (Zambia) and CSIR-NML (South Africa), which covered the expenses of the SADCMET Regional Coordinator Dr F Hengstberger; WTO, UNCTAD, UNIDO, SABS-Trade Metrology and Trade Metrology Department (Swaziland) for allowing their papers to be presented at the seminars; INNOQ (Mozambique) and Ministry of Industry, Trade and Marketing (Lesotho) for providing the venues, teas, lunches and reception.

Since then UNIDO has made money available to transport and install equipment donated by SABS, PTB (Germany) and CSIR-NML at the new INNOQ premises in Maputo. Training in the use of the equipment is also included in the project.

The equipment being supplied comprises precision equal-arm and electronic balances, a stainless steel weight set (1 mg to 20 kg), volume measures, a one meter standard steel bar, water distillation equipment, liquid in glass thermometers, a temperature/humidity recorder and a digital temperature / humidity / pressure indicator.

SADCMET wishes to express its sincere gratitude for the support to UNIDO and the abovementioned organizations, which donated the equipment.

4. SADCMET TC –4 15:00 – 16:30

Terms of reference : Compile principles recommended for inclusion in harmonised national legislation dealing with National Measurement Standards in SADC countries.

Framework: Harmonisation activity in terms of the SADC MOU on Cooperation in SQAM

Members: All SADCMET member countries.

Chairperson: Mr B F Denner (NML, South Africa).

5. SADCMET CODES OF PROCEDURE

The Secretariat prepared a revision of the SADCMET Code of Procedure *COP-0005 – Version 2000-04-11* on the REVIEW OF MEMBER CMCs FOR INCLUSION IN APPENDIX C OF THE GLOBAL MRA BETWEEN NMIs. The new draft procedure includes additional JCRB requirements regarding the criteria to be used during the review. It will be discussed and submitted for approval during the Maseru meeting.

With respect to other Codes of Procedure, which are common to all regional SQAM structures, drafts are awaited from SADCSTAN, which undertook to prepare them at the last SQAMEG meeting.

6. Meetings of the SADC Coordinating Committee on SPS / TBT (CC-SPS/TBT)

The inaugural meeting of this body took place in Windhoek from 4-5 May, 2000. It was opened by the Honorable Paul Smith, Minister of Agriculture, Water and Rural Development of Namibia, who stressed the importance of the subject matter for international trade. It was agreed that the following SADC sectors have to be closely involved in the work of the committee:

Inland Marine Food, Livestock Food Environment Industry and Trade	Fisheries, Fisheries Agriculture and Safety	Forestry and Animal and	and and Natural Disease Public Land	Wildlife; Resources; Resources; Control; Health Management
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TBT aspects would be taken into account through the inclusion of representatives of the SADC SQAM Programme on the Committee.

Mr Wohleber (Namibia) presented proposals on the way forward and Dr Hengstberger (SADCMET) indicated the approach used in establishing the SADC SQAM Programme and the drafting of the SADC SQAM MOU.

The second CC-SPS/TBT meeting took place in Maseru (Lesotho) on June 7th, 2000. Unfortunately, the SADC sectors other than Industry and Trade, which were identified at the Windhoek meeting, were not represented and very little progress could be made with the working programme. A draft working document from Mr Wohleber was circulated and Dr Hengstberger supplied copies of a WTO presentation on the subject. It was decided that the next meeting should take place in Pretoria (South Africa) in the first week of July and that it should last for two days. Dr Hengstberger was requested to prepare a draft document before the next meeting, based on the material made available at the Windhoek and Maseru meetings.

The SADC High Level Meeting was organised by the SADC FANR Food Security and Rural Development Hub during the period 4-6 Sept, 2000.

The objective of the meeting was to review the status of current work on SPS/TBT, assess their impact, identify remaining gaps (technical, institutional and capacity), and agree on the way forward. The meeting was attended by 37 participants from FANR Sectors, Industry and Trade Sector, Finance Sector and Environment Sector. Donor Agencies (e.g FAO, EU, USAID, World Bank), NGO's, private and public sector also participated in the meeting.

The major findings of the high level meeting was that there is lack of coordination of SPS and TBT related issues among the SADC member states . Information generated on SPS and related TBT issues was not regularly shared between the various sectors. To a large extent, work was concentrated in the public domain, and did not often encompass the private sector and civil society, especially at the regional level. Under-utilization of regional and National Capacity and uncoordinated Donor Support were also identified as major constraints.

In view of the foregoing constraints, the high level meeting recommended the establishment of a SADC Consultative Forum on SPS/TBT. The forum would serve as a formal mechanism for the exchange of information among SADC Institutions and other stakeholders on SPS/TBT matters; provide support to member states in implementation of SPS programs and activities, and leverage external technical and financial resources in support of SPS work (policy reviews, capacity building, training, etc.). The meeting further recommended that an SPS/TBT Website be established. This would encourage information generation, analyses and exchange between the various stakeholders involved in SPS/TBT work. This is particularly important at the national level where a variety of stakeholders are involved.

SADC member states were also encouraged to participate in specialised WTO Committees notably IPPC, OIE, Codex, and the Agricultural Forum to ensure that SADC viewpoints on trade and WTO issues are properly articulated and to be able to influence key decisions.

As a follow-up to the High Level Consultation held in Harare, the SADC Consultative Forum on SPS/Food Safety convened a Workshop on Sanitary, Phytosanitary (SPS) and Food Safety Issues in Windhoek, Namibia from November 20-22, 2000 to deliberate on specific actions steps for harmonizing SPS measures in support of the implementation of the SADC Trade Protocol. The Workshop, which brought together more than 100 participants from 12 SADC Member States, Sector Coordinating Units, Bureaus of Standards, and the private sector, was jointly organized by the SADC Food Agriculture and Natural Resources Sector Development Unit (FANR SDU) and the Trade Sector Coordinating Unit (SITCD) and was facilitated by the Food Security and Rural Development Hub. The workshop was attended by resource persons from the WTO, IPPC, OIE, Codex Alimentarius, FAO, WHO, UNCTAD, USDA, USAID and the World Bank, as well as regional SADC trade experts.

The key findings and recommendations of the workshop are as follows: (a) there is need for clear institutional arrangements at both the regional and national levels to deal with sanitary and phytosanitary issues and food safety matters in order to move more expeditiously in the implementation of the SADC Trade Protocol which specific regard to agricultural trade; (b) in order to move the regional trade agenda forward, closer coordination is needed both amongst the various agencies and players within the Member States as well as between the states; (c) Member States are hampered by an outdated legal and regulatory framework on SPS and food safety, some laws and regulations dating as far back as the colonial era. These outdated rules and regulations are inadequate to deal with current

international standards and requirements; (d) Member States often lack the appropriate technical and human resource capacity to deal with complex issues of SPS and food safety, to assess related risks, and to monitor policies and their outcomes; and (e) there is a need to clarify the roles and responsibilities of the key stakeholders in both the public and private sectors in the implementation of proposed SPS and food safety measures.

7. ARSO strategic planning session

SADC SQAM representatives, together with representatives from other African economic groupings (COMESA, ECOWAS, UEOMA, EAC) had been invited to an ARSO strategic planning session in Nairobi over the period 8-12 May, 2000. The session was also attended by representatives from UNIDO, WTO, EU and PTB (Germany) as well as delegates from ARSO member organizations. The SADC SQAM representatives were Mr John Mhina (SITCD) and Dr F Hengstberger (SADCMET). A facilitator provided by the PTB conducted the planning session.

The SADC SQAM representatives presented a joint paper on the SQAM activities in SADC and also participated in the full strategic planning exercise. Cooperation in SQAM between the different African economic groupings and the role of ARSO in promoting and facilitating this cooperation were amongst the topics dealt with during the discussions.

Dr Hengstberger also had detailed discussions with ARSO personnel about the SADC SQAM website and possible cooperation in setting up an ARSO website along similar lines. As a consequence of discussions between the SADCMET Regional Coordinator, ARSO staff and the PTB in May 2000 in Nairobi, the ARSO Information Officer – Mrs Vera Imende –received PTB and ARSO sponsorship to spend 3 weeks at the NML (South Africa) to implement the hosting of the ARSO website on the SADC SQAM webserver.

8. Regional Metrology Conference 2000

A Conference under the above title was organized by the Kenya Bureau of Standards in Nairobi from 15-18 May, 2000. It included presentations on

Mutual recognition arrangements between NMIs;
 Reference materials and their traceability;
 Laboratory management with respect to ISO 17025;
 Metrology activities at UME (Turkey);
 Weighing technology;
 Fundamentals of physical measurements;
 IMEKO and the importance of metrology to world trade;
 Legal metrology in Kenya;
 Material testing at the KEBS;
 Setting up of metrology systems in Uganda;
 Development of measuring infrastructure with donor support;
 The problems of installing a quality management system (KEBS experience)
 Uncertainty and traceability at the KEBS metrology laboratories;
 Mass intercomparison protocol;
 National calibration service and its requirements (Kenya);
 Environmental management systems;
 Instrumentation and maintenance activities at KEBS ;
 Education and training in metrology and instrumentation;
 ARSO activities;
 Harmonisation of standards on a regional basis;
 Quality system accreditation committee (Kenya)

A visit to the KEBS was also included in the programme

Apart from many Kenyan delegates, there were also participants from Uganda, Malawi, Botswana, South Africa, Germany and Turkey. Kenyan industry also provided a lot of support to the conference organizers (KEBS) and the event was very successful and interesting.

KEBS representatives reiterated the intention of KEBS to join SADCMET and other SADC SQAM structures as an Associate Member as soon as the SADC SQAM MOU was in force.

9. Year 2000 Southern African Calibration and Testing Workshop

This annual workshop, which is organized jointly by the Metrology Instrumentation Group (MIG), the National Laboratory Association (NLA) and the National Metrology Laboratory (NML), took place in Warmbaths (South Africa) from 29-31 May, 2000. Each of the first two days offered a plenary session in the morning and four parallel stream sessions on electrical, mechanical, temperature and testing in the afternoon. A plenary session on the last day concluded the event.

The theme chosen for the conference was "*Using the past to prepare for the future*", to commemorate the fact that the accreditation community in South Africa was twenty years old this year.

To celebrate this milestone, a number of special guests were invited. Included were some international names such as Dr Bob Kaarls (Secretary of the CIPM), Dr Chang Hsu (Director of ITRI - CMS/CNLA Taiwan), John Gilmore (CEO, NATA, Australia), Dr Dick Turner (Canada - ex CSIR-NCS), Beer Budoo (CEO, Mauritas, Mauritius). Other international participants came from Botswana, Namibia, Zimbabwe, UK and the USA.

10. Meetings and General Assembly of the Asia-Pacific Metrology Programme (APMP)

The SADC MET Regional Coordinator attended the APMP meetings in Thailand from 6 – 11 November 2000 both as a representative of SADC MET and the NML (South Africa). The NML (South Africa) is an Associate Member of the APMP and is thus entitled to participate in all APMP activities as well as attending its General Assembly meetings. Regional Metrology Organizations (RMOs), like SADC MET, are always invited by the APMP to attend its meetings.

The meetings started off in Bangkok on November 6th, with parallel sessions of most of the APMP working groups, which mirror the CIPM Consultative Committees at the regional level. Fig 1 shows the participants of the APMP Working Group on Photometry and Radiometry.

A workshop for National Metrology Institutes (NMIs) from developing economies and a symposium on the Global Assurance of Measurement Traceability through the Global MRA followed on November 7th and 8th respectively.

The APMP General Assembly took place from November 9 – 11 at the Dusit Resort in Petchburi, a coastal town about 200 km southwest of Bangkok. Because of SADC MET's existing working programme in this area, the representative of the NML (South Africa) was asked to serve on the APMP working group for developing economies. It is hoped that both regional programmes for developing countries will benefit from this inter-regional exchange of experience.

11. First data on internationally recognized calibration and measurement capabilities (CMCs) from a SADC MET NMI appear in the international MRA database

Currently, the only SADC MET data being submitted are for the CSIR-NML (South Africa).

The CSIR-NML Length CMCs (top services), its CMCs in Electricity and Magnetism and its CMCs for Acoustics, Ultrasound and Vibration are already in the MRA database <http://kcdb.bipm.fr/BIPM-KCDB/>

In Photometry and Radiometry the last APMP query is being attended to and the submission of the final version to the BIPM is expected shortly.

SADC MET chose not to submit its regionally reviewed CMCs for gas mixtures for inter-regional review until more intercomparison evidence had been collected in support of the claims. Submission of the first CMCs in this area is expected either in October 2001 or March 2002.

SADC MET CMCs for ionizing radiation have been circulated for inter-regional review. On the basis of the first comments, it was decided by the CSIR-NML (South Africa) to withdraw the entries in radiation dosimetry until further intercomparison evidence becomes available. The submission for radioactivity will be retained and submitted to the BIPM once agreement has been obtained from all RMOs.

12. SADC MET and CSIR-NML accepted as Corresponding Organizations of EUROMET

Both SADC MET and the CSIR-NML applied for Corresponding Organization status in EUROMET towards the end of 2000. They have now been informed by the EUROMET chairman that their application has been accepted. Both organizations will from now on receive the same routine documents, newsletters and information as official EUROMET delegates and are allowed to participate in all EUROMET projects except as coordinator. CSIR-NML will in addition be permitted to participate in EUROMET measurement intercomparisons, which will provide a vital traceability link for SADC MET.

13. NIS (Egypt), KEBS (Kenya) and UNBS (Uganda) formally accepted as Associate Members of SADC MET

With the ratification of the SADC SQAM MOU by the required two thirds of the member countries, the agreement is now officially in force. This enabled the SADC MET Regional Coordinator to act on the conditional permission given to him at the last SADC MET meeting, to accept the three applicants formally as Associate Members. He handed over letters informing them of this fact during his visits to the Kenya Bureau of Standards (KEBS) and the Uganda National Bureau of Standards (UNBS) in February 2001. A letter informing the National Institute for Standards (Egypt) of the acceptance of its application was handed to a NIS delegation during their visit to the CSIR-NML (South Africa), also during February 2001. SADC MET looks forward to the active participation of the new Associate Members in all its activities. The websites of the new Associate Members are

National Institute for Standards (NIS), Egypt <http://sit.nis.sci.eg>

Kenya Bureau of Standards (KEBS) <http://www.kebs.org>

Uganda National Bureau of Standards (UNBS) <http://www.unbs.org>

14. SADC MET Chairperson and Regional Coordinator attend General Assembly of ARSO

Following an invitation by the Secretary General of ARSO, both the SADC MET chairperson and the Regional Coordinator attended the 11th General Assembly of ARSO in Nairobi (Kenya) in February 2001. This presented an opportunity for in depth discussions between the two organizations and provided the SADC MET officials with first-hand exposure to all the matters discussed at this forum. ARSO Council members and the Secretary General thanked SADC MET at various occasions during the session for the support with the ARSO website development and expressed the hope that this cooperation could be extended even more in the future. It also became clear during the session that the ARSO constitution had already be amended in the past from a membership by National Standards Bureaus to a national membership. Suggestions to update the printed copies of the ARSO constitution with these amendments and to improve the clarity of the text regarding the inclusion of all SQAM activities were positively received and the ARSO Council was authorized to make the necessary amendments.

15. ARSO – SADC MET cooperation extended

In discussions between ARSO, PTB and the SADC MET secretariat in Nairobi in February 2001, it was agreed that ARSO would second its new documentalist to the SADC MET secretariat for three weeks to implement the second stage of the ARSO website development. This second stage, which took place over the period 26 March to 13 April 2001, was aimed at making the ARSO databases accessible on the Internet. The project was supported by the PTB.

16. SADC MET Regional Coordinator visits the Kenya, Uganda and Seychelles

In conjunction with his visits to the new Associate Members KEBS and UNBS, the Regional Coordinator also visited SBS to advise them on metrology issues and current and planned SADC MET projects. After his return, his colleagues from the CSIR-NML (South Africa) provided the SBS with further, detailed advice in a number of metrology areas.

SBS, which already has ISO 9002 certification, is planning to have some of its testing and metrology services accredited in terms of ISO standard 17025. The CSIR-NML has already applied for the accreditation of its facilities to the same standard. Notes on this endeavour were also exchanged during the visit.

17. NEWSLETTER

SADC MET material for the SQAM newsletter was supplied for each quarterly issue of the journal TQ&M.

18. SQAM WEBSITE

The SADC SQAM maintenance site was completed and is currently undergoing evaluation by a few member countries.

All regional and national SQAM institutions in SADC are invited to locate their web pages on this server