

ADEA LOGO
CEMASTEA LOGO

ICQN-MSE CONTRIBUTION TO THE DEVELOPMENT OF MSE IN AFRICA

- Bringing together 35 African countries together
- Capacity building of over 1,500 mathematics and science educators from 27 African countries
- Focusing on what matters most: teacher classroom practices

INSIDE THIS ISSUE:

CAPACITY DEVELOPMENT NETWORK 2

ADEA Working Group on Mathematics 3

ICQN-MSE Teams up with 3

Inside Story 3

Inside Story 4

Inside Story 5

Inside Story 6

THE ICQN-MSE NEWSLETTER

Connecting Policy and Practice

VOLUME 1, ISSUE 1

JULY-DECEMBER 2014

ADEA Converts WGMSE into ICQN-MSE

BACKGROUND

The ICQN-MSE is a precursor to the Working Group on Mathematics and Science Education (WGMSE) of the Association for Development of Education in Africa (ADEA-WGMSE) established in 2004. This transformation approved by the steering committee in May 2014 was necessitated by the need to allow African decision makers and practitioners to play a more key role in MSE. ICQN-MSE is led by the Ministry of Education Science and Technology Kenya. The Centre for Mathematics, Science and Technology Education in Africa (CEMASTEA) based in Kenya is the implementing agency of ICQN-MSE.

OBJECTIVES OF ICQN-MSE

- Advance policies, strategies, practices, and programs that promote critical knowledge and skills in mathematics and science education
- Develop and promote African-led education and training solutions to address national and regional needs in Mathematics and Science
Foster greater utilization of relevant ICT to accelerate the transformation of mathematics and science education approaches and outcomes
- Leverage a diverse, sustainable partner network for promoting Mathematics and Science education
- Strengthen organizational capacity and effectiveness of the ICQN-MSE



Training of teachers from other African countries in progress at CEMASTEAs during the third country training September 2014

ICQN-MSE Activities

• Capacity-Building

Through Training Programmes Technical Workshops, technical expert service

• Advocacy and Networking

This is done through conferences and Technical exchanges visits

• Analytical Work

- ICQN-MSE conducts research and impact studies to inform Mathematics and Science education training programmes.

• Information Dissemination

ICQN-MSE disseminates information through various platforms such as training programmes at CEMASTEAs, conferences, technical workshops, ADEA, CEMASTEAs, SMASE-Africa websites other related links.

**ICQN-MSE COLLABORATES WITH THE INTERNATIONAL COMMISSION FOR MATHEMATICS EDUCATION
AND AGA KHAN UNIVERSITY TO HOST THE 4TH CAPACITY DEVELOPMENT
NETWORK PROJECT FOR EAST AFRICA IN DAR ES SALAAM ON SEPTEMBER 1-12, 2014**

ICQN-MSE joined hands with the Commission of Mathematics Instruction (ICMI) and the Aga Khan University Institute for Educational Development East Africa (AKU-IED, EA) to organise the fourth Capacity and Network Project (CANP4) for East Africa held in Dar es Salaam, Tanzania from September 1, 2014. On the request of ICMI, the Coordinator of ICQN-MSE has worked as a member of the CANP East Africa Local Organising Committee since 2013.

The CANP4 aim is to build capacity in mathematics education and create a sustainable regional network for mathematics educators within the East African Region with a common goal of improving mathematics education. It therefore brought together participants from Tanzania, Kenya, Uganda and Rwanda that were drawn from mathematics teachers, teacher educators and curriculum developers. Its rich program included a variety of highly relevant topics such as Mapping the mathematics syllabus in Kenya, Uganda and



Training during the Fourth Capacity Network Project.

Tanzania Bridging practices: Research led professional development in secondary mathematics-some lessons and results Technology and Mathematics Education Mathematics for Planet Earth Mathematics in African cultural practices

These CANP4 sessions focused on demonstrating mathematical modelling on real life issues of significance to East Africa; significant aspects of mathematics education in the region; teacher development workshops on mathematics topics drawn from the regional high school curriculum; media engagement sessions; and opportunities for the wider community to participate in mathematical activities. At the end of the 12 days activities, the educators will launch a network through which they will endeavour to enhance the quality of mathematics education. Thus ICQN-MSE has found a worthy partner with which to work together to create synergy for the improvement of mathematics and science education in Africa.

Workshop organised by Task Force for Teachers for EFA in Lome Togo, September 2014

In September the Coordinator ICQN-MSE participated in a 3-day workshop organised by the International Taskforce for Teachers for EFA in Lome, Togo on September 2-4, 2014 and moderated sessions on improving science, mathematics and technology education. The workshop called to review the implementation roadmap of the Pan-African Conference on Teacher Development (PACTED) took stock of achievements that the four PACTED Pilot countries of Kenya, Nigeria, Senegal, and Togo have made in several areas concerning teacher development. During the workshop, it was reported that the programme for professional development of mathematics and science teachers that the former Working Group on Mathematics and Science Education (WGMSE) supported Nigeria to pilot in three states had spread out to all states except one.

ADEA Working Group on Mathematics and Science Education (WGMSE) converts into the Inter-Country Quality Node on Mathematics and Science (ICQN-MSE)

During the 40th ADEA Steering Committee Meeting held in Tunis on May 13-17, the proposal by Kenya's Cabinet Secretary for Education, Science and Technology; Prof. Jacob T. Kaimenyi to convert the Working Group on Mathematics and Science Education into the Inter-Country Quality Node on Mathematics and Science (ICQN-MSE) was adopted. The Steering Committee also approved Kenya as the Lead Country as well as the structure and roles of stakeholders. The Centre for mathematics Science and Technology Education in Africa (CEMASTEa) will continue to host the ICQN-MSE

The ICQN-MSE adopted ADEA's mission and the strategic objectives but with specific reference to mathematics and science education. The aim of ICQN-MSE is therefore is "to serve as an open and flexible pan-African forum to inform and facilitate the transformation of

mathematics and science education to contribute to Africa's accelerated and sustainable development". The specific objectives of ICQN-MSE are therefore:

SO 1: Advance policies, strategies, practices, and programs that promote critical knowledge and skills in mathematics and science

SO 2: Develop and promote African-led education and training solutions to address national and regional needs

SO 3: Foster greater utilization of relevant ICT to accelerate the transformation of mathematics and science education approaches and outcomes

SO 4: Leverage a diverse, sustainable partner network for MSE

SO5: Strengthen organizational capacity and effectiveness of the ICQN

The Centre for mathematics Science and Technology Education in Africa (CEMASTEa) will continue to host the ICQN-MSE

ICQN-MSE set to benefit from the MOU between the African Union Commission and Kenya's Ministry of Education

On July 8, 2014, African Union Commissioner for Human Resources, Science and Technology; Dr. Martial DePaul Ikuonga and Kenya's Cabinet Secretary for Education, Science and Technology, Prof. Jacob Kaimenyi; signed a memorandum of understanding (MOU) on improving mathematics and science education in Africa.



Commissioner Ikuonga (L) and Cabinet Secretary Kaimenyi (R) signs the MOU in Nairobi



Commissioner and Cabinet Secretary exchange the Signed MOU

ICQN-MSE Teams up with other Educators to form a Mathematics Education and Research Network for East Africa

A mathematics event bringing together some 80 mathematics teachers, teacher educators and mathematicians mainly from Tanzania, Kenya, Uganda and Rwanda was held at the Aga Khan University Institute for Educational Development East Africa in Dar es Salaam Tanzania from September 1-12, 2014. The event dubbed the 4th Capacity Network Project (CANP4) for East Africa was organized by the University, the International Council of Science Unions (ICSU), the International Mathematical Union (IMU), the International Commission of Mathematical Instruction (ICMI), UNESCO and the IMU Secretariat in Berlin, Germany. The event co-

chaired by Professor Anjum Halai from the Aga Khan University, and the President of the ICMI, Professor Ferdinando Arzarello was also attended by participants and paper presenter from Botswana, Mozambique, France, Italy, UK, Pakistan, South Africa, Sweden and Canada. The Coordinator of ADEA ICQN-MSE was a member of the CANP4 organising committee, a panel discussant and workshop leader during the event.

The CANP4 event activities aimed at building capacity in mathematics education by enhancing knowledge in mathematics at all levels of education and promoting the development of mathematical thinking such as problem solving and critical thinking. It also sought to en-

7TH POLICY DIALOGUE FORUM OF THE INTERNATIONAL TASKFORCE FOR TEACHERS FOR EFA

The Coordinator ICQN-MSE participated in 7th Policy Dialogue Forum of the International Taskforce for Teachers for EFA which was held in Morocco on 15-19 December 2014. The forum:

- Shared relevant knowledge, experiences and tools on how teacher targets and indicators could be developed to implement and monitor national teacher policies.
- Gathered inputs for concrete recommendations on teachers for the development of the framework for action, which will be discussed at the 2015 World Education Forum in Korea.
- Reached consensus on recommendations for actions to be pursued at country, regional and/or international levels with regard to teacher effectiveness.
- Identified ways of enhancing collaboration and partnership among various teacher stakeholders at country, regional and/or international levels with a view to achieving the teacher-related target in post-2015 international education agenda.

hance teacher development in mathematics through teacher research, lesson study and inquiry into mathematics teaching besides promoting ICT integration in mathematics. The event was also intended to create awareness of key issues that impact mathematics learning and achievement in developing contexts such as poverty, gender, linguistics and regional marginalization. So as to have impact, CANP4 also aimed at creating a sustainable regional network for improving mathematics education through reaching out to key stakeholders and connecting existing networks.

A major outcome of the event was the creation of the **East Africa Mathematics Education & Research Network (EAMERN)**. The Coordinator ICQN-MSE is a member of the Working Committee of (EAMERN) tasked with the creation of a formal governance structures the network. EAMERN will convene a meeting at the Africa Conference on Mathematics Education of 2015 (AFRICME 2015) in Ethiopia and then prepare to host AFRICME 2017 at the Aga Khan University campus in Tanzania.

ICQN-MSE PARTICIPATES IN THE

Caption describing picture or graphic.

"To catch the reader's attention, place an interesting sentence or quote from the story here."

Caption describing picture or graphic.



LEFT: The Commissioner and Cabinet Secretary poses with officials of AUC and Kenya's MOEST after signing MOU

Under the MOU, the Centre for Mathematics, Science and Technology Education in Africa (CEMASTEA) which hosts ADEA Inter-Country Quality Node on Education on Mathematics and Science Education will work with the African Union Commission on:

- Providing ongoing support to the design and development of Continental Teacher Development Programmes, so that they meet the needs of their various target audiences;
- Facilitating the development of in-service and pre-service teacher education programme, curricula and course materials of high quality in mathematics and science education in order to ensure

that in-service and pre-service education programmes on the continent are of exceptional quality and direct contextual relevance, producing world class teachers;

- Advocating the merits of collaboratively creating and sharing knowledge on best practices in teaching and learning of mathematics and science as a mechanism to improve quality and enhance long-term cost-effectiveness;
- Advocating the merits of investing in design and development of high quality teaching and learning materials in mathematics and science education and enhancing the participation of African institutions and experts in the development of these materials; and
- Where opportunities present themselves through the above activities, work on joint programmes designed to meet the need for high quality Mathematics and Science Education at Basic Education Level in Africa so as to be fully competitive on an international level whilst being relevant to the African situation.

The scope of activities under this MOU will therefore strengthen the capacity and visibility of ICQN-MSE host institution and enhance synergy among the African countries in addressing challenges facing mathematics and science education in Africa.

CEMASTEA Constitutes an Internal ICQN-MSE Committee

The 40th ADEA Steering Committee Meeting held in Tunis in May 2014 transformed the Working Group on Mathematics and Science Education (WGMSE) into the Inter-Country Quality Node on Mathematics and Science Education (ICQN-MSE). The ICQN-MSE is therefore in the process of establishing its organizational and administrative structure. This has started off earnestly at Center of Mathematics Science and Technology Education in Africa (CEMASTEA), the Secretariat of ICQN-MSE in Kenya.

The Director CEMASTEA, appreciating the great responsibility placed on the institution as the Secretariat and host institution of the ICQN-MSE, has constituted an internal committee to plan, organise, coordinate the implementation and reporting on ICQN-MSE activities. The committee consists of the centre's six Programme Coordinators and is chaired by the ICQN-MSE Coordinator. CEMASTEA organized a one-week retreat for the ICQN-MSE to develop essential materials for moving the ICQN forward. The Committee developed funding proposals to potential development partners, ICQN-MSE website design, Concept note for the ministerial conference on ICQN-MSE and a draft outline of the ICQN-MSE newsletter. This demonstrates the secretariat's commitment to see the ICQN-MSE take off.

