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Strengthening STEM education in Kenya: Mainstreaming Gender Sensitive STEM education in the curriculum reform to achieve Kenya Vision 2030.

Date: 30-31 May 2016 and 2nd June 2016

Venue: Kenya Institute of Curriculum Development (KICD)

Desai Rd, off Muranga road P.O. Box 30231 - 00100, Nairobi, Kenya



Vision (overall objective):

Nurturing every learner's/girl's potential in STEM for Sustainable Development of the Country

Background:

The mandate of the Education Sector is to respond to the Constitution of Kenya (2010) and Kenya Vision 2030. Kenya is currently going under a national curriculum reform. This anticipated new curriculum aims at strengthening science and mathematics, and the objective to address gender imbalance, as articulated in the constitution. In addition, the Ministries of education aims at aligning curriculum reform to achieve Education for All and the newly adopted Education 2030 Framework for Action, with a global vision to contribute to Sustainable development goals and the vision 2030. To this effect 8 national goals were developed (Cf. p.5 Situational Analysis). Women's participation to tertiary education and to the labour market remains particularly low in STEM fields. Without a cautious reform of STEM to attract girls, the current curriculum and instructional appeared to be factors pushing girls not to enrol into STEM, thus exacerbating societal inequalities and preventing women's participation to the development of their country.

Recent development and progression:

- 1) A policy dialogue session was held towards the end of February to discuss the progress made on the national policy on curriculum reforms and the needs assessment for curriculum development. The engagement involved. MOEST, KICD, Kenya National Examinations Council (KNEC), Teachers Service Commission (TSC), Universities, UNICEF, UNESCO and local consultants.
- 2) The policy engagement has progressed well and currently there is engagement with County Executives in charge of Education representing the 47 County Governments. This will be concluded this week.
- 3) The draft national policy on curriculum reforms has already been shared with the cabinet and we await cabinet approval for it to be tabled in the National Assembly for discussion and adoption. I wish to mention that STEM and 21st Century Skills as well as the whole concept of Competence Based Curriculum are part of the proposed policy directions for Kenya.
- 4) The needs assessment for the development of the new curriculum has been carried out. Further, discussions on criteria for evaluating digital instructional resources for the new curriculum started in March 2016.
- 5) A National Dialogue Conference on Curriculum Reforms was held for 30th March 2016. With the objective to validate the findings of the Needs Assessment conducted by KICD, endorse the National Policy on Curriculum Reforms and create consensus for the proposed reforms. The Presidency presided during this conference and this gives the executive seal of government for the reforms.

Specific objectives:

- Engage a cross-sectorial policy dialogue specifically addressed to stakeholders involved in ongoing the curriculum reform, and from diverse instance and expertise such as: education Policy Planning, Curriculum developers, Teachers Trainers and instructional material developers and evaluators.

- Share the Malaysian expertise on how to mainstream gender-sensitive STEM in curriculum reform agenda.
- Develop concrete strategies for the mainstreaming of gender-sensitive STEM education into Syllabus and Instructional material.

Expected outcomes:

1. Stakeholders in the current curriculum reform are sensitized to the importance of mainstreaming gender sensitive STEM education
2. Stakeholders develop a thorough understanding on how to mainstream gender sensitive STEM education across the curriculum, syllabus and instructional material
3. Malaysian counterparts have shared their experience on girls' participation into STEM education, and stakeholders are able to contextualize this expertise.
4. Specific strategies on mainstreaming gender-sensitive STEM education within the current effort of curriculum reform are developed.

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Outline of the Agenda (draft)

Monday 30th May: Policy dialogue on the importance to mainstream gender-sensitive education within the ongoing curriculum reform.

- How STEM policies are framed within the Kenyan 2030 vision? How is STEM education conceptualized and implemented within the new curriculum reform?
- Share the needs assessment as presented in Malaysia, focusing specifically on challenges observed in regards to girls' participation in STEM education and the roadmap for intervention.
- Malaysian experts share their experience on STEM – further discussions foster the contextualisation of such expertise into the Kenyan context.
- Round table group discussions on how to mainstream STEM in curriculum reform agenda.

Tuesday 31th May: Working session on mainstreaming gender-sensitive education in curriculum/syllabus.

- Working session with stakeholders in charge of the STEM syllabus (or transdisciplinary syllabus) to concretely work on the integration of gender-sensitive STEM education, with the support of Malaysian counterparts..

Thursday, 2nd June: Working session on mainstreaming gender-sensitive education in Instructional Material.

- Working session with stakeholders in charge of instructional material design and development, specifically on how to concretely mainstream gender-sensitive STEM education. Outcome: specific roadmap and strategies defined to mainstream gender-sensitive STEM education into Instructional material.

Monday 30th May:

Policy dialogue on the importance to mainstream gender-sensitive education within the ongoing curriculum reform.

08:30-09:00 Doors opening, welcoming of participants

09:00-10:00 **Welcoming,**

- Dr. Julius Jwan, Director / CEO Kenya Institute for Curriculum Development
- H.E. Ismail Salam, High Commissioner of Malaysia
- Mrs. Leah Rotich, Director General of Education,
- Mr. Jaco du Toit, Officer In-charge , UNESCO Regional Office for Eastern Africa
- Principal Secretary State Department of Basic Education

keynote(s) speech

- Kenya Dr. Fred Matiang’i, Cabinet Secretary, Ministry of Education

10:00–10:45 **How STEM policies are framed within the Kenyan 2030 vision?**

- MoE Kenya from Policy and Planning [15 min]

How is STEM education conceptualized and implemented within the new curriculum reform?

- SDDCRS Mrs. J. Onyango, Kenya Institute for Curriculum Development [15 min]

Q&A session [15 min]

10:45-11:10 Coffee/tea break

11:10-11:45 **Presentation of the needs assessment, focusing specifically on challenges observed in regards to girls’ participation in STEM education and the roadmap for intervention.**

- Darius Mogaka Ogutu, Director, Policy, Partnerships & East African Community Affairs
- Grace Mwathe, Kenya Institute for Curriculum Development

11:45-1pm **Sharing Malaysian expertise on STEM Girls Education.**

- Dr. Soo Boon Ng, the Deputy Director of the MOE Curriculum Development Division Malaysia
- Mrs Susilawati Binti Ehsan, Additional Mathematics Curriculum Officer in the Science and Mathematics Sector, Curriculum Development Division, Ministry of Education Malaysia

Q&A to discuss the contextualisation of such expertise into the Kenyan context.

1:00-2:00pm Lunch

2:00-3:00pm Round table discussion **“How to mainstream gender-sensitive STEM in curriculum reform agenda”**. Part 1

Moderators: The IBE and Malaysian MoE

Panellists:

- **Dr. Alice Ochanda** UNESCO regional office for Eastern Africa Presenting STEM partnership with MOEST [10 min]
- **Mrs. Priscilla Ombati**, Special programme on Gender Mainstreaming, Center for Mathematics, Science and Technology Education in Africa (CEMASTEA). [10 min]
- **Dr. Leah Wanjama**, Expert in Gender and Policy, Department of Gender and Development at Kenyatta University, African Women in Science and Engineering (AWSE). [10 min]

Q&A session [20min]

3:00-4:00pm Round table discussion **“How to mainstream gender-sensitive STEM in curriculum reform agenda.”** Part 2

Dialogue with the panellists, the MOEST representatives, the project focal points and Malaysian experts:

- Why is gender sensitive STEM education important for the sustainable development of Kenya?
- What are the concrete steps undertaken and the way forward?

4:00-4:20pm **Closing remarks** /wrap-up and description of the schedule of Tuesday and Thursday.

4:20-4:45pm Coffee/tea break. Participants leave at pleasure.

Tuesday 31st May:

Working session on mainstreaming gender-sensitive education in curricula/syllabus.

09:00-10:00	What are the current strategies to ensure a gender-sensitive approach to STEM education in Kenya, and what are the existing challenges to be addressed today, with regards to Curricula and Syllabus? <ul style="list-style-type: none">· Kenya MOEST – Directorate of Quality Assurance and Standards· CEMASTEAM· NACOSTI
10:00-10:30	Presentation on mainstreaming STEM education into Curriculum/syllabus <ul style="list-style-type: none">· Dr. Soo Boon Ng, the Deputy Director of the MOE Curriculum Development Division Malaysia· Mrs Susilawati Binti Ehsan, Additional Mathematics Curriculum Officer in the Science and Mathematics Sector, Curriculum Development Division, Ministry of Education Malaysia <i>Q&A session [10min]</i>
10:30-11:00	Coffee/tea break
11:00-1:00pm	Activity: Preparation of roadmap. Group-work with support of Malaysian experts, and the IBE
1:00-2:00pm	Lunch
2:00-4:00pm	Presentation of roadmaps + discussion and validation
4:00-4:20pm	Conclusion: the next steps forward. (Introduction of the workshop on Thursday June 2 nd .) <ul style="list-style-type: none">· Malaysian experts, the IBE, MOEST experts and focal points.
4:20-4:45pm	Coffee/tea break. Participants leave at pleasure.

Wednesday, 1st June:

Meeting on the Resource Pack for gender-sensitive STEM education

All day (TBC with participants)	Meeting on the Resource Pack for gender-sensitive STEM education. Datin Dr. Soo Boon NG, Mrs Susilawati Binti Ehsan (MoE Malaysia), Émeline Brylinski (UNESCO-IBE), David Njengere (KICD). [internal meeting]
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Thursday, 2nd June:

Working session on mainstreaming gender-sensitive education in Instructional Material.

09:00-10:00	What are the current strategies to ensure a gender-sensitive approach to STEM education in Kenya, and what are the existing challenges to be addressed today, in regards to Instructional Design. <ul style="list-style-type: none">· Kenya representative from MOEST and/or KICD· Grace Mwathe - KICD
10:00-10:30	Presentation on mainstreaming STEM education into instructional Material <ul style="list-style-type: none">· Dr. Soo Boon Ng, the Deputy Director of the MOE Curriculum Development Division Malaysia· Mrs Susilawati Binti Ehsan, Additional Mathematics Curriculum Officer in the Science and Mathematics Sector, Curriculum Development Division, Ministry of Education Malaysia <i>Q&A session [10min]</i>
10:30-11:00	Coffee/tea break
11:00-1:00pm	Activity: Preparation of roadmap. Group-work with support of Malaysian experts, and the IBE.
1:00-2:00pm	Lunch
2:00-3:30pm	Presentation of roadmaps + discussion and validation
3:30-4:15pm	Closing remarks and the steps forward Émeline Brylinski, Associate project officer, UNESCO-IBE Dr. Soo Boon Ng, the Deputy Director of the MOE Curriculum Development Division Malaysia KICD Director and MOEST – Director General
4:20-4:45pm	Coffee/tea break. Departure.