Zanzibar: Improving Mathematics and Science in Schools

Action Plan

Report Back from the MS4SSA Conference and Workshop
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Worcester, Massachusetts, U.S.A

1. Abdu S Mohamed
2. Hussein I Ramadhan
3. Mohamed A Mbarouk
Mathematics and Science Learning Outcomes: A Snapshot

• Accessibility and Reasonable completion rates:
  - **295 primary schools**  **226 secondary schools**  Most of children have access.
    - Primary 84%
    - Junior secondary 91%
    - Senior secondary 98%

• Very low learning outcomes:
  - Std 6 students: >70% below beginning numeracy level (SACMEQ).
  - Secondary average score on National final exams in 2016
    - 25% for Science
    - 16% for Maths
  - Learning gaps go mostly undetected.

• Students face many challenges:
  - high stakes examinations
  - absence of support if they struggle or fall behind
  - low economic prospects despite many years in the system

• Teacher motivation and accountability need significant improvement
Zanzibar Students on the Move
Zanzibar Improving Student Prospects (ZISP) Project

Key elements of ZISP:

• Enhancing **teacher competence** (knowledge, skills and classroom effectiveness:
  • Retraining 600 teachers with Arts background to teach M&S
  • Upgrading 1,500 current M&S teachers
  • Revamping pre-service teacher training program (not covered by project plan now)

• Providing **materials and facilities** for effective teaching and learning

• Improving **support infrastructure** (e.g., multi-purpose labs and centres)

• Strengthening **inspection and advisory** support of teachers

• Reforming the system for collecting and analyzing **examination data** (Std. 6, Form 2)

• Project **Monitoring and Evaluation**: results tracking
Coordination Structure for ZISP Implementation

Technical team:
• Drives day-to-day implementation
• Core members from key directorates
• Consists of subject-specific groups

MOE leaders
PS/Deputy PS

ZISP Director

ZISP Technical team

Teacher Ed  Inspectorate  Examination  Secondary Ed  Primary Ed  Institute of Ed*

*Curriculum development
Advocacy for Successful Implementation of ZISP

• Why is it needed?
  • Multiple MOE Departments and institutions involved
  • Motivate all involved: understanding big picture and implementation plans
  • Critical to collaborate across silos to achieve good results for Zanzibar

• What will be done?
  • One-day Vision Forum (week of July 3, 2017)
    • For Zanzibar’s leaders in education and important guests
      • Director-level officials, heads of institutions (e.g., SUZA) + PS of MOE, and high level guests.
    • Press conference
  
  • Continuous communication (need plan)
    • Follow-up workshops (to be determined, mainly for teachers)
    • Outreach to the public (e.g., website, radio, flyers, brochures, SUZA TV)
One-Day Vision Forum (week of July 3)

- Implementation leader and team
- Participants
- Agenda
- Date and Venue
- Budget
- Communication
## Enhancing Teacher Competence

### Retraining
- 600 Arts teachers in lower secondary schools.
- Retrain to teach M&S via 2-years in-service program.

### Upgrading
- 6,000 M&S teachers in Std. 5 and Form 2.
- Upgrade knowledge and skills

### Pre-service
- To be designed
- Led by State University of Zanzibar (SUZA)
Expectations of the In-Service Training Program

**Retraining of Arts teachers**

- Focus: subject matter knowledge and pedagogy
- Teachers earn Diploma after passing examination

**Upgrading of existing M&S teachers**

- Focus: improve pedagogy and ability to provide remediation to lagging students
- Improve English language proficiency
**Action Plan: In-Service Teacher Training**

<table>
<thead>
<tr>
<th>Create MS4SSA Model</th>
<th>Timeline for Roll-out</th>
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<tbody>
<tr>
<td><strong>July-December 2017</strong></td>
<td><strong>Phase 1: 2018 - 2019</strong></td>
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<td>International/local consultants</td>
<td>Train the trainers (180)</td>
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<td>Definition of program content</td>
<td>Equip Teacher Centres (TCs)</td>
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<td>Coaching and supervision via 12 TCs</td>
<td>Train the teachers (from 150 schools)</td>
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<td>M &amp; E (teachers and students) <em>Includes English teachers in upper primary</em></td>
<td>Equip the schools (materials and devices)</td>
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*Includes English teachers in upper primary*
Stimulating Student Interest in STEM

• Project-Based Learning in Zanzibar

• Possible idea to explore
  • State University of Zanzibar and Karume Institute of Science and Technology
  • Faculty to reach out to high schools
    • Build on STEM clubs in schools
    • Use WPI resources to introduce Materials Science and Robotics education.

• ZISP funding
  • Already provides grants to schools
  • Could offer competitive grants to SUZA and KIST faculty
Zanzibar MS4SSA Action Plan: Summary and budget

- Improve Teacher Competence, including M&E
- Advocacy and communication strategy
- Stimulating student interest in STEM
- All activities are expected to cost US $1075753
Ahsante Sana kwa kutusikiliza