1. INTRODUCTION

- The government of Eritrea has embarked on major reforms on the educational system.
- The reforms are consistent with the general government’s policy of 2002:
  - quality
  - access
  - equity
  - relevance
The reforms are expected to achieve the following:

1. Minimize wastage of workforce and resources in the educational system
2. Open opportunities to Eritreans of all ages to develop their full potential
3. Introduce in as much as possible employment oriented education
4. Ensure that the standards and quality of education and training are up to the expected level: competitive locally and globally

In line with this, the Eritrea Institute of Technology was established.

Eritrea Institute of Technology (EIT)
- 20 Km – North West of Asmara
- Three Colleges:
  1. Education
  2. Engineering & Technology
  3. Science
The first intake of students were admitted in January 2004
VISION

To be the center of excellence in the pursuit, development, dissemination and preservation of knowledge committed to the virtues of quality and relevance. We aspire to set high standards of excellence in teaching, research and technological innovation, thereby to become the leading Science, Technology, and educational institute at regional and continental levels.

2. PROGRAMS RUN BY ERITREA INSTITUTE OF TECHNOLOGY

2.1 Colleges and Departments
A. College of Education:

Departments:
- Educational Administration (Degree & Diploma)
- Educational Psychology (Degree)
- Science Education (Degree & Diploma)
Colleges & Depts Cont’d

- Physical Education (Diploma)
- English Language Teaching (Diploma)
- Social Science Unit (Diploma)

B. College of Engineering & Technology
- Aeronautical Engineering (Degree, Diploma in Aircraft Technology)

Colleges & Depts Cont’d

- Chemical Engineering (Degree & Diploma)
- Civil Engineering
  - Degree
  - Diploma: Construction Technology
    Surveying and Drafting
- Computer Engineering
  - Degree
  - Diploma – Computer Technology
Colleges and Depts Cont’d

- **Electrical Engineering**
  - Electrical and Electronics – Degree
  - Electrical Technology – Diploma
  - Electronics Technology – Diploma
  - Communications Technology – Diploma

- **Mechanical Engineering**
  - Mechanical Engineering – Degree
  - Automotive Technology – Diploma
  - Industrial Technology – Diploma

- **Mining Engineering**
  - Mining Engineering – Degree
  - Process Engineering – Diploma
  - Mining Technology – Diploma

C. **College of Science**

- **Biology** - Degree
- **Chemistry** - Degree
Three Colleges and a total of twenty Departments and two units
DURATION OF STUDY

College of Education:
- Degree – four years
- Diploma – two years

College of Engineering & Technology:
- Degree – five years
- Diploma – three years

College of Science:
- Degree – four years
- Diploma (Computer Applications) – three years
- Diploma (Archives & Records Mgt) – two years

3. STUDENTS

I. Freshman:
   A. Physical Science
   B. Life Science

II. Second year and above
Enrolment of Students by Colleges (2013/2014)

- Education: 46%
- Engineering & Technology: 26%
- Science: 28%

Enrolment of Students by Gender (2013/2014)

- Male: 70%
- Female: 30%
4. STAFF SITUATION

4.1 Academic staff on ground by academic rank

Academic Staff On Ground

<table>
<thead>
<tr>
<th>Rank</th>
<th>Bachelors</th>
<th>Masters</th>
<th>PhD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nationals</td>
<td>18%</td>
<td>40%</td>
<td>42%</td>
</tr>
<tr>
<td>Expatriates</td>
<td>0%</td>
<td>18%</td>
<td>40%</td>
</tr>
</tbody>
</table>

Teaching Faculty by Academic Rank

- Professor: 18%
- Lecturer: 42%
- GA: 40%
4.2 Staff Development

✓ The institute is under intensive staff development program:
  - M.Sc. and Ph.D levels
  - Short research leaves and sabbaticals
  - Commencement of Graduate Program
  - Tele – Education Program under the Pan African e-Network Project

✓ reduce abscondement, save hard currency, reduce dependency on expatriate faculty

6. TEACHING – LEARNING ENVIRONMENT

- Academic advising
- Consultation (office) hours and tutorials
- Examination Committee
- Services
8. OBJECTIVES

Guiding principle:
- quality and relevance of teaching/learning, and research

.....8. OBJECTIVES

The main focus of our plan:
- Students
- teaching/learning environment
- Staff
- research
- Curriculum
- sustainability mechanisms
- Teaching facilities
Objective 1: to attract the brightest students including as many female students as possible.

Objective 2: to attract/recruit, motivate and retain highly qualified staff in all branches of education, engineering, and sciences. Upgrade the quality and quantity of staff through further training.

Objective 3:
   a) to design and develop curricula for new interdisciplinary areas that maintain standard/quality and relevant to national development
   b) to revise the existing curricula to ensure the coherence with the graduate curricula and reflect new developments in science and engineering.

Objective 4: to enhance the quality of teaching by strengthening teaching facilities.
8. OBJECTIVES

Objective 5: to improve the teaching – learning environment by creating a conducive and welcoming atmosphere

Objective 6: to strengthen research infrastructure

Objective 7: to establish and strengthen a meaningful partnership with the local and international linkages of the institute

Objective 8: to ensure sustainability of the institute’s programs by generating 10% of the institute’s annual budget

10. Local and international Linkages

Establish and strengthen meaningful partnership with the local and international linkages of the institute.

- Work with relevant line Ministries
- Establish and sustain industry – supported research and teaching programs
- Introduce the principle of sponsorship whereby the public and the private sector institutions provide scholarships for the students who will eventually work for them
- Establish and strengthen linkages with the universities in the Sudan, Kenya, China, India, UAE, Hungary, UK, USA
The Linkage Program has four components:

- Staff Development
- Staff Secondment
- Strengthening Teaching Facilities
- Strengthening Research Facilities

I. *Staff development*: this included the training of the junior staff to higher degrees in the aim of overcoming the shortage of trained manpower. It also gave opportunities to senior staff summer research leaves in linkage partner universities.

II. *Staff Secondment*: it provided assistance to the departments in teaching, curriculum review/evaluation and curriculum development in addition to initiating joint research projects.
III. *Strengthening teaching facilities*: included in this are acquisition of new teaching equipment and maintaining the existing ones, in the aim of graduating students with competent practical talents and sound technical skills.

IV. *Strengthening research facilities*: the main objective is to improve research capacity of the departments through the acquisition of research grade equipment and the establishment of joint research projects with linkage partner university.
Undergoing Research Areas

- Biodiversity: the study of flora and fauna of Eritrea
- Chemistry of Medicinal Plants of Eritrea
- The study of structure – property relationships of technologically important materials
- The Red Sea Basin: evolution and resources management.

- Seismic and Volcanic Hazard Assessment
- Geodesy (MIT)
- Seismology (Bristol University, Imperial College, London)
- Volcanology (Cambridge University)

- We have signed Memorandum of Understanding with many of our linkage partner institutions.
China-aided Eritrea Institute of Technology

Visual Sketch of Science Institute

9.1 Programs/Departments

A. Establishment of two new colleges
   ✓ College of Earth Sciences & Mining
   ✓ College of Information (and Communication) Science and technology
B. Establishment of the Departments of:

- Hydrology and water resources
- Statistics (currently a unit) at the College of Science
- Architecture and town planning at the College of Engineering and Technology
- Arts and Social Sciences at the College of Education

C. Commencement of programs:

- Secondary School Teachers (SST) program with various major and minor combinations
- Graduate program in Electrical Engineering
- Graduate program in Educational Administration

9.2 STUDENTS

The EIT shall work to attract the brightest students (both undergraduate and graduate) including as many female students as possible. To this end the following activities are planned:

- Popularize science, engineering, and education by strengthening outreach programs and organize science, engineering and education days
- Implement a selection criteria based on a combined academic merit and interest to a field of study.
- Establish and maintain state of the art teaching and research facilities
- Maintain and expand educational programs that are also interdisciplinary so that students gain the knowledge, skills, and experience to make and pursue excellent carrier opportunity.
Activities are planned:

- Publicize and reward outstanding students
- Organize public seminars where former graduates of the institute talk about their achievements and challenges
- Lower academic entry requirements for female students to join departments of their interest
- Allow student representatives to attend senate meetings of the institute
- Facilitate the formation of departmental/college clubs
- Use annual expo festivals to popularize and attract secondary school students
The projection assumes an attrition rate of 10% in each level of year for the years 2012 – 2014.

Our intention is to reduce attrition rate to about 5%, and to this effect the following activities are planned:

- Reduce class size
- Introduce Study Skills as a non credit course before the beginning of the first semester freshman classes
- Give technology assisted teaching
- Arrange more tutorials for courses as appropriate
- More consultancy and advisory services
- Inspect and improve the quality and process of teaching
- Introduce systems to retain dismissed students

The institute aims to maintain at least 35% female students enrolment in its short term plan.
9.3 Staff

Strive to attract/recruit, motivate and retain highly qualified staff.
- Make competitive offers to recruit to quality, high achieving faculty members
- Provide supportive environment for all faculty members at all stages
- Construct staff residence quarters and recreation centers

- Establish and maintain state of the art teaching and research facilities
- Establish and maintain sabbatical arrangements and timely promotions
- Recognize staff achievements in teaching, research and other activities by institutionalizing a reward system based on merits, which include punishment and dismissal procedures.
### Staff requirement for undergraduate and graduate programs, 2012 - 2016

<table>
<thead>
<tr>
<th>College</th>
<th>Qualification</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
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<tbody>
<tr>
<td><strong>Education</strong></td>
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<td>M.Sc./ M.A.</td>
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<tr>
<td></td>
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<td>13</td>
<td>12</td>
<td>12</td>
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<tr>
<td><strong>Engineering &amp; Technology</strong></td>
<td>Ph.D.</td>
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<tr>
<td></td>
<td>M.Sc.</td>
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<td>B.Sc.</td>
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<tr>
<td><strong>Science</strong></td>
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<td></td>
<td>B.Sc.</td>
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</tbody>
</table>

### STAFF DEVELOPMENT PLAN – 2012 - 2016

<table>
<thead>
<tr>
<th>College</th>
<th>Qualification</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
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<tbody>
<tr>
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<td></td>
<td>M.Sc.</td>
<td>2</td>
<td>2</td>
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<tr>
<td><strong>Engineering &amp; Technology</strong></td>
<td>Ph.D.</td>
<td>1</td>
<td>-</td>
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</tr>
<tr>
<td></td>
<td>M.Sc.</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Science</strong></td>
<td>Ph.D.</td>
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<td>2</td>
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<td>2</td>
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<tr>
<td></td>
<td>M.Sc.</td>
<td>12</td>
<td>8</td>
<td>8</td>
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</tbody>
</table>
9.4 Curriculum development and revision

Curriculum is dynamic – valid to any subject

- The revision of existing curricula: to assure the coherence with the graduate curricula and to reflect new developments in education, engineering & tech., and science
- Design and development of curricula for new interdisciplinary areas relevant to national development
- The graduate curricula will be reviewed after the first batch of graduates
- Undergraduate curricula will be reviewed: coherence with the graduate curricula, introduce more elective courses, reflect new developments in the sciences, engineering, and education

9.5 Infrastructure expansion

Teaching facilities:

- Books, journals and reference materials
  - Identify the text/reference books and determine the number required and purchase
  - Determine the type and number of journals required and subscribe
  - Prepare and print appropriate text books

- Audiovisual and others
9.6 Space expansion

The chronic shortage of space and the existing quality of lecture halls, classrooms, laboratories, workshops, and office space is a concern to the institute.

Phase I: 2012 – 2013
- Construction of central library
- Construction of workshops
- Construction of sanitary facilities

Phase II: 2012 – 2016
- Construction of permanent buildings for the colleges of Science and Engineering

Phase III: 2013 – 2016
- Construction of recreational and sport facilities such as football field, basketball, volleyball, and tennis courts
11. Sustainability Mechanism

Ensure the sustainability of the programs by generating 10% of the institute’s annual budget

- Attract government funds by promoting the quality and relevance of our programs, research and other services
- Establish of EIT printing press
- Offer specialized/tailored courses based on customer demand
- Whenever possible commercialize research outputs
- Strengthen consultancy services

12. Conclusion

One of the tasks of EIT is to vision ahead of time in order that changes in our national development do not render the knowledge irrelevant or outdated. To this end, it is believed our strategic plan to be well – focused and the results of the activities to have a positive impact on our future development such as:

- **Flourishing mining industries**
- **Sprouting of small scale industries**
12. Conclusion

- Attract quality students to the various colleges
- Reduction of the expenditure of hard currency, because of the availability of qualified workforce
- Eritrean scholars in the Diaspora spending their sabbaticals in the various departments in EIT
- Increase in the number of national and international research partnerships

Museum Within A Museum

THANK YOU