Enabling SSA develop Human Capital & STI Capacity to Harness the Resources of Nature for Sustainable Dev.

PEER Conference 2014

Nelson Mandela greatly concerned by the knowledge gap (knowledge deficit) in SSA suggested to Jim that Institutions of S&T are perhaps Africa’s single greatest need (the likes of IITs & IISs in India).

Frannie Leautier, then Vice President of WBI, was given the task of making this happen.

Hippolyte Fofack, an African WBI official, was charged with developing the concept in collaboration with some Africans in the Diaspora.
Value addition to Human Capital – Finland & Korea, & LDC

Source: World Bank, 2010
Science & Technology Performance – a function of Value-addition to Human Capital

"... in the final analysis it is basically the mystery and utilization of modern science and technology which distinguishes the South from the North". Abdus Salam African Nobel Laurete, 1979
Partnerships for Enhanced Engagement in Research (PEER) initiative is a most commendable because it will contribute to the development of SSA’s STI capacity to:

• Improve its visibility on the global scientific research & patent registration scale;
• Effectively participate and harness the benefits of globalization & the knowledge economy;
• Harness the resources of nature it is endowed with for its sustainable socio-economic development.

=> There is need for more PEER initiatives!!
Objectives of the AISTs

To provide the best facilities for graduate and post-doc studies and research

To catalyze the development of world class science and technology in Africa

Strong link with industry for technology transfer

To bridge between research and industrial development

Technology parks with incubators and innovation centres for spin-offs

To catalyze the development of world class science and technology in Africa
NM-AIST’s Thrust and Focus

To stimulate, catalyze and promote intensification of agricultural production, value addition to natural products, and human & animal health.

To promote & harness linkage to society and the local industry, and scientific and technological response to local needs (thereby avoiding the traditional social divide between academia and industry).

To strive for a combination of strong local and global connections.

The Motto: ACADEMIA FOR SOCIETY AND INDUSTRY
NM-AIST’s Key Deliverables

Production of:

- Top-notch SET academics for other higher learning institutions;
- Competent researchers for R&D institutions;
- Techno-preneurs, industry captains, innovation managers for stimulating, catalyzing and promoting business start-ups and the growth of the local industry.

Establishment of a world-class environment for the translation of research results into tangible products, industrial and business solutions, and policy briefs to enable wealth creation and sustainable development.
## Current Total Student Enrolment (as of April 2014)

<table>
<thead>
<tr>
<th>Intake Year</th>
<th>Category by Gender</th>
<th>Overall Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PhD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>2011/12</td>
<td>22</td>
<td>5</td>
</tr>
<tr>
<td>2012/13</td>
<td>29</td>
<td>7</td>
</tr>
<tr>
<td>2013/14</td>
<td>38</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>25</td>
</tr>
</tbody>
</table>

*44 graduated on Dec 19, 2014*
## Affiliations of current NM-AIST Students

<table>
<thead>
<tr>
<th>Student Affiliation</th>
<th>As % of the Total Enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Master’s</td>
</tr>
<tr>
<td>Academia @ Higher Learning Institutions</td>
<td>28.8</td>
</tr>
<tr>
<td>R&amp;D Institutions</td>
<td>5.0</td>
</tr>
<tr>
<td>Industry</td>
<td>40.1</td>
</tr>
<tr>
<td>Direct Entrants</td>
<td>26.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
<tr>
<td>Current Affiliation of the 44 Master’s Graduates</td>
<td>%</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Proceeding with PhD studies</td>
<td>40.9</td>
</tr>
<tr>
<td>Employed by Higher Learning Institutions</td>
<td>36.4</td>
</tr>
<tr>
<td>Employed by R&amp;D Institutions</td>
<td>13.6</td>
</tr>
<tr>
<td>Employed by the Industry</td>
<td>6.8</td>
</tr>
<tr>
<td>International NGOs</td>
<td>2.3</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>
Key Outcomes of NM-AIST’s Mission

Value Addition to Human Capital thro’ Teaching & Learning

Solutions to Societal Needs and Problems thro’ Research & Innovation, & Public Service & Outreach

Business spin-offs from Research & Innovation

The Motto: ACADEMIA FOR SOCIETY AND INDUSTRY
Nelson Mandela AIST is in effect being developed into a Transformative University with four key features:

• Teaching & Learning
• Research & Innovation
• Technology Transfer
• Co-creation for sustainability

(Societal transformation & Co-creation)
The Research and Innovation (R&I) Agenda of NM-AIST is driven by the desire to respond to the needs & problems of the society and the industry. Emphasis is given to multi-disciplinarity.
Derive Needs & Problems from Communities & the Industry

NM-AIST Labs

Solutions Feed Back to Communities & the Industry
Staffing and Students

Core permanent and contract faculty recruited competitively from within and outside EA Region

Pool of visiting faculty from collaborating institutions and the Diaspora

Students to be admitted competitively from the EA Region, and SSA generally.
Arusha – Opportunity & Strength for NM-AIST

- Tanzania is one of the world’s bio-diversity hot-spots
- Arusha is HQ of EAC and well placed midway between Cairo and Cape Town
- Fast growing city, stable and peaceful with excellent climate
- Vibrant Tourist Industry within range, including the best 3 of the 7 Natural Wonders of Africa, namely; Serengeti, Kilimanjaro & Ngorongoro Crater
- Easy International Access through KIA
- Experience with hosting international programmes: ESAMI, ICTR, PAPU
  - Nicknamed the Geneva of Africa by Bill Clinton
  - NM-AIST & AKU promoting Arusha into an EA Higher Education Hub
The Biodiversity and Tourist Attraction around Arusha
The Biodiversity and Vibrant Tourist Industry around Arusha
The Biodiversity and Vibrant Tourist Industry around Arusha
Mountain Kilimanjaro, the Highest Mountain in Africa, 5,895 m
Mountain Kilimanjaro, the Highest Mountain in Africa
You are most welcome &
Thank you very much!