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<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFRISA</td>
<td>Animal Resource Services Development</td>
</tr>
<tr>
<td>ANDI</td>
<td>African Network for Drugs and Diagnostics Innovation</td>
</tr>
<tr>
<td>CAES</td>
<td>College of Agricultural and Environmental Sciences</td>
</tr>
<tr>
<td>CEDAT</td>
<td>College of Engineering, Design, Art and Technology</td>
</tr>
<tr>
<td>CEES</td>
<td>College of Education and External Studies</td>
</tr>
<tr>
<td>CHS</td>
<td>College of Health Sciences</td>
</tr>
<tr>
<td>CHUSS</td>
<td>College of Humanities and Social Sciences</td>
</tr>
<tr>
<td>CMC</td>
<td>Change Management Committee</td>
</tr>
<tr>
<td>COBES</td>
<td>Community Based Education</td>
</tr>
<tr>
<td>CoCIS</td>
<td>College of Computing and Information Sciences</td>
</tr>
<tr>
<td>COVAB</td>
<td>College of Veterinary Medicine Animal Resources and Bio Security</td>
</tr>
<tr>
<td>EDCTP</td>
<td>European and Developing Countries Clinical Trials Partnership</td>
</tr>
<tr>
<td>IDI</td>
<td>Infectious Diseases Institute</td>
</tr>
<tr>
<td>KTP</td>
<td>Knowledge Transfer Partnerships</td>
</tr>
<tr>
<td>MEPI</td>
<td>Medical Education Partnership Initiative</td>
</tr>
<tr>
<td>MESAU</td>
<td>Medical Education for services to all Ugandans</td>
</tr>
<tr>
<td>MISR</td>
<td>Makerere Institute of Social Research</td>
</tr>
<tr>
<td>MUARIK</td>
<td>Makerere University Agricultural Research Institute Kabanyolo</td>
</tr>
<tr>
<td>NAADS</td>
<td>National Agricultural Advisory Services</td>
</tr>
<tr>
<td>NCHE</td>
<td>National Council for Higher Education</td>
</tr>
<tr>
<td>OBE-</td>
<td>Outcomes Based Education</td>
</tr>
<tr>
<td>PEPD</td>
<td>Petroleum Exploration and Production Department</td>
</tr>
<tr>
<td>SMEs</td>
<td>Small and Medium Enterprises</td>
</tr>
<tr>
<td>SPEDA</td>
<td>Skills for Production Employment and Development in the Animal Industry</td>
</tr>
<tr>
<td>UNFPA</td>
<td>United Nations Population Fund</td>
</tr>
</tbody>
</table>
Foreword

Welcome to the Makerere University 2011 Annual Report. We are pleased to share with you the achievements of our colleges, staff and students over the past year. We hope that as you read this report, you will gain a better insight as to what we do here at Makerere University as we prepare to celebrate our 90th anniversary. The transitions from the Uganda Technical College, to Makerere College; the University of East Africa and the Makerere University as we know it now have great significance to the higher education sphere in Uganda. The vision espoused by our predecessors still influences our character and the University continues to Build for the Future.

This report has been prepared to reflect the major transformations in the University’s undertakings in the first year of the University’s operation in a collegiate environment. The year 2011, was the transition year from the faculty based three tier governance structures to the constituent college based structure. Twenty one (21) academic units (Faculties/Schools/Institutes) were restructured into 9 colleges and one autonomous school. The new structure sought to create synergy and concentrate disciplinary competence at the academic level, taking cognisance of global, regional and national trends in the economic, social, technological and political environment.

The University has continued to advance the frontiers of knowledge through ground breaking research and innovations. Support has come from the Presidential Initiative for science and technology plus the multitude of development partners that continue to walk with us in this era where knowledge has become a source of global competition and advancement.

The support attempts to meet the research and academic development needs of university staff. It has thus contributed towards increasing and retaining a pool of highly trained professional scientific and engineering human resource. It has improved the research infrastructure; modern and well equipped laboratories, online laboratories, improved automation with advances in energy efficient transport technologies; as much as it has extended the frontiers of research output and dissemination to meet the country’s development needs.

These initiatives have enhanced the understanding and appreciation of the role of science and technology in the development process, especially among the young generation. They also illuminate our quest to become not only a research-led university but also encompass the rationale for experiential learning as we integrate teaching and learning with research and innovations. The innovations and new initiatives reflect the University’s commitment to its strategic objectives, the core values and the University’s ambitions to pursue opportunities that contribute to economic growth and development.

This annual report highlights the University’s progress on a number of initiatives over the last fiscal year. These initiatives reflect a commitment to our enduring values and at the same time encapsulate our mission; To provide innovative teaching learning, research and services responsive to national and global needs. The report is set against the three core functions of the university teaching & learning, research and knowledge transfer partnerships. It highlights the strategic direction with respect to:

1. a research led University where research and teaching/learning are mutually reinforcing;
2. moving from teacher centred instruction to learner centred problem based instruction providing experiential and flexible learning; and
3. knowledge transfer partnerships and networking, because knowledge production and transfer between universities and broad public and private sectors is supposed to be a two-way traffic that calls for cultivation and fostering of symbiotic relationships.
I hope the contents of this report will encourage you to remain engaged with us and we appreciate your invaluable support as we look forward to the realisation of the University vision, to be the leading institution for academic excellence and innovations in Africa and making a positive impact in our society.

[Signature]
Vice Chancellor
Professor John Ddumba-Ssentamu
1 Management and Organization

Makerere University Transforms into a Collegiate University

During the period under review, the University went through a process of reengineering its institutional processes in Administration, Finance, Research, Teaching and Learning. One of the major outputs of these processes was the transformation of the university into nine (9) constituent colleges and a semi-autonomous School of Law. The Statutory Order establishing the Constituent Colleges of Makerere University and the legal framework for management of the Constituent Colleges were gazetted by the National Council for higher Education in December 2011.

The College Formation process sought to create an efficient and effective model that will structurally, administratively and pedagogically enhance the management of Makerere University so as to fulfil its revised Vision and Mission as stipulated in her Strategic Plan 2008/09-2018/19.

At the operational level, the collegiate system generated a four tier governance structure.

Accordingly Acting Principals and Deputy Principals for the eight colleges were appointed and approved by University Council. In a similar mode, Deans and Chairs were appointed to head the Schools and Departments respectively.

The formation of Colleges is lauded for the harmonisation of mandates and minimisation of duplication across academic programmes in the different units.

The reforms further signify a transformation in the operational process and procedures with a view of improving the teaching and learning, experience, research undertaking and management as well as an advance in finance and administrative. The new processes have been documented in two key documents, Organizational manual and research manual. Our expectation is that the reforms will positively impact on the academic and administrative profile of the University.

Improved University ranking

The University continued to improve in its ranking. In the year under review, the University was ranked the 10th best University in Africa, the 9th best University in Sub-Saharan Africa and the 1,256th best University in the world. The University still remains the best University in Africa outside South Africa that has the top 8 best Universities in Africa and Egypt that has one University in the 9th position on the African continent. This is the 2nd consecutive time webometrics is ranking Makerere University at the 10th position. The continued rise of Makerere University in the webometrics ranking is a result of improved service delivery; implementation of student centered learning approaches supported by ICTs and increased research outputs. With the adoption of a collegiate system this position is expected to improve further.

The University was also among recognized universities in Health Research in Africa according to the African Network for Drugs and Diagnostics Innovation (ANDI) that listed 32 institutions as centres of excellence in health research in October 2011.


Table 1: Top African Universities as at 30th July 2011

<table>
<thead>
<tr>
<th>Ranking</th>
<th>World Rank</th>
<th>University</th>
<th>Country</th>
<th>Presence Rank*</th>
<th>Impact Rank*</th>
<th>Openness Rank*</th>
<th>Excellence Rank*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>336</td>
<td>University of Cape Town</td>
<td>592</td>
<td>635</td>
<td>404</td>
<td>287</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>337</td>
<td>Stellenbosch University</td>
<td>585</td>
<td>312</td>
<td>688</td>
<td>472</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>611</td>
<td>University of Pretoria</td>
<td>124</td>
<td>1848</td>
<td>707</td>
<td>617</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>671</td>
<td>Rhodes University</td>
<td>391</td>
<td>686</td>
<td>1513</td>
<td>1104</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>773</td>
<td>University of Kwazulu Natal</td>
<td>835</td>
<td>1816</td>
<td>1052</td>
<td>579</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>777</td>
<td>University of the Witwatersrand</td>
<td>1903</td>
<td>967</td>
<td>1971</td>
<td>448</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1012</td>
<td>University of South Africa</td>
<td>429</td>
<td>1352</td>
<td>1476</td>
<td>2002</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1017</td>
<td>University of the Western Cape</td>
<td>2429</td>
<td>1630</td>
<td>1029</td>
<td>1270</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>1174</td>
<td>Makerere University</td>
<td>299</td>
<td>4798</td>
<td>970</td>
<td>881</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>1319</td>
<td>Polytechnic of Namibia</td>
<td>87</td>
<td>953</td>
<td>2196</td>
<td>4260</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>1435</td>
<td>University of Nairobi</td>
<td>839</td>
<td>2009</td>
<td>4055</td>
<td>1345</td>
<td></td>
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<tr>
<td>12</td>
<td>1452</td>
<td>Nelson Mandela Metropolitan University</td>
<td>1752</td>
<td>4040</td>
<td>853</td>
<td>1541</td>
<td></td>
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<td>13</td>
<td>1786</td>
<td>(1) University of the Free State</td>
<td>3220</td>
<td>4000</td>
<td>1882</td>
<td>1492</td>
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<tr>
<td>14</td>
<td>1797</td>
<td>University of Ghana</td>
<td>741</td>
<td>2500</td>
<td>5694</td>
<td>1474</td>
<td></td>
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<tr>
<td>15</td>
<td>1831</td>
<td>University of Johannesburg</td>
<td>2223</td>
<td>4721</td>
<td>2095</td>
<td>1365</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>1903</td>
<td>Addis Ababa University</td>
<td>479</td>
<td>5399</td>
<td>3370</td>
<td>1382</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>1949</td>
<td>Cape Peninsula University of Technology</td>
<td>6260</td>
<td>2642</td>
<td>1718</td>
<td>2448</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>1977</td>
<td>University of Dar Es Salaam</td>
<td>2519</td>
<td>2983</td>
<td>3813</td>
<td>1833</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>2334</td>
<td>Université Cheikh Anta Diop de Dakar</td>
<td>3100</td>
<td>5303</td>
<td>2809</td>
<td>1767</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>2367</td>
<td>Kwame Nkrumah University of Science &amp; Technology</td>
<td>3175</td>
<td>3421</td>
<td>5271</td>
<td>1704</td>
<td></td>
</tr>
</tbody>
</table>


2 Academic Profile

Since 2009, the university set a new direction in its strategic plan (2008-2018) based on three pillars of being Research-led, Learner-Centered and emphasis on Knowledge Transfer Partnerships. This has continued to shape and provide direction in the academic profile of the University. In fulfillment of this, the University is undergoing a major reform process that involves the reengineering processes in Administration, Finance, Research, Teaching and Learning. The University Reforms Committee (URAFR) instituted in 2009 by the then Vice Chancellor was tasked to come up with change management recommendations that would make the University realize its mission. The college structures the university is now running is among the many other change management proposals put forward by the Committee. A Change Management Committee (CMC) instituted by the top management formally took over from the Reforms Committee to ensure that the proposed changes are operationalized.

2.1.1 Student Enrolment

In the academic year 2011/12, the university enrollment stood at 34,000 students distributed among the nine colleges and the School of Law. The majority of students were in the College of Humanities and Social Sciences (CHUSS) with 7737 registered undergraduate students followed...
by the College of Education and External Studies (CEES) with 6,538 registered undergraduate students in its various programs. The proportion of female student was 44% with most of the female students registered in the College of Humanities and Social Sciences. In the College of Humanities and Social Sciences and the School of Law the female students outnumber the male students.

Table 2: Undergraduate College Admission by Region and sex 2011/12

<table>
<thead>
<tr>
<th>College</th>
<th>Central</th>
<th>Eastern</th>
<th>Northern</th>
<th>Western</th>
<th>Non-Uganda</th>
<th>Not Specified</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Agric &amp; Environment Sci</td>
<td>206</td>
<td>220</td>
<td>89</td>
<td>99</td>
<td>49</td>
<td>60</td>
<td>137</td>
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<tr>
<td>Eng, Design Art &amp; Tech</td>
<td>186</td>
<td>334</td>
<td>75</td>
<td>115</td>
<td>28</td>
<td>49</td>
<td>107</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>93</td>
<td>95</td>
<td>39</td>
<td>59</td>
<td>20</td>
<td>25</td>
<td>46</td>
</tr>
<tr>
<td>Humanities &amp; Soc Sci</td>
<td>1068</td>
<td>902</td>
<td>411</td>
<td>384</td>
<td>200</td>
<td>179</td>
<td>517</td>
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<tr>
<td>Business &amp; Management Sci</td>
<td>506</td>
<td>693</td>
<td>235</td>
<td>269</td>
<td>115</td>
<td>140</td>
<td>316</td>
</tr>
<tr>
<td>Computing &amp; Information Sci</td>
<td>537</td>
<td>694</td>
<td>211</td>
<td>288</td>
<td>68</td>
<td>117</td>
<td>282</td>
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<tr>
<td>Educ &amp; External Studies</td>
<td>825</td>
<td>669</td>
<td>342</td>
<td>307</td>
<td>126</td>
<td>138</td>
<td>410</td>
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<td>Natural Sciences</td>
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<td>217</td>
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<td>Law</td>
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<td>58</td>
<td>44</td>
<td>33</td>
<td>28</td>
<td>11</td>
<td>55</td>
</tr>
<tr>
<td>MAK_FORT</td>
<td>26</td>
<td>22</td>
<td>19</td>
<td>19</td>
<td>10</td>
<td>11</td>
<td>39</td>
</tr>
<tr>
<td>MAK_JINJA</td>
<td>113</td>
<td>94</td>
<td>105</td>
<td>85</td>
<td>21</td>
<td>34</td>
<td>47</td>
</tr>
<tr>
<td>Total</td>
<td>3821</td>
<td>4074</td>
<td>1668</td>
<td>1782</td>
<td>710</td>
<td>837</td>
<td>2045</td>
</tr>
<tr>
<td>Grand Total</td>
<td>7895</td>
<td>3450</td>
<td>1547</td>
<td>4327</td>
<td>341</td>
<td>42</td>
<td>17602</td>
</tr>
<tr>
<td>Percentage</td>
<td>45%</td>
<td>20%</td>
<td>9%</td>
<td>25%</td>
<td>2%</td>
<td>0.24%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Source Academic Records Management Information system as at 30th December 2011

Table 3: Registered students by level 2011/12

<table>
<thead>
<tr>
<th>Program Category</th>
<th>Bachelors</th>
<th>Diplomas</th>
<th>Masters</th>
<th>PGDS</th>
<th>PhD</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agric. &amp; Env. Sci.</td>
<td>1487</td>
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<td>210</td>
<td>0</td>
<td>34</td>
<td>1731</td>
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<td>Business &amp; Mgt Sci.</td>
<td>6104</td>
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<td>360</td>
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<td>36</td>
<td>6506</td>
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<tr>
<td>Computing &amp; Inform. Sci.</td>
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<td>164</td>
<td>189</td>
<td>3</td>
<td>20</td>
<td>5393</td>
</tr>
<tr>
<td>Educ. &amp; External Studies</td>
<td>6129</td>
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<td>63</td>
<td>10</td>
<td>19</td>
<td>6498</td>
</tr>
<tr>
<td>Eng. Design Art &amp;Tech.</td>
<td>2946</td>
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<td>8</td>
<td>3088</td>
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<tr>
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<td>0</td>
<td>347</td>
<td>0</td>
<td>26</td>
<td>1505</td>
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<td>Humanities &amp; Soc. Sci</td>
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<td>436</td>
<td>29</td>
<td>40</td>
<td>8717</td>
</tr>
<tr>
<td>Natural Science</td>
<td>1081</td>
<td>0</td>
<td>44</td>
<td>0</td>
<td>11</td>
<td>1136</td>
</tr>
<tr>
<td>LAW</td>
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<td>0</td>
<td>23</td>
<td>0</td>
<td>0</td>
<td>1237</td>
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<tr>
<td>Jinja Campus</td>
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<td>0</td>
<td>0</td>
<td>274</td>
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</tr>
<tr>
<td>Fort Portal Campus</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>54</td>
<td></td>
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<tr>
<td>Total</td>
<td>34163</td>
<td>531</td>
<td>1770</td>
<td>51</td>
<td>199</td>
<td>36714</td>
</tr>
<tr>
<td>Ave % increase</td>
<td>93%</td>
<td>1%</td>
<td>5%</td>
<td>0%</td>
<td>1%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source Academic Records Management Information system as at 30th December 2011
Table 4: Registration by mode of Study (Undergraduate)

<table>
<thead>
<tr>
<th></th>
<th>DAY M</th>
<th>DAY F</th>
<th>EVENING M</th>
<th>EVENING F</th>
<th>EXTERNAL M</th>
<th>EXTERNAL F</th>
<th>Total M</th>
<th>Total F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agric &amp; Environment Sci</td>
<td>980</td>
<td>444</td>
<td>45</td>
<td>18</td>
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<td>0</td>
<td>1025</td>
<td>462</td>
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<tr>
<td>Eng, Design Art &amp; Tech</td>
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<td>0</td>
<td>2322</td>
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<tr>
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<td>775</td>
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<td>2281</td>
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<td>0</td>
<td>3358</td>
<td>4854</td>
</tr>
<tr>
<td>Business &amp; Management Sci</td>
<td>1838</td>
<td>1792</td>
<td>1427</td>
<td>1047</td>
<td>0</td>
<td>0</td>
<td>3265</td>
<td>2839</td>
</tr>
<tr>
<td>Computing &amp; Information Sci</td>
<td>1667</td>
<td>1097</td>
<td>1534</td>
<td>883</td>
<td>0</td>
<td>0</td>
<td>3201</td>
<td>1980</td>
</tr>
<tr>
<td>Educ &amp; External Studies</td>
<td>933</td>
<td>820</td>
<td>599</td>
<td>2090</td>
<td>1283</td>
<td>1308</td>
<td>3622</td>
<td>2784</td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>757</td>
<td>312</td>
<td>8</td>
<td>0</td>
<td>765</td>
<td>316</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vet Med &amp; Biosecurity</td>
<td>223</td>
<td>66</td>
<td>149</td>
<td>98</td>
<td>0</td>
<td>372</td>
<td>164</td>
<td></td>
</tr>
<tr>
<td>LAW</td>
<td>169</td>
<td>363</td>
<td>371</td>
<td>311</td>
<td>0</td>
<td>540</td>
<td>674</td>
<td></td>
</tr>
<tr>
<td>FORT-PORTAL CAMPUS</td>
<td>21</td>
<td>14</td>
<td>11</td>
<td>8</td>
<td>0</td>
<td>32</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>JINJA CAMPUS</td>
<td>126</td>
<td>89</td>
<td>24</td>
<td>35</td>
<td>0</td>
<td>150</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>10875</td>
<td>8450</td>
<td>6435</td>
<td>5509</td>
<td>2117</td>
<td>1308</td>
<td>3622</td>
<td>2784</td>
</tr>
<tr>
<td>Grand Total</td>
<td>19325</td>
<td>11944</td>
<td>3425</td>
<td>34694</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Academic Records Management Information system as at 30th December 2011

2.1.2 The Graduation / Student Output

For the 2009/10 academic year the number of graduates was 14470 admitted at two graduation ceremonies held in January and July 2011. Of these 13093 students graduated in undergraduate programmes; 1322 students graduated at Masters and post graduate diploma level 55 students were awarded PhDs.

Table 5: Student Graduation 2011

<table>
<thead>
<tr>
<th>College</th>
<th>Under Graduate</th>
<th>Post Graduate</th>
<th>Doctorates</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F M</td>
<td>F M</td>
<td>F M</td>
<td></td>
</tr>
<tr>
<td>Agric &amp; Environment Sci</td>
<td>251 244</td>
<td>27 73</td>
<td>5 10</td>
<td>283</td>
</tr>
<tr>
<td>Eng, Design Art &amp; Tech</td>
<td>173 502</td>
<td>3 23</td>
<td>1 0</td>
<td>177</td>
</tr>
<tr>
<td>Educ &amp; External Studies</td>
<td>1174 941</td>
<td>65 97</td>
<td>1 8</td>
<td>1240</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>85 188</td>
<td>32 76</td>
<td>2 3</td>
<td>119</td>
</tr>
<tr>
<td>Humanities &amp; Soc Sci</td>
<td>1570 990</td>
<td>142 159</td>
<td>3 8</td>
<td>1715</td>
</tr>
<tr>
<td>Business &amp; Management Sci</td>
<td>802 1066</td>
<td>61 154</td>
<td>0 2</td>
<td>863</td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>121 232</td>
<td>12 14</td>
<td>2 3</td>
<td>135</td>
</tr>
<tr>
<td>Computing &amp; Information Sci</td>
<td>504 651</td>
<td>14 49</td>
<td>0 4</td>
<td>518</td>
</tr>
<tr>
<td>Vet Med &amp; Biosecurity</td>
<td>56 100</td>
<td>12 29</td>
<td>1 0</td>
<td>69</td>
</tr>
<tr>
<td>Law</td>
<td>165 149</td>
<td>4 6</td>
<td></td>
<td>169</td>
</tr>
<tr>
<td>MUBS</td>
<td>1644 1485</td>
<td>109 161</td>
<td>0 2</td>
<td>1753</td>
</tr>
<tr>
<td>Total</td>
<td>6545 6548</td>
<td>481 841</td>
<td>15 40</td>
<td>7041</td>
</tr>
<tr>
<td>Grand Total</td>
<td>13,093</td>
<td>1322</td>
<td>55</td>
<td>14,470</td>
</tr>
<tr>
<td>Percent Female</td>
<td>50%</td>
<td>36%</td>
<td>27%</td>
<td>49%</td>
</tr>
</tbody>
</table>

2.1.3 New Programmes for National Development

To keep abreast with national development challenges, the University has continued to renew the curriculum and develop demand driven courses in the areas of; health, technology, energy and mineral resources development, agriculture and ICT, food and nutrition, and good governance.
**Health and Medical Education:**

The College of health Sciences joined with other universities to form a consortium of five Ugandan medical schools MESAU (Medical Education for services to all Ugandans) under the Medical Education Partnership Initiative (MEPI) to strengthen the capacity of the Ugandan medical schools to ensure transformative innovative medical education.

**The Energy Sector:**

For the oil and gas sector in Uganda and the need for trained geoscientists the College of Natural Sciences has developed a Master of Science in Petroleum Geosciences which will boost the number of skilled human resource within the region. The programme together with the Bachelor of Petroleum and geo-science production are offered in partnerships with both government departments and private companies. Experiential learning will be enhanced through joint fieldwork with the Petroleum Exploration and Production Department (PEPD) in Ministry of Energy and Mineral Development.

**Multidisciplinary Biotechnology:**

The College of Natural Sciences introduced the Bachelor of Science in Biotechnology. The programme was designed to produce a cadre of scientists with sufficient knowledge and skills in the field of modern Biotechnology. Academic work in this area is expected to enhance agricultural & industrial production as well as biodiversity & environmental conservation.

**Interdisciplinary PhD in Social Studies:**

Makerere Institute of Social Research (MISR) launched an Interdisciplinary PhD in Social Studies. The five-year programme is built on four broad themes: Political Studies, Political Economy, Historical Studies, and Cultural Studies. The programme allows students to be grounded theoretically, at the same time giving a broad foundation in historically informed debates in the humanities and social sciences.

**SPEDA Multi Entry Programme:**

The College of Veterinary Medicine Animal Resources and Bio Security (COVAB) developed a multiple entry and multiple exit model of learning that allows candidates the opportunity to join the education value chain at O-level, A-level, Diploma and Degree level and exit with a qualification. SPEDA (Skills for Production Employment and Development in the Animal Industry) is addressing the challenges of unemployment. The College has reviewed all curricula to suit this model.
Other academic programmes introduced and approved in 2011 are outlined in table 6

### Table 6: Academic programs approved in 2011

<table>
<thead>
<tr>
<th>Programme</th>
<th>Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bachelor of Biomedical Sciences</td>
<td>14. MSc in Nursing, Midwifery and Women’s Health</td>
</tr>
<tr>
<td>2. Bachelor of Biosecurity, Industrial Biotechnology, and</td>
<td>15. Master of Science in Petroleum Geo-Science</td>
</tr>
<tr>
<td>3. Bachelor of Health Tutors Education</td>
<td>16. Master of Science in Pharmaceuticals and Health Supplies</td>
</tr>
<tr>
<td>4. Bachelor of Science in Cystotechnology</td>
<td>17. Master of Science in Pharmacognosy</td>
</tr>
<tr>
<td>5. Bachelor of Science in Meteorology</td>
<td>18. Master of Science in Power Systems Engineering</td>
</tr>
<tr>
<td>6. Master in Financial Services</td>
<td>19. MSc in Technology innovation &amp; Industrial Development</td>
</tr>
<tr>
<td>8. Master of Science in Biomedical Engineering</td>
<td>21. Master of Science in Transboundary Animal Diseases</td>
</tr>
<tr>
<td>9. Master of Science in Construction Management</td>
<td>22. Mphil/PhD in Social Studies</td>
</tr>
<tr>
<td>10. MSc in Geo-information Science &amp; Technology</td>
<td>23. PhD in Health Sciences</td>
</tr>
<tr>
<td>11. Master of Science in Immunology &amp; Clinical Microbiology</td>
<td>24. PhD in Agricultural and Rural Innovation</td>
</tr>
<tr>
<td>12. Master of Science in Integrated Watershed Management</td>
<td>25. Post-graduate diploma in Investigative journalism</td>
</tr>
<tr>
<td>13. MSc in Natural Product Technology &amp; Value Chains</td>
<td></td>
</tr>
</tbody>
</table>

### 2.2 Teaching and learning highlights

#### Academic Programmes

In line with the Universities and Other Tertiary Institutions Act but also part of continuous curriculum review, assessment and validation 90% of the University programmes were accredited by the National Council for Higher Education (NCHE). 10% are in the process of being reviewed.

#### Student Evaluation

Five Colleges namely, CHUSS, CEDAT, CONAS, CHS and CAES participated in the newly instituted quality assurance mechanism of student evaluations. The standard quality assurance evaluation tool for teaching was piloted in two colleges.

#### Staff Strength

The university operated with a total of 1,174 staff of whom 199 (17%) operate at the Professor and Associate Professor level. 182 are designated as teaching assistants the training rank for staff pursuing the academic career.

### Table 7: Teaching Staff by College 2011/12

<table>
<thead>
<tr>
<th>College</th>
<th>Professor</th>
<th>Ass. Professor</th>
<th>Senior Lecturer</th>
<th>Lecturer</th>
<th>Ass. Lecturer</th>
<th>Teaching Asst.</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
</tr>
<tr>
<td>CAES</td>
<td>9</td>
<td>1</td>
<td>21</td>
<td>3</td>
<td>25</td>
<td>3</td>
<td>33</td>
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<tr>
<td>CEDAT</td>
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<td>34</td>
<td>5</td>
<td>43</td>
<td>21</td>
<td>29</td>
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<tr>
<td>CoCiS</td>
<td>4</td>
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<td>2</td>
<td>0</td>
<td>4</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>CoNAS</td>
<td>3</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>10</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>CoVAB</td>
<td>9</td>
<td>1</td>
<td>8</td>
<td>1</td>
<td>13</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>CoBAMs</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td>CEES</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>12</td>
<td>2</td>
<td>38</td>
</tr>
<tr>
<td>LAw</td>
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<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>CHS</td>
<td>13</td>
<td>1</td>
<td>20</td>
<td>2</td>
<td>28</td>
<td>2</td>
<td>72</td>
</tr>
<tr>
<td>CHUSS</td>
<td>6</td>
<td>2</td>
<td>13</td>
<td>8</td>
<td>23</td>
<td>12</td>
<td>48</td>
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<tr>
<td>Total</td>
<td>58</td>
<td>4</td>
<td>116</td>
<td>21</td>
<td>166</td>
<td>54</td>
<td>270</td>
</tr>
</tbody>
</table>

*Source: Human Resource Information System February 2012*
**Towards Learner Centred Pedagogy**

The College of Education and External Studies (CEES) developed an Outcomes Based Education (OBE) curriculum that places special emphasis on learning outcomes and skills development to best meet students’ needs for employment. The OBE based curriculum is a foundation for the University to become a student-centred institution as envisaged in the strategic plan, 2008/09 -2018/19.

The college has designed a Postgraduate Certificate in Higher Education (PGCHE) to train members of the academic staff in the use of OBE oriented methods to deliver programmes at the University. The OBE focused reform is expected to spread in Higher Education Institutions and orient Uganda’s Higher Education standards to international standards.

**Community Based Education**

The College of Health Sciences continues to extend service through the Community Based Education (COBES) Programme. In addition to enhancing experiential learning and proof of concept for problem based learning the programme has mentored Medical Students to branch out and become Social Entrepreneurs. At the same time, the programme embodies university service to the community; increasing the health worker / patient ratios in the areas of operation. The initiative has helped reduce the cost of treating neglected diseases such as club foot.

**Advances in ICT and delivery of education**

1. The College of Computing and Information Science successfully run tele-education programmes with Amity University and the Indira Gandhi National Open University in India. The first group of students who enrolled for the Tele-Education programmes graduated on 16th December, 2011. A total of 44 students obtained Postgraduate Diplomas and Master’s degrees. Over 700 students are currently enrolled on this programme.

2. The School of Public Health introduced an e-learning management system called MUSK (Makerere University Sciences Knowledgebase). This is a web-based platform that allows users to store and retrieve teaching materials, allows discussions with students, access to library and enables evaluations by students. It has course content management tools and can be used via mobile phones. The system has been improved to suit local needs.

3. CoCIS students qualified for the Imagine Cup Finals in New York City on July 7th - 14th 2011 to represent East and Southern Africa. The Imagine Cup is an annual competition that is open to both Undergraduates and Postgraduates. The Microsoft Imagine Cup is the world’s premier student technology competition. It provides an opportunity for students to use their creativity, passion, and knowledge of technology to help solve global challenges and make a difference in the world. The students designed a crime monitoring tool that provides a unique solution for law enforcers; ranging from crime pattern recognition to facial recognition capabilities and biometric analysis.

4. Makerere University scooped the prestigious overall award in ICT and Innovations, in the education sector of the East African Region. The award recognized the University for translation of the Google interface into Luo and Runyakitara languages.
The College of Engineering Design Art and Technology is at the forefront of the development of Internet (On-Line) Laboratories (iLabs) has supplemented conventional laboratories in an effort to meet the challenges of scarce financial resources and large student populations and engaged students and staff in research geared towards development of online experiments. There are twenty six (26) online laboratories that have been developed and are being utilised by students.

The iLabs have offered a flexible and convenient experimentation platform to students and an unlimited number of users. The Presidential Initiative has supported the iLabs to expand and include outreach activities to secondary schools through development of interactive multimedia courseware to support basic science curricula in secondary schools. Gayaza High School and St. Mary’s College Kisubi have been the first beneficiaries to utilize the iLabs to create robots for the construction and manufacturing industries.

2.3 Research and Innovation Highlights

The scale of research activity at the University is steadily growing, involving Colleges, Schools and Departments. There is extensive collaboration at local, regional and international levels. Research activities have received considerable support among others from the Government of Sweden, Italy, the Millennium Science Initiative, World Bank and the Presidential Initiative for Science and Technology.

The year under review was the first time that Government of Uganda under the Presidential initiative for Science and Technology directly targeted rehabilitation of a number of laboratories. Key outputs include the realized Kiira EV electric car and the fabrication of irrigation schemes in addition to food technologies developed under the Food and Technology Business Incubation Centre in the College of Agriculture and Environmental Sciences. The initiative has also resulted in the creation of Presidential Innovators roundtable chaired by H.E. President as one of the avenues to translate innovations at Makerere University into commercial products and to promote innovations in Uganda.

The research and innovation highlighted in the following sections have targeted key areas of development that include among others; Health; Energy; Agriculture; Education; Industry and ICT. The research highlights are detailed in the subsections below.
2.3.1 College of Engineering, Design, Art and Technology (CEDAT)

The Vehicle Design

The Vehicle Design Project has been one of the innovative and successful research projects to be undertaken by the University. Under the College’s Centre for Research in Transport Technologies the first electronic vehicle; the Kiira EV was successfully completed and unveiled to the public and officially launched on November 24th 2011.

The next stage of this innovation the University has embarked on is a 28-seater codenamed Kayoola. The Government of Uganda as a result earmarked Shs154 billion to build a Centre for Research in Transportation Technologies at Namanve.

Research into Improving Sanitation and Access to Clean Water

The University is addressing issues of sanitation solutions and access to clean water through research in value chain management of faecal sludge. The research is assessing the applicability of the sludge, the beneficial usage and disposal of faecal sludge in a chain that provides both affordable sanitation and utilization as is the case in other parts of the world.

Research is also being carried out to identify the Economic Constraints and Demand-Led Solutions for Sustainable Sanitation Services in Poor Urban Settlements, specifically the persistent lack of private investment in sanitation facilities in poor urban settlements through provision of urban affordable clean toilets. The research is looking at innovative sanitation solutions to the constraints and preferences of sustainably increasing household demand for improved sanitation in poor urban communities of Kampala. In addition, the research in sanitation chains in low-income informal settlements is identifying and evaluating strategies for catalyzing self-sustaining sanitation chains in Cities of Kampala, Kigali and Kisumu.

The research is providing solutions to a sustainable and affordable safe drinking water supply at household level in rural and peri-urban Ugandan communities through research on using solar and ultraviolet (UV) radiation disinfection. Solar disinfection (SODIS) is a point-of-use technology which is simple, cheap and effective for use at household level, and is a powerful tool for reduction of incidences of water borne and water related diseases.

Research into Energy Development

1. The research in energy development is providing energy solutions for Small scale industries through research in energy consumption. Two kilns were constructed for improvement of small scale lime production in Tororo.

2. The research in thermal energy is providing alternative sources of energy for industries. The study on Stirling engine has the potential in the medium-long term of becoming one of the best solutions for small scale electricity
and heat production especially for remote areas off-the-grid.

3. Research is also going on in designing and construction of 10 kW electric – mechanical power gasifier systems. This includes designing construction and testing the reactor, gas cooling and cleaning system and finally coupling it to engine and generator set.

4. Another area of research is the chlorine production where low capacity chlorine generator is used to produce chlorine from salty water by electrolysis. It can use either grid connected power supply or by photovoltaic system.

2.3.2 The College of Health Sciences (CHS)

Stemming TB Drug-Resistance

The College of Health Sciences working together with its global partners has successful contributed to finding remedies for treatment of multi-drug resistant TB, some of which have been approved by the World Health Organisation (WHO) for use in Uganda and other countries in the world. It has established Centres of Excellence Laboratories in Mbale, Gulu, Mbarara and Arua through working with Ministry of Health and the Department of Medical Microbiology in the School of Biomedical Sciences

Medical Microbiology in the School of Biomedical Sciences

Evaluations on various TB vaccines are being carried out in partnership between the Infectious Diseases Institute (IDI), the College, Global TB Vaccine Foundation and the European and Developing Countries Clinical Trials Partnership (EDCTP).

Research for Policy in Health Systems

The College has set up a Rapid Response Service (RRS) to meet policy makers’ urgent needs for research evidence. The College through SURE (Supporting Use of Research Evidence for Policy in African Health Systems) initiative provides policymakers with briefs on any policy requirements on health systems.

2.3.3 College of Veterinary Medicine Animal Resources and Bio Security (COVAB)

Indigenous, Nutritional and Medical Knowledge of Wild Mushrooms

The study was carried out on indigenous mushrooms of Bunyoro to develop an inventory of knowledge of indigenous mushrooms. Bunyoro sub-region has over 22 edible species of mushrooms used for food and medicine. The research opens opportunity for further research for development of medicines and health products, especially for infants and the elderly.

Research on catfish and mudfish species

The research on catfish and mudfish provides useful insights and knowledge to fish farmers. It highlights pond management practices and its implication on fish rearing especially for non air breathing fish. The research has found out that the mud fish species were more adapted to low oxygen concentrations, and thus a promising specie for aquaculture.
Test Kits for Foot-and-Mouth Disease
Research in COVAB has led to the development of a concept for a Test Kit (ELISA Test Kit) that detects all seven strains of the Foot and Mouth Disease Virus. The ELISA Test Kit is currently in production phase so that it may be made commercially available to veterinary officers.

2.3.4 College of Agricultural and Environmental Sciences (CAES)
The college research has addressed emerging national and global Agricultural and Environmental issues such as climate change, environmental degradation, waste management, pest and disease control and resilient crops to drought. The college made significant strides in the area of agro processing & value addition, crop and animal technologies that contribute to poverty reduction and the development of Uganda.

a) Agro processing Technologies and Products
Through the Food Technology and Business incubation centre, a number of value added products were produced. Several Agro processing enterprises were set up while a number of products were released to the market in the country. The incubation centre has created jobs in production and marketing of value added foods and raw material suppliers. It has contributed to the overall food industry development and provided technical support to existing food processing SMEs and as well as conducting hands-on training to prospective entrepreneurs in the areas of fruit and vegetable, dairy and cereal processing.

b) Crop production Technologies
In the area of crop production, CAES continued to produce the Soil Testing Kits that can evaluate the quality of the soil nutrients for the market. The College conducted training programmes for agricultural service providers and the farmers in several districts were conducted and soil Testing Kit management committees were set up in some villages to ensure equitable and efficient use of the kits. NAADS has taken up the technology as part of the package to the farmers.
To enhance soil fertility, the college has been in the production of a Biological Nitrogen Fixing fertilizer (*The Rhizobia*) to mitigate the problem of soil nitrogen deficiencies for beans, ground nuts and other legumes. This has led to improved crop yield, soil fertility improvement, reduced cost of crop production and avoiding pollution of the environment with mineral fertilizers.

In addition, the college bred, developed and released new crop varieties that are high yielding, with shorter maturity period and resistant to pests, drought and diseases. These include the four varieties of Maksoy grown country wide, five varieties of cowpeas suitable for Eastern and Northern Uganda, Drought tolerant sweet sorghum for food and bio fuels and MT 56 tomato variety.

CAES developed the protocols and media for banana tissue culture production currently used in culturing of banana plantlets in the region. This technique has enabled the production of clean planting material and their quick multiplication. The molecular diagnostic tools has been developed for a number of diseases including banana bacterial wilt, sweet potato viral disease, cassava brown streak and passion fruit woodiness virus. These technologies will go along in helping in correcting and timely disease diagnosis, management and supply of clean planting materials.

The Integrated Pest Management (IPM) program under the College has promoted technologies for improved production of crops like Ground nuts, beans, pigeon peas and cabbages. The use of Integrated Pest Management technologies is aimed at eliminating the use of chemical pesticides that can be hazardous to humans if consumed.
CAES has carried out research aimed at improving apple production in Kabale district to address the challenge of rooting where the biggest challenge was lack of seedlings with sufficient roots to support plants. The research is seeking to domesticate the production and multiplication of apple seedlings with sufficient roots in Uganda.

c) **Animal production technologies**

Research in animal production came up with innovations to improve the quality of animal breeds, control disease spread and improve farmer’s income. The college implemented artificial insemination in Pigs. The College has succeeded in training boars for semen collection and established a boar stud at the Makerere University Agricultural Research Institute Kabanyolo (MUARIK) for collection of good semen. Secondly, the College succeeded in making local diluent that is able to keep boar semen for 3 to 4 days which was a challenge before. This technology is expected to roll out to farmers to reduce the risk of diseases. This development will promote the rearing of high quality breeds of pigs through careful selection of good boars to increase farmers’ productivity and income.

The College developed another technology of organic piggery involving the use of Indigenous Micro Organism (IMO). This technology can be applied to any livestock system or crops to act as a fertilizer and pathogen killing organisms. The technology reduces noise and smell from the pigs. The technology is also used to de-worm the animal and boosts the immune system for faster growth.
Research in CAES has farther pioneered the improvement of Ugandan local livestock breeds including the Ankole cattle, the Mubende goat and local chicken. The focus in this area has been on improving milk and beef production through the production of milk and beef boosters from industrial and agricultural waste.

**Human Health innovations**

In the area of improving human health, research in the college has developed nutritious foods such as nutrient dense cookies and amaranthus products. Research in this area is also focusing on production of HIV/AIDS drug from medicinal plants and food products that boost the immunity of patients living with HIV/AIDS and are currently being used as therapeutic foods.

CAES has also undertaken research to develop a water purification technology that will serve the rural and peri-urban communities not connected to the National Water from plant seeds namely; Moringa, Jackfruit and Java plum seeds. This innovation provides an option that is environmentally friendly and harmless to human health.
Research in the College has also ventured in technologies that can reduce stress on the environment. The College developed briquette machine Briquettes that can make charcoal out of small branches and grass and briquettes of sugar cane tops and crop residues as an alternative to common fuel.

Research in CAES also ventured into technologies for greening arid, semi arid and drought prone areas. Research in this area focused on the use of hygrosels technology to support tree growing for social, economic and environmental benefits in drier parts of Uganda and food security. It can also prolong the survival of urban trees and shrubs to beautify towns and cities in arid and semi-arid.
e) Agricultural mechanization technologies

To promote agricultural mechanization the College has continued to design and fabricate appropriate technology equipment for small scale farmer’s in particular animal traction equipment which include ploughs, planters, threshers and harvesters. In addition, small scale irrigation units have been designed and deployed in production of horticultural crops. The college took 1st prize at the 2011 National Agricultural Show in small scale irrigation category.

2.3.5 College of Computing and Information Science (CoCIS)

The College has had several research and innovations in the field of computing, mobile technology, ICT and information sciences. The College has supported its students and staff to incubate ICT related innovations, improved dissemination, accelerated research, and collaboration. The School of Computing and Informatics Technology (CIT) launched its Research Agenda, through which it will exploit the competitive advantage of its four broad organized research groups to provide computing and informatics solutions for development in Uganda as a transitional country, the region and beyond. The research groups include: Artificial Intelligence (AI), Development Informatics (DI), Wireless Networks & Systems Security (WN&SS) and Software & Enterprise Engineering (S&EE). Some of our research projects include:

Mobile based early warning systems

Researchers from the College designed mobile-based systems for monitoring and providing information beforehand for decision making. The mobile systems are able to monitor water levels in valley dams located in drought affected areas in Uganda. This will help district authorities and the Ministry of Relief and Disaster Preparedness to plan accordingly. Researchers have also come with applications that will help in mobile monitoring of crop diseases, spatiotemporal models for bio-surveillance, Causal discovery in disease data and robust traffic flow monitoring.

The College has also developed networked systems and applications that ease access to communication and mobile wireless services. Specific attention has been put on sustainability of Uganda’s Rural Broadband Infrastructure, Improving the Timeliness and Accuracy of Weather Information in Uganda and Migration Analysis for Ugandan Internet Service Providers and Enterprise Networks.
The Software Incubation Centre

The Software Incubation Centre has six viable projects that will be developed further by the industry. The projects are:

1) Bluetooth Proximity Marketing Services (local proximity marketing service for musicians and small-medium enterprises),
2) Jobbod (job matching service for job seekers and employers),
3) Lab results by SMS and email (travel and time saving service for patients needing lab results),
4) Mobile betting (allows sports fans and other bettors to place bets and collect winnings from their mobile phones),
5) Radio Advertising Monitor (manages and reports on booking and playing of radio adverts for radio stations and their clients), and
6) Q-Soft GSM Bus Booking System (allows bus companies and their passengers to query, reserve and pay for intercity travel by mobile phone)

2.3.6 College of Humanities and Social Sciences (CHUSS)

Tool for Measuring Integrity

The College of Humanities and Social Sciences developed a three part tool codenamed Uganda standards ethics and integrity scale for assessing and identifying people with acceptable levels of ethics and integrity when taking up positions of responsibility. The tool codenamed Uganda’s Standardized Ethics and Integrity scale has been piloted to effectively carry out the function. The tool will be instrumental in curbing corruption and improving service delivery in Uganda’s public and private sectors. The Department of Performing Arts and Film holds international ethnomusicology symposium – The broad aim of the Ethnomusicology in Uganda project is promoting training and research in music scholarship and archiving music and dance of Uganda as a means to develop and preserve Uganda’s cultural heritage through the performing arts.

The performing arts department continued to boost the Makerere University Klaus Wachsmann Music Archives (MAKWMA) project under the Ethnomusicology in Uganda projects. MAKWMA, the first of its kind in Uganda, is a multi-media archive and resource centre for traditional, popular and art music, recited word, dances, stories and recollections of musicians and dancers of Uganda. Collection is accessible in the Makerere University Main Library.

Research works in the College of Humanities and Social Sciences are disseminated through
MAWAZO a journal that focuses on Oral History and Development. The topics for the 2011 issue include: The Ways of the Past are not all Bad: Gender, Poverty and Power in the Representation of the Baekezi; The Bataka Agitation and Resistance in Colonial Uganda; The Baganda Invasion of Teso, Pallisa and Tororo; Performer, Community and the Divine: A case study of the contemporary Buganda oral poetry performance processes and The Phenomenon of Conflicts in Uganda: A Case Study of Kibaale District.

2.3.7 **College of Business and Management Sciences (CoBAMS)**

Research in the college focused on population and reproductive areas. Key among the research undertaken by the Center of Population and Applied Statistics (CPAS) in partnership with UNFPA Uganda Country Office were the following:

i. **Understanding stalled fertility in Uganda and what to do about it?**
   The initial focus of the study was to understand why fertility decline has stalled in the face of increasing contraceptive prevalence. The study focused on some groups like the uneducated women, rural women and unemployed women where fertility has stalled. The study provides further evidence as to why fertility has stalled in specific population groups, and proposes strategies to address the identified reasons.

ii. **Socio-cultural context of birth experiences for women in Uganda:**
    These were designed to conduct an ethnographic investigation of socio-cultural birth experiences of women in Uganda. A meta-data analysis was done using the Uganda Demographic Health Survey dataset (2006). Data was collected using in-depth interviews for key informants, focus group discussions and birth experiences’ narratives and case studies of individual women. It is hoped that this study will help policy makers and programmers to appreciate the missing link between the cultural/traditional and modern birth practices with sensitivity to geographical, socioeconomic and cultural issues.

iii. **Assessing the capacity of 30 districts to integrate population factors in development plans at local government level:**
   To provide an analysis of district budgets and allocation of resources to population related activities in the areas of population and development; reproductive health, youth and gender. This study sought to build a common understanding of the interrelationships between population and development, and of the materials for integrating population issues (including RH and gender) in district development frameworks.

iv. **Developing a research agenda for the country population programme:**
   The overall objective of the research agenda was both substantive and methodological: to carry out a multidisciplinary programme of work which will investigate population issues and their effects on national development. The goal was to come up with a research agenda that would lead to findings that are relevant in informing policy and programmes aimed at accelerating the attainment of the benefits of the demographic dividend in the country.
Other research in collaboration with the French Embassy in Uganda, the French Institute of Research and Development (IRD) and Centre for Population and Development (CEPED) focused on “Integration links and transmission of land rights in Eastern Africa”.

2.3.8 School of Law

Research in the School of Law has focused on Governance, Democratization and Human Rights. Key areas of research under the Refugee Law Project have focused on forced migration. Under Human Rights and Peace Centre (HURIPEC) research has focused on Governance and human rights in relation to decentralization, democratization and ICTs. Staff in the school have contributed towards the International Encyclopedia of Law in the areas of Commercial & Economic Law, Corporations & Partnerships and Transport Law through writing monographs on Uganda. IE Laws can be accessed at www.kluwerlawonline.com/index.php?area=Loosleafs.

2.3.9 College of Natural Sciences (CONAS)

The college has initiated research that has contributed to development in areas of climate change, environmental sustainability, and agricultural development through strategic waste management innovation systems. Research has also focused food, nutrition and value addition, medicinal plants and the development and application of diagnostic tests for trypanosomes in tsetse flies.

2.4 Knowledge Sharing with and Transfer to the Community (KTP)

The public-private partnership in the utilisation of the university competencies as envisaged in 2008/09-2018/19 strategic plan continues to be the basis of university linkage to communities. There is a strong partnership developing between the University and private sector/communities to allow various innovations contribute to national transformation. These activities range from the development of wireless technologies to innovative systems and clusters in the College of Engineering Design Art and Technology to the establishment of a joint animal disease control in the College of Veterinary Medicine and Biosecurity and the control of malaria by the College of Health Sciences.

Several of these initiatives have been developed through the Presidential Initiative for science and technology.

2.4.1 College of Engineering, Design, Art and Technology (CEDAT)

Industrial Parks

The University through the partnership between Gatsby Trust, GoU and the College of Engineering Design Art and Technology has developed industrial Parks in Mbarara and Jinja Districts. These parks will be replicated in different parts of the country in order to give the SMEs a favourable working environment and hence boost their businesses.
MakaPads

The *Makapads* project is contributing to the national and international cause to reduce absenteeism of poor schoolgirls and women during their menstrual periods. It has brought hope to students in rural Uganda and allowed the poor schoolgirls in puberty to have access to affordable sanitary towels during menstruation.

Makapads are sanitary pads made from papyrus and paper waste. MakaPads are the only sanitary pads made in Africa, from local and natural materials, using local machinery in a cottage industry setup.

The Community Wireless Resource Centre Project: (CWRC)

The Community Wireless Resource Centre (CWRC) is an initiative established under the Department of Electrical Engineering. Initially funded by the International Development Research Centre (IDRC), to provide and enhance sustainable Internet connectivity infrastructure, particularly in rural or underserved areas in Uganda, by means of wireless technology. The CWRC has reduced the high cost of internet connectivity in supported telecentres in Kabale, Nakaseke and Wakiso District thus enabling institutions to access Internet without heavy initial investments in satellite hardware and subscriptions. The resource centre is also used for capacity building in the Department of Electrical and Computer Engineering through research and industrial training opportunities.

Centre for Research in Energy and Energy Conservation (CREEC) Project

The Centre’s focus is on Energy management, Solar photovoltaic (PV), Hydropower and Biomass. The centre is developing technologies and systems that have a direct, positive impact on people’s everyday lives through technology transfer from researchers to society and through pilot project implementation, training and public awareness initiatives. The centre has developed solar photovoltaic systems to light houses and businesses which will greatly increase indoor air and health of people involved. In addition it will create independence from the unreliable electricity grid which suffers from power cuts due to various reasons.

Innovation Systems and Clusters Programme –Uganda (ISCP-U)

The cluster system brings together groups of independent firms, collaborating and competing; geographically concentrated in one area, and are specialized in a particular field and linked by similar technologies or skills through innovations as well as Cluster Initiatives. The
initiative is built on bringing together Government, the academia/universities and the private sector, including businesses especially Small and Medium Enterprises (SMEs) as major driver in economic development.

There are 22 operational clusters and 8 newly approved Clusters located all over the country. The clusters have been able to penetrate bigger and outside markets due to increased value addition, innovative interventions and process innovations.

**Low cost irrigation to farmers**

The College designed and manufactured a low cost water pump to help farmers reduce the costs of irrigation. The Low cost irrigation project is also engaged in testing the pump and educating farmers on the different types of irrigation.

Helped to irrigate their crops. The University has organized workshops where the communities have been taught different technologies needed in irrigation. The training has included Local Government officials including National Agricultural Advisory Services (NAADS) staff and water officials.

Through this project the farmers in rural areas of western Uganda (Kasese) and Soroti have been

**Helmets for Boda-boda cyclists**

The College developed a helmet that is low priced, attractive and readily available for motorcycle riders and passengers. The move is aimed at curbing deaths arising from motorcycle accidents. The helmet, named ‘B pro’ has been designed to suit the East African climate, and fit within the local production capabilities at an affordable price.
The College has a formal and unique Academic-Community-Public-Private platform established at Makerere University under AFRISA (Africa Institute for Strategic Animal Resource Services Development). AFRISA is a framework where there is multiple entry and multiple exit of learners and where students have the opportunity to join the education value chain at any level and exit with a qualification. This model of education is addressing the challenges of enrolment and stigmatization through classifications and unemployment.

**Establishment of a Joint National Animal Disease Diagnostic Centre**

Through collaboration between Makerere University and the Ministry of Agriculture, Animal Industries and Fisheries (MAAIF), a Joint National Animal Disease Diagnostic Centre was established, with one node for MAAIF in Entebbe and the other node for Makerere University at the College. The centre is being developed as a national reference diagnostic centre for animal diseases. It shall also act as a platform for both institutes to utilize expertise and staff from each other to control animal diseases in the country. A national database shall be established in Entebbe to store information from both nodes as a way of disease surveillance and control.
2.4.3 College of Health Sciences

Contribution to Current Management of Malaria in Uganda

The College of Health Sciences through Research Collaboration with University of California has contributed to the management of malaria in Uganda through several studies that have informed policy and guidelines. Research has evaluated malaria treatment practices at health facilities and conducted studies at Mulago Hospital and has been able to provide critical input to management of both uncomplicated and complicated malaria in Uganda.

Improved health service utilization in Uganda

The Makerere University College of Health Sciences’ Community Based Education and Services (COBES) has immensely contributed to addressing health inequities between rural and urban communities in Uganda. COBES is an initiative where medical students are placed to work in rural communities for a period of time. With simple innovative strategies, students have been able to solve some of the most common health problems in these communities. Through this approach to education, the College of Health Sciences has built partnerships with communities and built their capacity to identify and address community health problems.

The COBES programme is also one way the College is addressing the acute problem of health workers’ shortages in the country especially in the rural areas.

2.4.4 College of Education and External studies

The School of Distance and Lifelong Learning (SoDLL) in partnership with Leeds Metropolitan University in the UK developed an employability and entrepreneurship skills development program for school leavers as part of the Education Partnerships in Africa Project (EPA). The college piloted trainings of out of school leavers in three regional centres of Arua, Entebbe and Fort Portal.

2.4.5 College of Computing and Information Sciences (CoCIS)

Mobile Telephones for Improved Safe Water Access (M4W)

In partnership with the Ministry of Water, Water Aid and SNV, the College is implementing the M4W project where mobile phones are being used to collect information about the status of...
the functionality of water points taken at a snapshot of time; data on faults, repairs and maintenance of water points and information on the quality of water obtained during inspection by health assistants.

The project is aimed at improving the functionality of rural water points through facilitating the availability of actionable and timely information. The project has been implemented in the districts of Arua, Kasese, Kyenjojo, Kabarole, Masindi, Amuria and Lira where over 15,000 water points are being monitored. Each of these water points, which include shallow wells, deep boreholes, protected springs and public taps, is labeled with a unique identifier number.

**Crop Disease Monitoring**

The Artificial Intelligence Research Group, in conjunction with the National Crops Research Institute, have recently prototyped a survey system running on a $80 Smartphone, which can take an image of a cassava leaf and automatically diagnose, with high accuracy, whether that plant is affected by Cassava Mosaic Disease (CMD). This information, including latitude and longitude of the plant from the phone's satellite positioning system, is instantly uploaded to an online map. This provides much more rapid and effective feedback from a survey than was previously possible, and significantly cuts the cost of running a crop disease survey. We would like to explore the potential for this system to be deployed nationwide for different crops.

2.4.6 **School of Law**

The school of law continues to bring academia, legal practitioners and community to debate on key issues affecting national development democratisation and development. Debates and lectures held during the year include:

The State of Makerere University, ten years after the University and Other Tertiary Institutions Act, Organized by Makerere Institute of Social Research (MISR) and Human Rights and Peace Centre (HURIPEC) on August 23rd, 2011. Eastern Africa training school on law, human rights and HIV/AIDS, 2nd to 13th May, 2011, hosted by The Human Rights and Peace Centre (HURIPEC). It was aimed at bringing legal and human rights perspectives to bear in the important area of HIV/AIDS.

National Convention on Democratic Governance aimed at critically reflecting on some of the most contentious issues affecting the state of
governance and democratic development in contemporary Uganda.

The 5th and last Distinguished Lecture series organized by The beyond Juba Project, was held at Serena Hotel on 22\textsuperscript{nd} June, on the Theme, \textit{Assessing current winds of Change and Governance Deficits in Africa, Which way Forward.}

The Second Institute for African transitional Justice organized by the Refugee Law project, in collaboration with the African Transitional Justice Research Network was held in Kitgum Northern Uganda with a theme, \textquote{whose memories count and at what cost’’}

2.4.7 College of Agricultural and Environmental Sciences (CAES)

CAES developed the concept of farmer field schools as a means of delivering extension services by the farmers to fellow farmers. The concept was so successful that it was adopted by the NAADS programme. These schools were established mainly in Eastern and Central Uganda for adoption of new technologies.

The College farther provided a platform for linking farmers to markets through the mobile
phone via the Link Farmer to Market project whereby farmers obtain market information via the phone.

The college carried out research and outreach activities to sensitize the shea butter tree growing areas on the need to protect it for social and economic gains like extraction of oil, lotions and soap. In addition to sensitization, the college designed a machine to extract the products from the tree for commercialization.

The college carried out outreach activities on the importance of wetlands in water treatment, pollution and flood control through demonstrations of Constructed Wetland Technology in Wastewater Treatment.

The College in partnership with commercial tree planters and Uganda Timber Growers Association has been involved in a project to improve pine tree production by developing a growth enhancing bacteria (mycorrhizal) for commercial purposes. This technology ensures inoculation of plants, reduces bulkiness of inoculants and pathogen transmission and improves seedling quality.

### 2.4.8 College of Humanities and Social Sciences

Engagement with the community in CHUSS focused on gender and the performing arts

Gender advocacy under the school of women and gender studies among others included dialogue on

1. Gender and the Return Process of IDPs in Northern Uganda on July 26, 2011 which was attended by 400 participants
2. Masculinities and role of men in promoting gender equality on October 28, 2011 was attended by over 500 students
3. 16 Days of Activism Against Gender Based Violence on 30th November, 2011 titled “From peace in the home to peace in the university; creating a gender violence free student’s fraternity”

Department of Performing Arts and Film

- Coordinated the Umoja, Cultural flying Project. This is a Norwegian government funded project that brought together over 80 young artists and their teachers from countries including Tanzania, Norway, Kenya, Ethiopia and Uganda where Music, Dance, Acrobatics and Circus was used to create productions for public viewing.
- In November and December 2011, DPAF also coordinated a youth Theatre project as part of the projects supported the Danish Centre for Culture and Development and the royal Danish Embassy. The project uses theatre to empower youth with skills to advance and communicate their stories through performance.
- People’s Theatre Performances in Busia District. The department performed and work-shopped Plays in the annual Theatre for development exercise working with more than 20 communities and 10,000 people consisting of school children, hospital administrators and patients, local leaders, youth and general members of the community.

2.5 Publications

This section provides details of the research-based publications, dissemination and other types of scholarly activity, in which academic staff from the College have taken part. This is another strategy of research dissemination as envisaged in the University strategic plan.

College of Engineering, Design, Art and Technology


9. Mwesigye A., Kucel S., Sebbit A., Opportunities for Generating Electricity from Municipal Solid Waste : Case
Study of Kampala City Council Landfill Advances in Engineering and Technology; Contribution to Scientific

College Of Health Sciences


15. Josephine N. Kasolo, Gabriel S. Bimenya, Andrew L. Okwi, Jasper W. Ogwal-okeng


52. Joseph B. Babigumira; Barbara Castelnuovo; Andy Stergachis; Agnes N Kiragga; Petra Schaefer; Mohammed Lamerde; Andrew Kambugu; Alice Mwunganti; Louis P Garrison. “Cost Effectiveness of a Pharmacy-Only Refill Program in a Large Urban HIV/AIDS Clinic in Uganda”. PLoS ONE.


64. Sabrina Bakeera-Kitaka, G.Siu,C.Kennedy et al, Serostatus and ART treatment disclosure and perceptions among young people living with HIV in Uganda(in Press,AIDS Care, October 2010)


108. Castelnuovo B, Kiragga A, Kamya MR, Manabe Y. Stavudine toxicity in women is the main reason for treatment change in a 3-year prospective cohort of adult patients started


113. Boivin Michael J; Ruel Theodore D; Boal Hannah E; Bangirana Paul; Cao Huyen; Dormeyier61; Charlebois Edwin D; Ruel Theodore D; Boal Hannah E; Dorsey Grant; Sandison Taylor G. Increased risk of early death among children in Uganda with diverse human immunodeficiency virus type 1 subtypes. Journal of virological methods 2010;170(1-2):115-20

114. Bebber Lisa M; Pilcher Christopher D; Dorsey Grant; Havlir Diane; Kamuya Moses; Busch Michael P; Dunn Williams Joan; Nugent Charles T; Bentsen Christopher; Rosenthal Philip J; Charlebois Edwin D. Acute HIV-1 infection is highly prevalent in Ugandan adults with suspected malaria. AIDS (London, England) 2010;24(12):1943-52.


116. Creek Darren; Bigira Victor; Arinaitwe Emmanuel; Wanzira Humphrey; Kakuru Abel; Tappero Jordan; Kamuya Moses R; Dorsey Grant; Sandison Taylor G. Increased risk of early vomiting among infants and young children treated with dihydroartemisinin-piperaquine compared with artemether-lumefantrine for uncomplicated malaria. The American journal of tropical medicine and hygiene 2010;83(4):873-5

117. Charlebois Edwin D; Ruel Theodore D; Gasasira Anne F; Achan Jane; Katera Frederick; Akello Caroline; Cao Huyen; Dorsey Grant; Rosenthal Philip J; Ssewanyana Isaac; Kamuya Moses R; Havlir Diane V. Short-Term Risk of HIV Disease Progression and Death in Ugandan Children Not Eligible for Antiretroviral Therapy. Journal of acquired immune deficiency syndromes (1999) 2010;55(3):330-5

118. Nankhabirwa Joanner; Cundill Bonnie; Clarke Sian; Kabaterine Narcis; Rosenthal Philip J; Dorsey Grant; Brooker Simon; Staedke Sarah G. Efficacy, safety, and tolerability of three regimens for prevention of malaria: a randomized, placebo-controlled trial in Ugandan schoolchildren. PloS one 2010;5(10):e13348


120. Li PeiLin; Ruel Theodore; Fujimoto Katsuya; Hatano Hiroyo; Yukl Steven; Eller Leigh Anne; Liegler Teri; Kamya Moses; Gassarisa Anne; Dorsey Grant; Rosenthal Philip J; Havlir Diane V; Wong Joseph K. Novel application of Locked Nucleic Acid chemistry for a Taqman assay for measuring diverse human immunodeficiency virus type 1 subtypes. Journal of virological methods 2010;170(1-2):115-20


147. Wayengera Misaki. Identity of zinc finger nucleases with specificity to herpes simplex virus type II genomic DNA: novel HSV-2 vaccine/therapy precursors. Theoretical Biology and Medical Modelling 2011, 8:23

148. Whalen, Christopher C, Zalwango, Sarah, Chiuanda, Allan, Malone, LaShunda, Eisenach, Kathleen, Joloba, Moses, Boom, W. Henry, Mugerwa, Roy. Secondary Attack Rate of
Tuberculosis in Urban Households in Kampala, Uganda. PLoS ONE 6(2): e16137. doi:10.1371/journal.pone.0016137


150. Lukoye, Deus; Cohelen, Frank G.J.; Epati, Nicholas; Kirimunda, Samuel; Adatu, Francis E.; Lule, Joseph K.; Nawaha, Fred, Joloba, Moses L. Rates of anti-tuberculosis drug resistance in Kampala- Uganda are low and not associated with HIV infection. PLoS ONE 6(1): e16130. doi:10.1371/journal.pone.0016130


164. Lynn M Atuyambe, Michael Ediau, Christopher G Orach, Monica Musenero and William Bazeyo. Land slide disaster in eastern Uganda: rapid assessment of water, sanitation and hygiene situation in Bulucheke camp, Bududa district Environmental Health 14 May 2011


College of Computing and Information Sciences (CoCIS)

1. J. Quinn, K. Leyton-Brown, E. Mwebaze. Modeling and Monitoring Crop Disease in Developing Countries. Conference of the Association for the Advancement of Artificial Intelligence (AAAI), Computational Sustainability and AI Track, 2011.


4. E. Mwebaze, M. Biehl, J.A. Quinn. Causal Relevance Learning for Robust Classification under Interventions, To appear in European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning (ESANN), 2011.


College of Veterinary Medicine Animal Resources and Bio Security (CoVAB)


College of Business and Management Sciences (CoBAM)


Agricultural, Food, and Resource Economics, Michigan State University.


**College of Humanities and Social Sciences**

**MAWAZO -A Journal of the College of Humanities and Social Sciences (Journal papers)**

1. Edward I. Steinhart; “The Ways of the Past are not all Bad”: Gender, Poverty and Power in the Representation of the Bacwezi

2. Frederick Mulindwa; The Bataka Agitation and Resistance in Colonial Uganda

3. Okalany David; The Baganda Invasion of Teso, Pallisa and Tororo

4. Sazan Nabuqwa Kiguli; Performer, Community and the Divine: A case study of the contemporary Buganda oral poetry performance processes


6. Yohanna Kagoro Gamba; Historical and Contemporary basis for Sectarian Residential Settlement Patterns in Kaduna Metropolis of Northern Nigeria

**College of Education and External studies**

Books


**Book Chapters**


**Journal Articles**


**College of Natural Sciences**


10. 978-1-61284-992-8 and Digital Object Identifier:10.1109/AFRCON.2011.6071972


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**College of Agricultural and Environmental Sciences**

1. E.N Sabiti (2011) Utilising Agricultural Waste to Enhance Food Security and Conserve the Environment. Published by the African Scholarly Science Communications Trust vol.11 No. 6.


## Financial Statements

Financial Statements for two Years 30th 2010 and 30th June 2011
(Based on classification of expenditures by nature)

<table>
<thead>
<tr>
<th></th>
<th>Budget 2009/10</th>
<th>Budget 2010/11</th>
<th>Actual 2009/10</th>
<th>Actual 2010/11</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Operating Revenue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Grants from foreign governments</td>
<td>10,484,435,808</td>
<td>9,603,893,000</td>
<td>5,667,354,420</td>
<td>10,447,052,443</td>
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<tr>
<td>3 Grants from international organizations</td>
<td>119,495,560</td>
<td>-</td>
<td>121,411,036</td>
<td>0</td>
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<tr>
<td>5 Transfers received from Treasury</td>
<td>45,652,160,000</td>
<td>57,948,413,000</td>
<td>44,952,151,664</td>
<td>54,459,089,428</td>
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<tr>
<td>6 Transfers received from other government units</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7 Non-Tax Revenues</td>
<td>55,498,400,861</td>
<td>62,086,536,000</td>
<td>59,572,726,655</td>
<td>72,139,510,278</td>
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<tr>
<td>8 Other revenue</td>
<td>2,443,864,179</td>
<td>5,861,552,000</td>
<td>7,837,429,686</td>
<td>6,596,502,343</td>
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<tr>
<td><strong>Total operating revenue</strong></td>
<td>114,198,356,408</td>
<td>135,500,394,000</td>
<td>118,151,073,461</td>
<td>143,642,154,492</td>
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<tr>
<td><strong>Operating expenses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Employee costs</td>
<td>56,487,832,484</td>
<td>76,206,665,000</td>
<td>78,604,317,755</td>
<td>82,993,055,948</td>
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<tr>
<td>12 Goods and services consumed</td>
<td>44,111,125,027</td>
<td>23,006,092,000</td>
<td>32,417,145,810</td>
<td>29,035,330,464</td>
</tr>
<tr>
<td>13 Consumption of property, plant &amp; equipments</td>
<td>8,767,272,440</td>
<td>17,669,013,000</td>
<td>5,062,002,543</td>
<td>12,500,501,343</td>
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<tr>
<td>16 Transfers to other organisations</td>
<td>-</td>
<td>0</td>
<td>4,066,077</td>
<td>2,100,000</td>
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<tr>
<td>17 Social Benefits</td>
<td>-</td>
<td>0</td>
<td>22,479,439</td>
<td>-</td>
</tr>
<tr>
<td>18 Other expenses</td>
<td>9,100,678,285</td>
<td>18,618,624,000</td>
<td>8,614,408,724</td>
<td>11,824,939,631</td>
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<td>19 Foreign exchange (losses) (gains)</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>(542,173,362)</td>
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<tr>
<td><strong>Total operating expenses</strong></td>
<td>118,466,908,236</td>
<td>135,500,394,000</td>
<td>124,724,420,348</td>
<td>135,813,754,024</td>
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<tr>
<td><strong>Surplus/(deficit) from operating activities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 Net Surplus/(deficit) after extraordinary items</td>
<td>(4,268,551,828)</td>
<td>0</td>
<td>(6,573,346,887)</td>
<td>7,828,400,468</td>
</tr>
</tbody>
</table>

Source: Makerere University Final Accounts FY2010/11