Towards a Common Future: Higher Education in the SADC Region

Regional Country Profiles

The country study presented here was prepared as a part of the study “The State of Public Science in the SADC Region” published in “Towards a Common Future: Higher Education in the SADC Region” (SARUA, 2009). It is published here as an appendix to that report.

The methodology used to obtain the data presented here is described in full in the “Towards a Common Future” document (see pages 213-214). This methodology relied on a web-based survey sent to selected participants, interviews combined with country visits, and a bibliometric analysis based on data in Africa Knowledgebase.

Although the data obtained via this method does not necessarily match data obtained using different methodologies (some differences are evident between the data presented here and that presented in other SARUA studies), in order to retain integrity of the data gathering process, no attempt has been made to manipulate the data artificially to reflect similar findings. Rather, the data must be read as having arisen from, and being true to, the particular methodology used in this study. The problems of obtaining accurate data from the region are well documented (mentioned in all SARUA studies, see particularly p. 65 of “Towards a Common Future”), and speaks to the urgent need for a process for regular maintenance of such data.

We publish these country studies as supplemental information to that presented in the report itself, and hope that they will be of value to other researchers in the region.
MADAGASCAR

Governance of science

In Madagascar, the governance of science and technology has gone through varied and successive transformations. After the April 2008 cabinet reshuffle, the removal of the National Education & Scientific Research Ministry (MENRS) was sanctioned. The MENRS was replaced by the National Education Ministry. There is currently a Directorate of Scientific Research within the National Education Ministry that co-ordinates the research activities of the nine research centres.

Madagascar does not have a Science and Technology policy at present; however, it is currently in the process of collaborating with UNESCO in order to develop one. There are also no new indicators available on issues such as: GERD, number of researchers and the like. The national research centres obtain their funding through the Directorate of Scientific Research:

Science and Technology Priorities

As was previously stated, there is no physical Science and Technology policy for Madagascar at present, and therefore there are no clearly defined Science and Technology priority areas.

Science and technology landscape

Research and development performing institutes

Research in Madagascar is a broad category that consists of scientific research, technological research, geological research, research in medicine etc. There are research institutes in Madagascar, which are the sites where these various kinds of research work take place. Research in Madagascar receives to a great extent French aid with respect to technical and scientific assistance.

The institutions that currently make up the Malagasy science and technology system can be split in terms of the higher education institutions, national research centres and private research centres.

Higher education sector

The tertiary education sector is insufficiently developed in Madagascar. The rate of tertiary education enrolment is 3 % (whereas it is 8 % for sub-Saharan African countries) with 260 students per 100 000 inhabitants. There is a very weak match between the programs offered and the needs of employers. Recently, there has been an increase in the number of private technical institutes; however, the quality and the organisation of the programs provided require improvement. While the universities have begun to modify aspects of their structure and curricula, for the most part the changes are

insufficient for the demands of a high growth economy. A major reform of the higher education proves to be necessary (MAP, 2007-2012: 59)

*University of Antananarivo*

The system traces its history to December 16, 1955, and the formation of the Institute for Advanced Studies in the capital Antananarivo. It quickly established itself as the main centre for higher education in the country, and was renamed the University of Madagascar in 1961⁴.

Other universities within Madagascar:

- University of Fianarantsoa
- University of Mahajanga
- University of Toamasina
- University of Toliara

A major reform of the education system is currently happening through the Ministry of Education and the “groupe de reflection” appointed to work on an overall strategy for the transformation of postsecondary education (Hayward & Rasoanampoizina, 2007:2)³.

*University workforce*

When considering the university workforce it is found that only 64 % (2006) of the faculty have PhDs or their equivalent and few are involved in research or publishing. The staff within the university’s faculty is aging and there has been a freeze on hiring new staff for more than a decade. As a result, the average age of faculty members is 56 years, with only 15 faculty members in all 6 universities under the age of 40 (Hayward & Rasoanampoizina, 2007:1).

Gender equity among students is less of a problem in Madagascar than in many other developing countries, with 46 % of students being women. On the other hand, only 29 % of the teaching faculty is women in public institutions and only 18 % in private tertiary institutions (Hayward & Rasoanampoizina, 2007:1).

*Public national research centres*

There are a number of French research institutes in Madagascar where one can carry out research work and at the same time study several subjects like hydrology, tropical forestry, geology, medicine etc. The most important and well known of the research institutes of Madagascar is the National

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Centre of Applied Research in Rural Development. The table below lists the national research centres within the Malagasy science and technology system.

Table 48: National research centres in Madagascar

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<thead>
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<th>Name of Institution</th>
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<tr>
<td>1 National Centre for Applied Pharmaceutical Research (CNARP)</td>
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<tr>
<td>2 Scientific and Technical Information and Documentation Centre (CIDST)</td>
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<tr>
<td>3 National Centre for Environmental Research (CNRE)</td>
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<tr>
<td>4 National Centre for Industrial and Technological Research (CNRIT)</td>
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<tr>
<td>5 Malagasy Institute for Veterinary Vaccines (IMAVET)</td>
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<td>6 National Institute for Nuclear Sciences and Techniques (INSTN)</td>
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</tr>
<tr>
<td>7 Tsimbazaza Botanical and Zoological Park (PBZT)</td>
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</tr>
<tr>
<td>8 National Centre for Applied Research on Rural Development (CENRADERU), commonly known as FOFIFA</td>
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<tr>
<td>9 National Centre for Oceanographic Research of Nosy Be</td>
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A problem that the national research centres are facing is staff ageing, because there has been no recruitment of new researchers for a long time.

Private research centres

Table 49: Private research centres in Madagascar

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<th>Name of institution</th>
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<tbody>
<tr>
<td>1 Pasteur Institute of Madagascar</td>
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<tr>
<td>2 Bibikely Biodiversity Institute</td>
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<tr>
<td>3 Malagasy Institute for Applied Research (IMRA)</td>
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Pasteur Institute of Madagascar (IPM)

The Pasteur Institute of Madagascar (IPM) is an important biomedical research centre. Its spheres of activity are primarily medical biology, microbiology and the epidemiology applied to the transmissible infectious diseases. The Pasteur Institute in Madagascar was founded in 1898, as of June 2007 had 220 staff. (Pasteur Institute, 2007: 8). Amongst other things, the institute conducts research in the areas of malaria, plague, tuberculosis, viral diseases, schistosomiasis and cysticercosis, and resistance to anti-infectious agents.

Bibikely Biodiversity Institute

The Bibikely Biodiversity Institute is the primary research and training organisation for arthropods in Madagascar. Since its inception in 1992, the institute's activities have involved one of the most important projects for the advancement of arthropod training and research across Madagascar. The institute was founded in 1992 by Dr Brian Fisher, pre-eminent field biologist, and the curator and chairperson of the entomology department of the California Academy of Sciences.

Malagasy Institute of Applied Research (IMRA)

For more than 30 years, the Malagasy Institute of Applied Research (IMRA) has been researching the traditional medicines and food plants of Madagascar that, despite being nutritionally and medically valuable, are often overlooked and underused by local people⁵.

IMRA was established in 1957 as a training and research centre. Its headquarters is located near Antananarivo, the capital of Madagascar. In 1993, it was given official government recognition as a non-governmental organisation. Since then, as a WHO collaborative centre, it has contributed to national economic development by training researchers and students, training and assisting the rural population, and protecting biodiversity⁶.

IMRA’s short-term objectives are to promote medicinal plant drugs and indigenous foods as an effective way of promoting national sustainable economic development.

It has four main divisions:
- Department of ethnobotany, phytochemistry, pharmacology and toxicology.
- Department for the production and quality control of drugs, essential oils and food medicines.
- Health centre offering free health care and medical analysis.
- Botanical garden for collecting and protecting endangered medicinal plant species⁷.

