



## **Mainstreaming Higher Education in National and Regional Development in Southern Africa**

### **Regional Country Profiles**

**The Study Team are responsible for the choice and presentation of the data and facts contained in this document and for the opinions expressed therein, these are not necessarily those of SARUA nor the AAU and do not make any commitment for either association.**

The country study presented here was prepared as a part of the study “Mainstreaming Higher Education in National and Regional Development in Southern Africa” (SARUA, 2009). It forms the background data to that study and is published here as an appendix to that report. The Country Studies data has not been subjected to the same level of editorial scrutiny as the Report itself. However, we publish these country studies as supplemental information to that presented in the Report, and hope that they will be of value to other researchers in the region.

# MADAGASCAR

## 5.1 Country Context

**TABLE: 1. World Development Indicators**

World Development Indicators	Yr 2006
Population, total (millions)	19.2
Population growth (annual %)	2.7
Surface area (sq km) (thousands)	587
Life expectancy at birth, total (years)	59
Mortality rate, infant (per 1 000 live births)	72
Literacy rate, youth female (% of females ages 15-24)	68.2
GNI (current US\$) (billions)	5.4
GNI per capita, Atlas method (current US\$)	280
Prevalence of HIV, total (% of population ages 15-49)	0.5

Source: *World Bank Madagascar: Quick Facts*<sup>1</sup>

Formerly a French colony, Madagascar regained its independence in 1960. The UNDP's Human Development Index ranks Madagascar 143rd out of 177 countries, with more than two-thirds of the population (68,7 percent) living below the poverty line. The World Bank estimates that the economy has begun to grow at an average of 5 percent per year and poverty has declined to 69 percent from its peak of 80 percent (in 2002). In an economy dominated by subsistence agriculture, growth came largely through tourism (tourism arrivals in 2006 were 12 percent higher than in 2005), and the start of foreign direct investment in two mining projects. Seventy three percent of the population lives in rural areas.

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<sup>1</sup><http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/MADAGASCAREXTN/0,,menuPK:356378~pagePK:141132~piPK:141109~theSitePK:356352,00.html> accessed 19 August 2008

## 5.2 Planning Context

**PRSP 2007:** focuses on the socioeconomic development in Madagascar. There are 15 programmes which include the development of the educational level of the country.

**Madagascar Action Plan (MAP):** aims to reduce poverty by 50 percent by 2012 and achieve 10 percent economic growth by 2011. MAP is the country's primary economic and social development planning document. The focus area for economic development is on diversified, strong, private sector growth driven by local and international investment and trade. MAP includes broad goals to transform the education sector. It aims to achieve a primary completion rate of 85 percent (compared to 57 percent in 2006) and improve the pupil/teacher ratio from 52: 1 to 40: 1 by 2012. MAP's overall goals are to:

- Develop pre-school 'development opportunities'
- Develop 'successful' primary, lower secondary, upper secondary and vocational systems
- Transform higher education
- End illiteracy
- Develop the 'mindset' of the youth through sports and civic activities

**National Education for All (EFA) plan updated 2005.**

**Goals:**

- Increase salaries for community teachers
- Provide competitive school grants
- Extend the length of primary education from five to seven years
- Address quality constraints, including teacher training; learning process and curriculum
- Improve school construction
- Rationalise human resources management

## 5.3 Education Context

Madagascar has 3,3 million learners at 12 500 primary schools in 122 districts. Education is mandatory for children between the ages of six and fourteen. The primary schools of Madagascar target elementary education for the age group of six to eleven. Secondary education is classified into junior secondary stage (12 – 15 years) and senior secondary stage (16 – 18 years). Certificates

are received by graduates after completing their junior secondary stage. Baccalaureate is received by the graduates after the completion of senior secondary stage.

**TABLE: 2. Main indicators on primary education sector**

	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>
<b>Net enrolment rate</b>	79	83	85
Primary completion rate	51	50	53
Student-to-teacher ratio	61	52	52
Percentage of repeaters	20	19	18
Student population (mill)	2.92	2.98	3.10

*Source: MENRS*

**TABLE: 3. Primary School indicators**

Primary school net enrolment	90%
Teacher/ learner ratio	1:51
% children attending ECD	5%
Primary repetition rate	20%
Primary school transition rate	39%
Primary/secondary transition rate	55%

In 1999, 50 percent of Malagasies were illiterate. The education system was biased towards the rich/urban quintiles despite the fact that 61 percent of the population lives in rural areas. Prior to the abolishment of school fees, many families were unable to afford costs related to school attendance (school materials, insurance fees, membership fees of parents' associations, school fees). The school system was characterised by a shortage of teachers and educational materials, dilapidated classrooms, teachers lacking motivation and practicing parallel secondary activities. Families living a subsistence lifestyle were inclined to keep children out of school to work. Public expenditure on education represented less than 20 percent of total public expenditure and 2 percent of GDP. (Interim Poverty Strategy Paper. 2000)

Since 2000 there has been a steady increase in school enrolment attributed to the abolition of school fees. Progress has been slowed by an estimated 659 classrooms destroyed by cyclones in one year. Children in the rural and remote areas make up most of the 20 percent of those children not in

school. To improve this situation, especially for those living in the most remote and vulnerable zones, the Ministry of Education has been working, since 2005, to develop Distance Education Programmes. The programmes are targeted towards children aged between five and nine years. It is hoped that the programmes will encourage out-of-school children into the classrooms. Madagascar's Ministry of Education has obtained 21 200 wind-up radios for all public primary schools. Many rural areas lack electricity, so these radios can be used even in the most hard-to-reach schools.

With recent progress in primary school enrolment, universal enrolment by 2015 is within Madagascar's reach if the current level of effort can be sustained. However, universal primary completion will be more difficult to achieve, requiring attention to high repetition and dropout rates. At the same time, the male-female gap in primary education has been closed: 56.8 percent of girls and 56.2 percent of boys completed primary school in 2005 (World Bank 2007). The government's programme resulted in a very significant increase in primary net enrolment rates (from about 67 percent in 2001/02 to about 98 percent in 2004/05, which exceeded expectations) and in primary completion rates from about 30 percent to 60 percent over the same period. (National EFA 2005) High repetition and dropout rates remain a concern. There is a declining gap between government-sponsored public school system and an increasingly vibrant and growing private school system. The elite and the well-off middle class place their children in private French-language schools, while the vast majority of the relatively poorer population have little choice but to enrol their children in public schools.

### 5.3.1 Focus on Higher Education

#### 5.3.1.1 Policy environment

### **Madagascar Action Plan 2007-2012. Challenge 5: Transform higher education**

#### **Goals:**

- 1) Ensure competitiveness, creativity, employability of the graduates
- 2) Scientific and technological research and innovation (socio-economic and cultural development)
- 3) Offer diversified courses to meet the economic and social needs
- 4) The governance of public universities will be improved
- 5) High quality private universities and technical institutes will be developed<sup>2</sup>

#### **Strategies:**

- 1) Shift degree programmes to international norms (three-tier system of Bachelor (BA), Masters (MA) and doctorate (PhD) level programmes)
- 2) Technical institutions providing short training courses

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<sup>2</sup> Madagascar Action Plan 2007-2012; A Bold and Exciting Plan for Rapid Development, pp. 57-58 and Fourth PRSC, May 2007, p.10

- 3) Distance learning system, particularly for the rural areas
- 4) Domestic training institution partnerships
- 5) Foreign higher education partnerships
- 6) Talented teachers and professors
- 7) Synergy between public and private training institutions
- 8) Research centres with practical research to meet the needs of the country<sup>3</sup>

**Priority projects and activities:**

- 1) Modernise the management of universities through computerisation
- 2) Support the transition to the three-tier system (BA, MA, PhD) (awareness raising, development of programmes and infrastructure)
- 3) Establish doctoral programmes in priority fields by attracting international experts and sending students overseas to develop greater expertise
- 4) Set up accreditation and monitoring system to ensure quality education
- 5) Create new institutions and promote distance learning to increase the diversity of programmes offered and ensure that the programmes address the development needs of the country
- 6) Set up a digital library
- 7) Transform selected academic universities and/or research institutions to centres of excellence
- 8) Develop and implement a national policy of research to be sustainable and to ensure invaluable outcomes for development.
- 9) Set up a support fund for scientific research<sup>4</sup>

**TABLE: 4. Priority Indicators from MAP**

<i>Indicator</i>	<i>2006</i>	<i>2012</i>
Number of students in tertiary education per 100 000 habitants	280	550
Number of graduates from tertiary education per year	4,750	10,000
Share of budget allocated to scientific research	0.05%	0.10%
National programme on research (Law)	0	1

<sup>3</sup> Madagascar Action Plan 2007-2012; A Bold and Exciting Plan for Rapid Development, p.58

<sup>4</sup> Madagascar Action Plan 2007-2012; A Bold and Exciting Plan for Rapid Development, p.58

Numbers of centres of excellence	0	8
Numbers of research outcome applied	To be determined	To be determined

### **PRSP 2007**

Programme 11 (of 15) is focused on the development of the educational level of the population and research. The overall objective of the programme is to universalise the Fundamental Education and to improve its quality and relevance to respond to the socio-economic needs. There is also a sub-programme for post-Fundamental Education, which includes the goal to improve the quality of the Tertiary Education.<sup>5</sup>

MAP appears to be a more significant planning document for Madagascar than the PRSP. MAP is aimed at transforming and modernising the university sector of Madagascar. Modernisation includes computerisation, setting up a digital library and utilising distance education to access rural areas. The MAP plans to double participation, throughput (graduation) and output (research) between 2006 and 2012. Four out of the nine strategic priorities for higher education refer to research which indicates that the country views research as an important component of higher education institutions. Madagascar intends to establish and legislate for a national research programme.

#### 5.3.1.2 Profile of Higher Education

**6 public universities** (67,2 percent of higher education enrolment)

**2 higher institutes of technology** (established in 1992)

**1 National Institute of Nuclear Science and Technology (INSTN)** (established 2001)

Construction and rehabilitation of infrastructure in the six universities contributed to increasing the capacity among tertiary education institutions.<sup>6</sup> Efforts have been made more recently to address the ICT capacity of the higher education institutions and the education system as a whole. This includes improvements to connectivity, bringing down the costs of the Internet and introducing more up to date software.

<sup>5</sup> PRSP Advisory Report – progress report, p.60

<sup>6</sup> PRSP Advisory Report, p.62

**50 private institutions:** representing 7,8 percent of higher education enrolment. Twenty-nine of these were given the authority to operate from 2007.

**TABLE: 5. Outputs of Higher Education per level of education**

<b>Outputs of Higher Education per level of education</b>				
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>University Outputs by Type</b>	3,344	4,088	3,047	4,191
<b>Outputs by Qualification</b>				
<b>Licence</b>	1,696	1,711	1,600	2,351
<b>Masters</b>	850	1144	766	1,030
<b>Teaching Certificates</b>	225	477	215	201
<b>Diploma of Further Studies, Masters</b>	177	203	173	305
<b>Diploma in Medicine or Dentistry</b>	337	427	212	230
<b>Diploma of specialised Higher Studies</b>	57	112	71	70
<b>Doctorate in research</b>	2	14	10	4
<b>Totals</b>	<i>3,344</i>	<i>4,088</i>	<i>3,047</i>	<i>4191</i>

Source: *Republic of Madagascar, MENRS, Study on the Costs and the Financing of Madagascar's Higher Education, February 2007, p.25*

**Participation in higher education**

The enrolment rates at Madagascar's universities do not reveal the current inability of the higher education sector to cope with demand. Between 2001 and 2006 the admission rate to universities dropped by 40 percent (admission rate is measured as a percentage of eligible students attempting to gain access to university). By 2006, 54 percent of Senior Secondary Students (SSE) passing the university admission exam gained access to university. The universities increased their enrolment by 50 percent between 2003 and 2006, admitting an extra 13 000 students. This increase in admission is placing a strain on infrastructure and staffing with a constant increase in lecturer/student ratio. The highest lecturer/student ratio is observed in social sciences at 1:941.

The international baccalaureate exam that is written at the end of Senior Secondary Education serves as the standard for university entrance. The exams are streamed and admission to university appears to be based on the streams chosen. 96 percent of SSE school leavers passing the baccalaureate maths stream gained access to university (either public or private). By comparison the percentage of school leavers gaining access to university after passing the baccalaureate streams in the art series was 46,9 percent and:

- 31,3 percent for the civil engineering stream
- 26,3 percent for the agriculture stream
- 18,5 percent for the industrial stream
- 13,8 percent for the technology stream

The streaming of SSE school leavers aids university admission and appears based on needs of the economy, with a strong bias to maths. The SSE streaming however does not translate into high throughput rates at university with almost 40 percent of students enrolled for a 4+ year degree programme abandoning their studies between their first and second year and an average 10 percent overall completion rate of degree programmes. The average time to complete a degree in Madagascar is eight years, compared to the African average of five years.

**TABLE: 6. Percentage distribution by field of study in 1995**

<b>Faculty</b>	<b>%</b>
<b>Education</b>	3
<b>Humanities and Art</b>	15
<b>Social Science, Business and Law</b>	51
<b>Science</b>	15
<b>Engineering, Manufacturing and Construction</b>	5

<b>Agriculture</b>	3
<b>Health and Welfare</b>	7
<b>Services</b>	0.3
<b>Unknown</b>	0.4

Source: EFA GMR, 2008

Madagascans who complete their higher education with qualifications stand an improved chance of economic and social promotion. 40,7 percent of the working population have had higher education. Of the 60 percent of the working population in unqualified and unskilled positions, only 16 percent have graduated from an HE institution. Similarly only one in five graduates of higher education are working in the primary sector, which accounts for 80 percent of employees nationwide.<sup>7</sup>

### 5.3.1.3 Governance

**Legislation:** Directive of the Foundation of Universities (Directive 92-030) and the Organization of Private Universities (Décret no 95-681).<sup>8</sup>

#### Higher Education structure and governance

The Ministry of Education appoints all faculty members, sets salaries and determines working conditions and has supervisory powers at universities. However, at institutional board level, where policies and budgets are approved, there is good representation of a number of relevant local stakeholders. For example Members of the Board for IST-D include four representatives of government ministries, four representatives from the industrial sector, a representative from the locality of IST-D, the President of the University of Antsiranana, a representative from the Polytechnic. The board is headed by a chairman who is a naval expert. This board is supported by a Council of Counselling and Improvement, which is made up of representatives from the industrial sector and teachers working at IST-D.

<sup>7</sup> Source : *Enquête périodique auprès des ménages de 2005, INSTAT Republic of Madagascar, MENRS, Study on the Costs and the Financing of Madagascar's Higher Education, February 2007, p.25*

<sup>8</sup> Education System ([www.lmu.edu/globaled/wwcu/background/lr.rtf](http://www.lmu.edu/globaled/wwcu/background/lr.rtf)) Original source: Ministère de l'Enseignement supérieur, Antananarivo, 2001

At independence in 1960 the National Foundation of Higher Education was established, with three establishments of 723 students

#### 5.3.1.4 Research

The University of Antananarivo produces a significant proportion of the country's research output. Other specialised research institutions include: applied research in rural development; a biomedical research institute; and a biodiversity research institute. The Ministry of Education and Natural Research Sciences is scheduled to implement a Strategic Scientific Research and Higher Education Plan in 2009. This will be driven across each university and research institution to rehabilitate infrastructures, modernise systems and equipment, in readiness for the migration towards the Bachelor/Masters/Doctorate accreditation system and the drive to transform universities and/or institutions into centres of excellence.

#### **Madagascar Mini Case Study: Toamasina University**

Toamasina University, on the East Coast, is about 200 km from the capital in an under-resourced and cyclone-prone region. The university relies on the government for its running costs. External funds are used for infrastructure and include donations from France, Iran, private companies and their alumni. The gender balance is 52 percent male and 48 percent female. The University of Toamasina imposes a selection criteria with priority granted to school leavers with the highest average marks, no entrance exam is written. Special entrance criteria are in place for mature students, but they are unlikely to get a government grant.

The University of Toamasina has partnerships with universities in other countries including France: the University of Paris-VII, the University of Nantes, the University of Rouen and the University Paul Sabatier Toulouse III. Agreements are signed but not active with: University of the Meeting and Clark Atlanta University (the USA). Co-operation agreements are currently under discussion with: University of Caen (France), the University Light Lyon II (France), the University of Moncton (New Brunswick, Canada), the University of Quebec with Rimouski (Canada) and Appalachian University (USA).

## **5.4 Financing Context**

### 5.4.1 Trends in allocation

**TABLE: 7. National Budget Allocations**

<b>Ariary millions</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
<b>Allocation</b>	Actual	Actual	Actual	Budget
<b>Total Budget</b>	2,145,500	2,530,900	2,830,300	3,246,500
<b>Total Education</b>	388,400	387,900	463,600	570,500
<b>% of budget</b>	18.10%	15.33%	16.38%	17.57%
<b>% of GDP</b>	3.85%	3.29%	3.38%	3.61%
<b>GDP</b>	10,095,000	11,781,000	13,715,900	15,806,900

Source: Republic of Madagascar, MENRS, Study on the Costs and the Financing of Madagascar's Higher Education, February 2007

Madagascar spends, on average, 18,85 percent of its budget on education. Spending on education increased from Ariary 388 400-million in 2005/06 to Ariary 570 500-million in 2008/09 at an average annual rate of 13,7 percent. Over the same period, the total expenditure of the country increased at an average annual rate of 14,8 percent. Over the period, education spending as a percentage of GDP averages 3,53 percent and remains fairly consistent.

TABLE 5.6: Education Budget Allocations

<b>Ariary millions</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
<b>Allocation</b>	Actual	Actual	Actual	Budget
<b>Total Expenditure</b>	388,384	387,885	463,622	570,495
Early Childhood				1,503
% Total				0.26%
Primary 1st cycle	219,713	227,512	268,859	328,345
% Total	56.57%	58.65%	57.99%	57.55%
Primary 2nd cycle	37,975	38,371	55,009	76,164
% Total	9.78%	9.89%	11.87%	13.35%
Secondary Education	19,314	19,956	27,709	49,432
% Total	4.97%	5.14%	5.98%	8.66%
Technical and vocational	10,105	8,758	15,067	13,030

% Total	2.60%	2.26%	3.25%	2.28%
Higher Education	36,572	46,481	53,464	59,677
% Total	9.42%	11.98%	11.53%	10.46%
Scientific Research	10,192	11,221	11,154	8,033
% Total	2.62%	2.89%	2.41%	1.41%
Elimination of illiteracy			1,868	1,594
% Total			0.40%	0.28%
Administration	54,513	35,586	30,492	32,717
% Total	14.04%	9.17%	6.58%	5.73%

Source: Republic of Madagascar, MENRS, *Study on the Costs and the Financing of Madagascar's Higher Education*, February 2007

Spending on the education budget is dominated by the Primary First cycle Programme which receives, on average, 57,7 percent of the total budget. The Primary First and Second cycles combined receive, on average, 68,9 percent of the total budget. The next highest proportion of the budget is received by higher education at, on average, 10,85 percent. Spending on higher education increased from 36,572-million in 2005 to 59,677-million in 2008, representing an average annual growth rate of 17,7 percent. This is higher than the average annual growth rate for primary education which is 16,2 percent over the same period.

## 5.5 Donor Context

### World Bank Group

The World Bank's Country Assistance Strategy for 2007 to 2011 supports the areas of the MAP where the Bank Group has a comparative advantage. The Country Assistance Strategy (CAS) continues the Bank Group's focus on removing bottlenecks to sustainable and shared growth, anchored in good governance, with corresponding improvements in welfare indicators. The specific sets of results supported by the Country Assistance Strategy are organised around two main pillars. The first concentrates on activities that will help remove constraints to investment and growth in rural and urban areas. The second brings together activities geared towards improving the scope and quality of service delivery.

The Country Assistance Strategy sets out a programme of Bank support that encompasses budget support (Poverty Reduction Support Credits); sector-wide operations (SWAPs); investment projects; public-private partnerships; and analytical and advisory activities (AAA). Poverty Reduction Support Credits (PRSC) will continue to serve as a forum for policy dialogue with the government and as a platform for donor harmonisation.

## **5.6 Issues and Observations**

The tertiary education sector is underdeveloped in Madagascar. The rate of tertiary education enrolment is 3 percent (compared with 8 percent for sub-Saharan African countries) with 260 students per 100 000 inhabitants. There is a poor match between the programmes 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 programmes 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. (INASP. 2008) A small percent of the population is fluent in French (less than 0.1 percent) and 10 percent achieve, at best, a high school-level competence in the language. The vast majority speak only Malagasy. It is partially because of shortcomings in French-language abilities that approximately 90 percent of all first-year university students are refused entry into the second year.